



Instruments of Taiwan State Policy Supporting
Cross-Border Co-operation in Research,
Education and Innovation

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Taipei-Moscow Economic and Cultural Coordination Commission**

Workshop of the Steering Group on Knowledge Triangle (Research, Education and Innovation) –
Cross-border Cooperation in the Knowledge Triangle, Higher School of Economics

Introduction of MOST

- **National Science Council (NSC) since 1959**
- **The highest government agency responsible for**
 - promoting Taiwan S&T development
 - funding academic research programs/projects and activities
- **MOST effective March 3, 2014**
 - retain the NSC's tradition of innovative measures and programs
 - bring academic research another step closer to industrial application
 - foster an innovative and entrepreneurial spirit and encourage creativity in science and technology

Taiwan Science & Technical Constitution

Much of Taiwan's achievement in science and technology is attributable to the first constitution of national Sci&Tech policies: **Guidelines for the Long-range Development of Science**, which formulated in 1959.

- ✓ Over half-century, a raft of S&T policies and programs were implemented.
- ✓ In 1990s, the launch of a series of **National Science and Technology Programs** to address needs ranging from of VLSI, Display, Telecom to Disaster prevention.

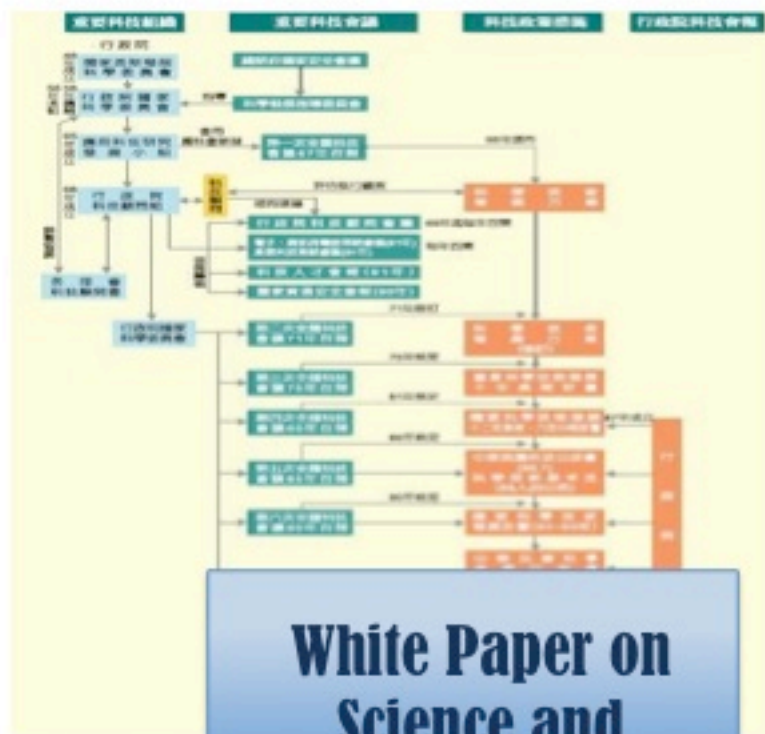
In 1999, the **Fundamental Science and Technology Act** was established to provided sound legal framework for government promotion of S&T progress.

- ✓ The government drafts national S&T development plans every four years.
- ✓ The act was amended in November 2011 (The Bayh-Dole Act of Taiwan), to grant government-funded research to organizations and schools.
- The strategic documents governing international S&T collaboration of Taiwan with specific nations/regions is inherently guided by the Act.

Taiwan Science & Technical Constitution

Based on the **Fundamental Science and Technology Act**, the government drafts national S&T development plans every four years.

- The strategic plan governing international S&T collaboration of Taiwan with specific nations/regions is inherently conducted by:
 - Executive Yuan, Science and Technology Advisory Board Meeting
 - National Science and Technology Conference



White Paper on Science and Technology (2011-2014)

December 16, 2010
Approved at the 3,226th
Conference of the
Executive Yuan

Taiwan Science & Technical Constitution

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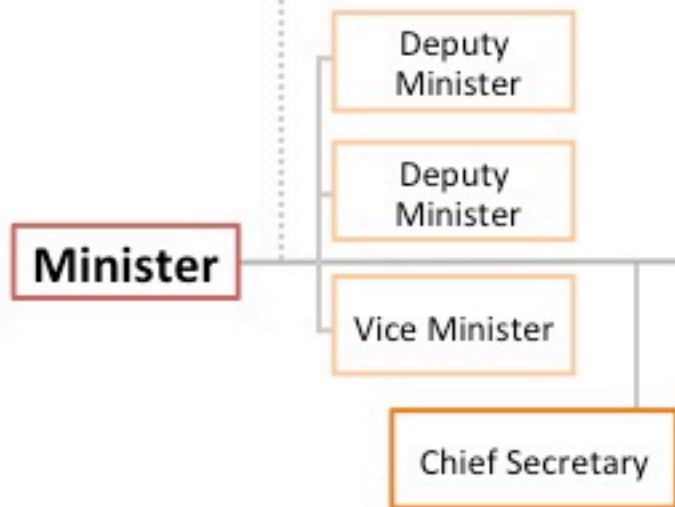
- Executive Yuan, Science and Technology Advisory Board Meeting
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MOST Organization

Executive Yuan, Science and Technology Advisory Board Meeting

National Science and Technology Conference

Science and Technology Advisory Board



- Department of Planning
- Department of Natural Sciences and Sustainable Development
- Department of Engineering and Technologies
- Department of Life Sciences
- Department of Humanities and Social Sciences
- Department of International Cooperation and Science Education
- Department of Foresight and Innovation Policies
- Department of Academia-Industry Collaboration and Science Park Affairs

- Hsinchu Science Park Bureau
- Central Taiwan Science Park Bureau
- Southern Taiwan Science Park Bureau

Advanced Research Park Provisional Office

- Department of General Affairs
- Department of Personnel
- Department of Budget, Accounting and Statistics
- Department of Government Ethics
- Department of Information Services
- Legal Affairs Committee (Petitions and Appeals Committee)
- Office of Congressional Relations

- National Science and Technology Center for Disaster Reduction
- National Applied Research Laboratories
- National Synchrotron Radiation Research Center

MOST headquarters 277
 Subordinate agencies 547
 Authorized Staff 1,959
 Total 2,783

MOST - Missions

1. Promote National S&T Development

2. Support Academic Research and Manpower Cultivation

3. Facilitate Academia-Industry Collaboration

4. Develop Science Parks

Mission 1: Promote National S&T Development

- Plan national S&T development strategies
 - Plan, coordinate, and evaluate government S&T development programs
 - Review S&T budget allocation
 - Manage National Science and Technology Development Fund
 - Oversee other S&T development matters
- To identify thematic areas of S&T cooperation with foreign states
- 

Plan S&T Development Strategies



Promoting Academic Research Excellence and Innovation

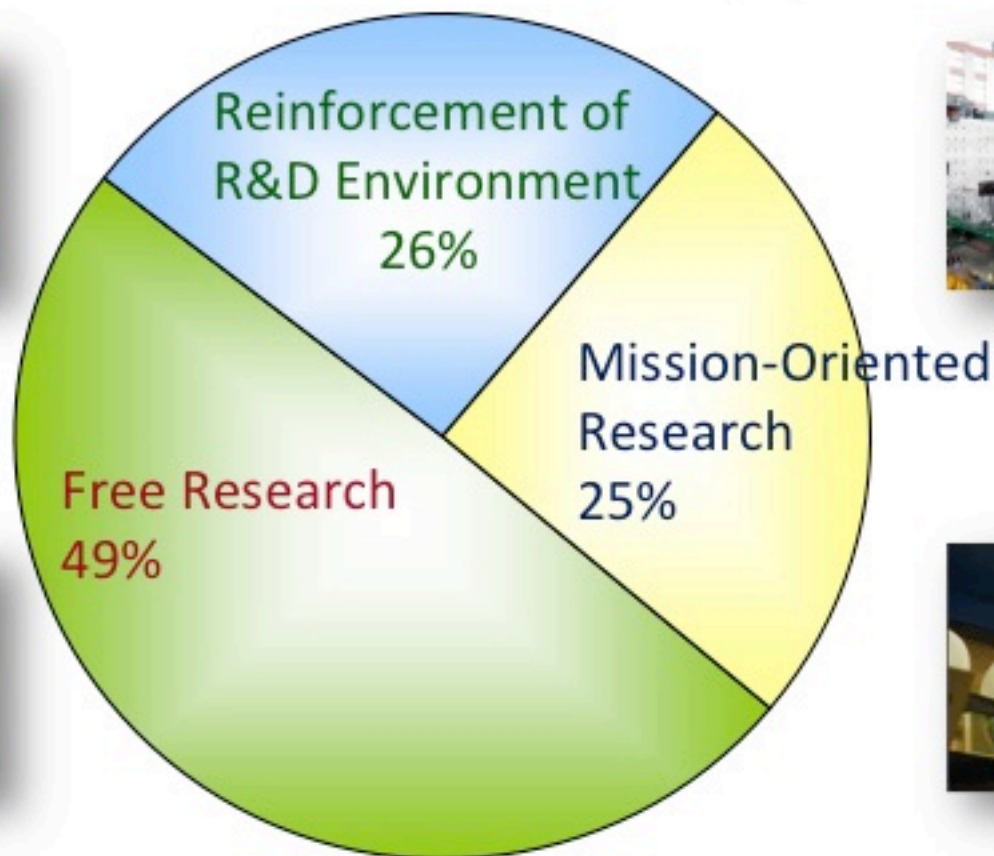


Strengthening Academia-Industry Links and Encouraging Demand-Oriented Innovative R&D

- The advisory board are involved in planning international S&T cooperation and to identify thematic areas of S&T cooperation with foreign states

Mission 2: Support Academic Research

Grant Use Mechanism (%)



of 2014 MOST budget: NT\$35 billion (1,157 US million)

Mission 2: Support Academic Research R&D Environment Reinforcement

Establishing core facilities and sharing major instruments

- Common Lab with core facilities such as astronomy, biotechnology, brain and mind, etc.)
- Developing cutting-edge research platforms (e.g., The National Applied Research Laboratories)
- Creating advanced synchrotron light sources
- Enhancing the humanities and social sciences research environment



Mission 2: Support Academic Research

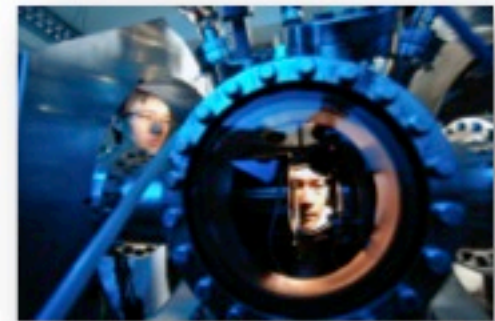
Mission-Oriented Research Programs



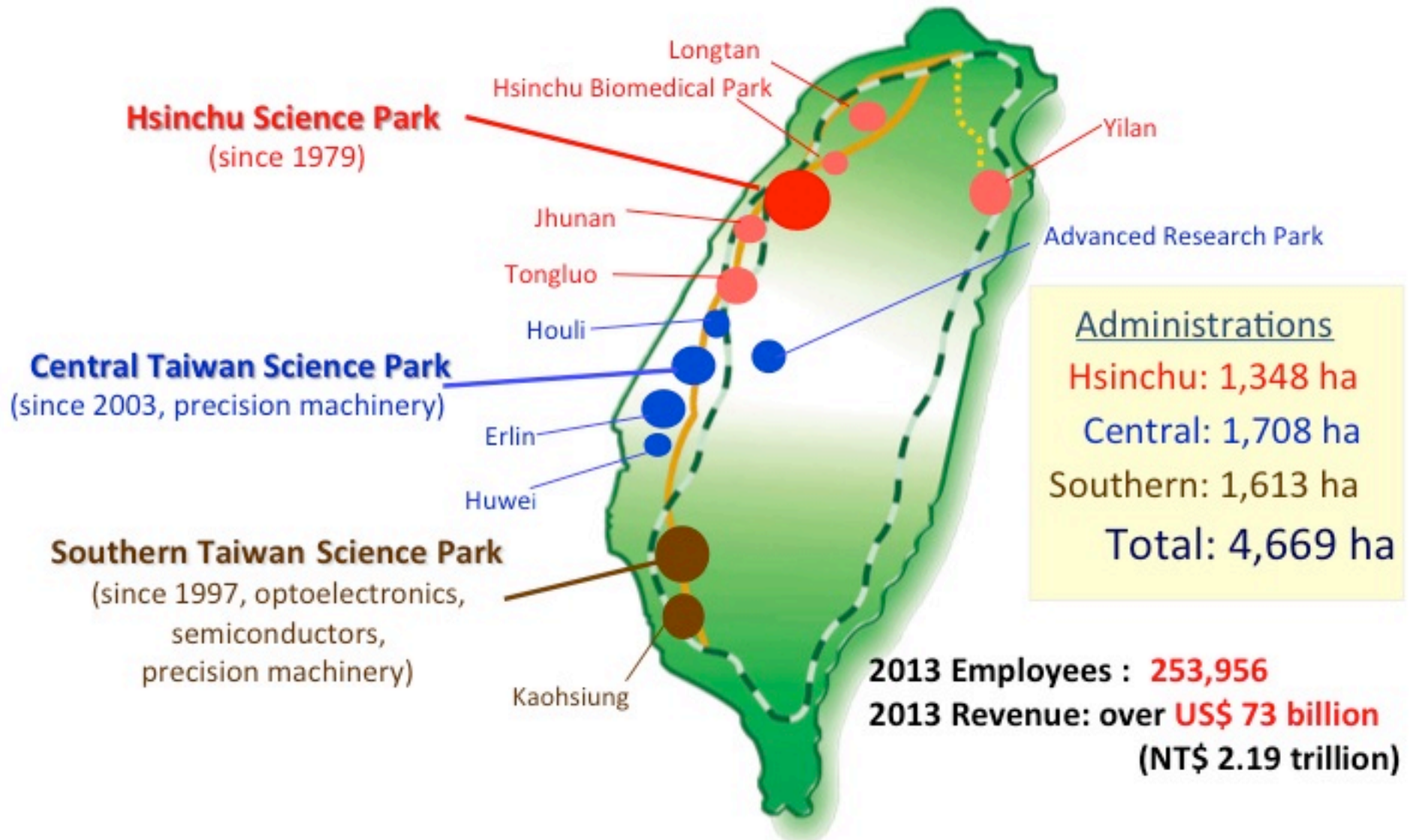
Mission 3: Facilitate Academia-Industry Collaboration

Links Frontier Research and Innovation Technologies

- Industry-Academic Cooperative Research Projects
- PIONEER Grants for Frontier Technologies
Development by Academia-Industry Cooperation
- Academia-Industry Technological Alliance Projects
- Industrial Fundamental Technology Projects
- Applied Research Incubation Projects
- From IP to IPO (FITI)
- Germination Program



Mission 4: Develop Science Parks

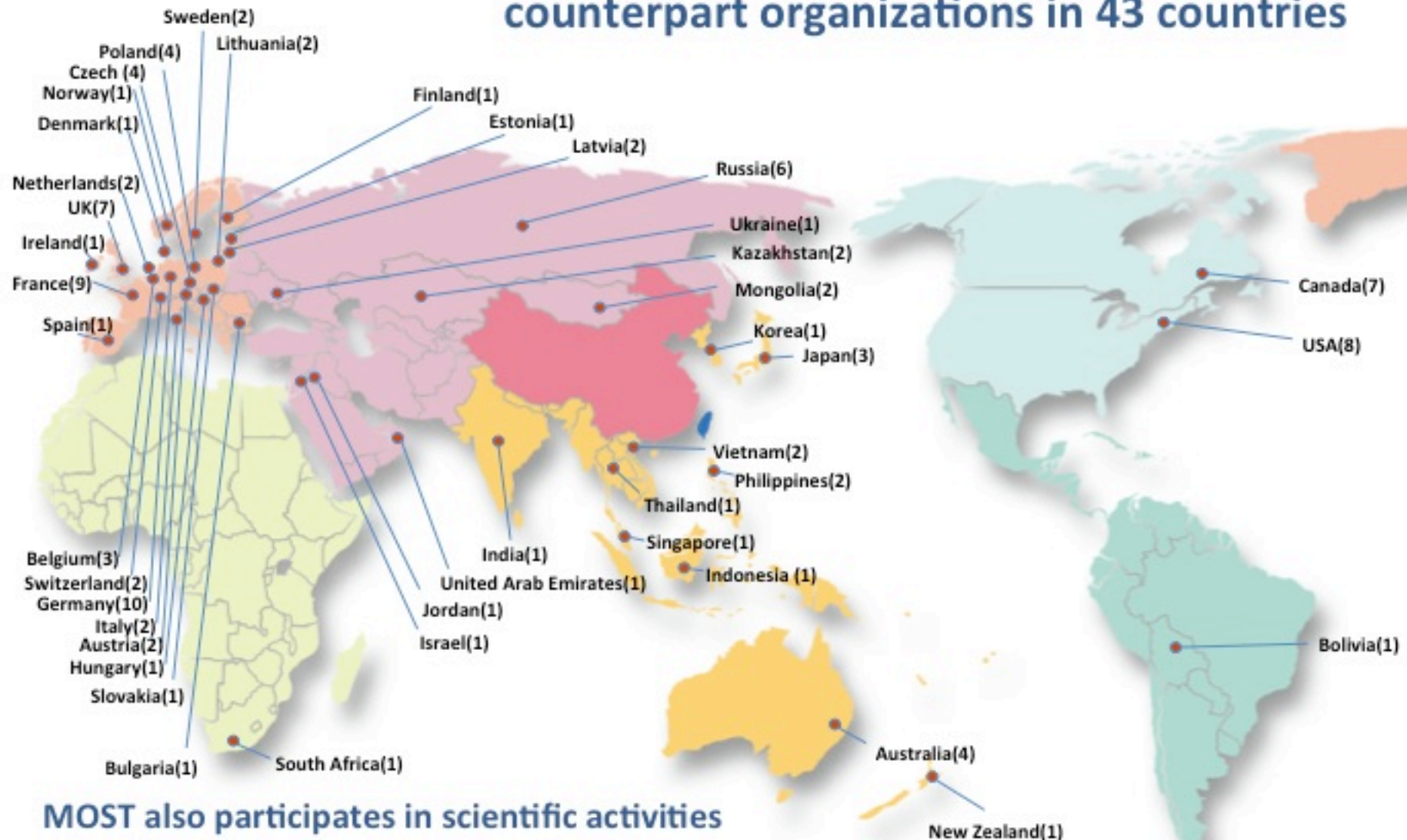


MOST International S&T Cooperation

- Develop S&T network of International exchange relationships
- Promote bilateral and multilateral S&T cooperation
- Currently, oversea 16 S&T divisions in 13 nations
 - Promote S&T partnerships with host nations
 - Conduct bilateral/multilateral S&T cooperation
 - connect scientists with those in nations
 - recruit overseas S&T professionals to Taiwan



110 S&T cooperation agreements with counterpart organizations in 43 countries



MOST also participates in scientific activities related to APEC, ICSU, EU, CERN, GBIF, EMBO, etc.

Variety of instruments can support cross-border S&T innovation

- Cross-border cooperative research funding programmes;
- Cross-border research excellence programmes;
- Joint programmes for innovative research ComLab;
- Joint programs for youth scientists cultivation and scholar exchange
- Joint programs for talent attraction initiatives;
- Cross-border soft support to innovative start-ups;
- Joint technology transfer infrastructure;
- Cross-border technology parks or incubators;
- Cross-border venture capital schemes;
- ...



Funding Mechanisms for International Collaboration

A. Joint Research Projects

- Bottom up free applications
- Top-down joint call for proposals
- Joint conferences/symposia/workshops

B. People Mobility

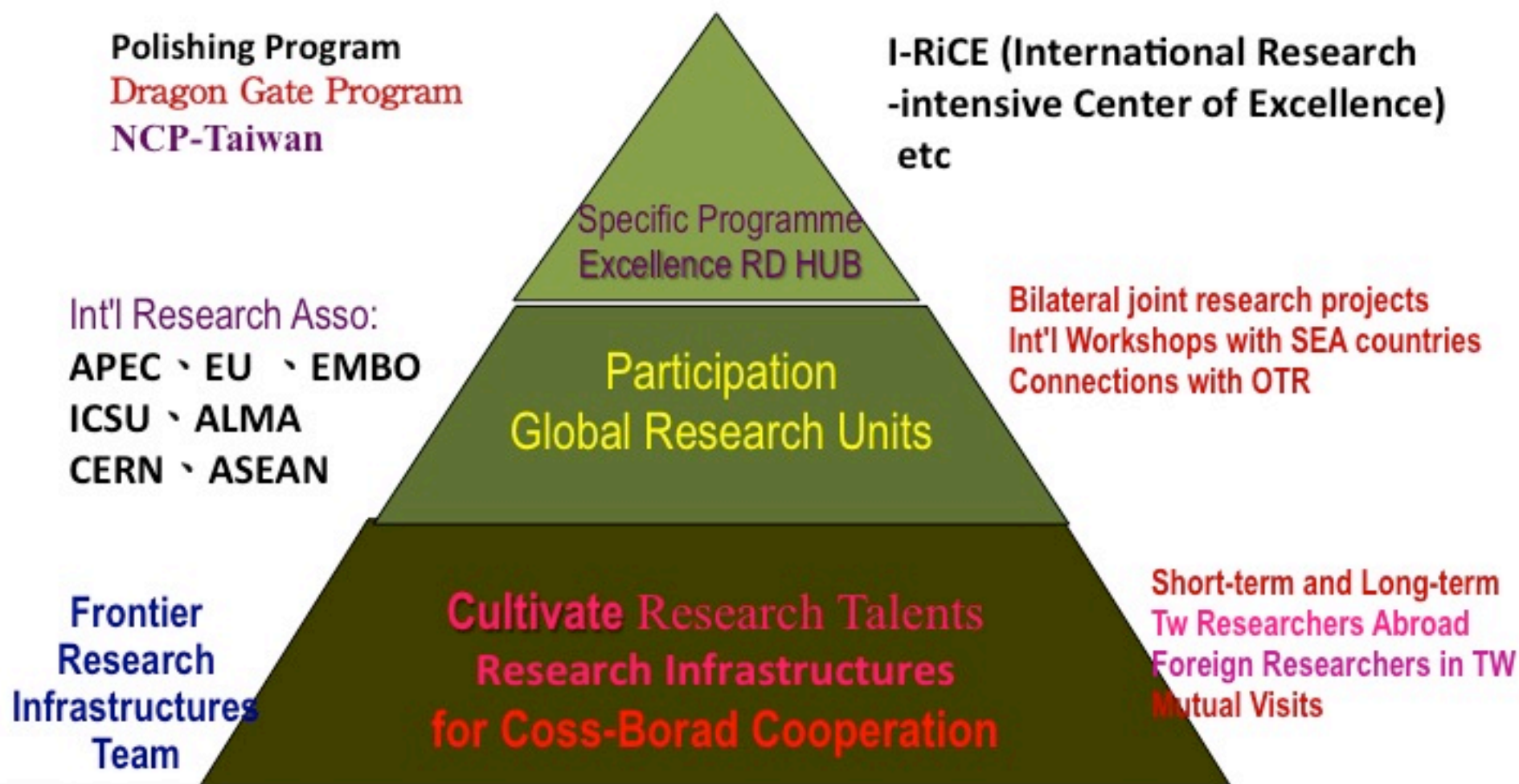
- Exchange of visits + overseas research study/training
- Summer institutes in Taiwan

C. Mission-Oriented Program

- Taiwan innovation and entrepreneurship center



International Cooperation Strategy

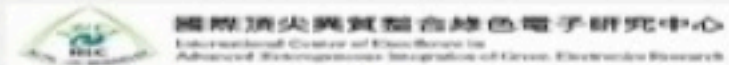
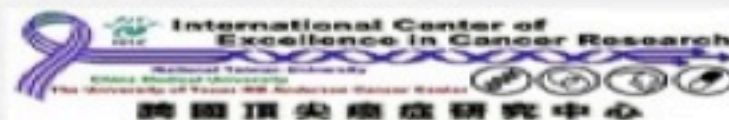
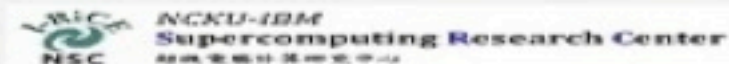
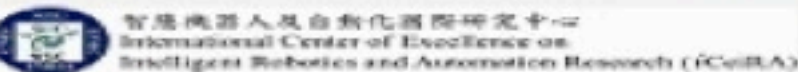
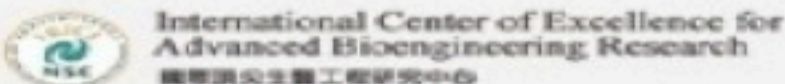


International Research Intensive for Center of Excellence (I-RiCE)

To enhance the cooperation between research universities in Taiwan and top international research institutions (global top 50 universities and renowned labs)

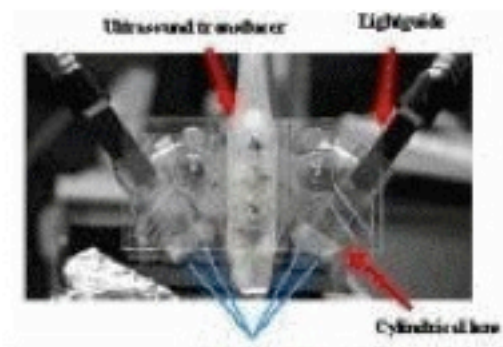
To establish the Center as a research hub to attract internationally renowned scholars and researchers to the Center and conduct joint research work with domestic researchers

3-5 ys program, funding up to 1.7 millions per year



Stanford-Taiwan Biomedical Fellowship Program (STB Program)

- STB Program is multidisciplinary training program, blend between innovative Med Tech in the Bay Area and young scientist from Taiwan.
- the goals is to train the next generation of medical technology innovators and create an innovative Med Tech platform in Taiwan; couple with the Taiwan infrastructure of manufacturing, miniaturization, and cost reduction may be the perfect environment to surround these innovative kernels.



PROGRAMS
Stanford-Taiwan Biomedical Fellowship Program

Science and Technology Policy Analysis and Planning

Science & Technology Policy Research and Information Center (STPI), established in 1974

- ✓ Aims to support government's technology policy-making and addressing social needs for globalization and the coming era of knowledge economy.
- ✓ Functioning as main government think-tank for science and technology policy and major platform for incorporating Taiwan's research communities.

STPI has utilized, over 30 years experience, in collecting, collating and disseminating science & technology information for the purposes of innovation, competitiveness, sustainable development and social well-being and has integrated and provided with several nationwide technology related information services in improving the efficiency of scientific research.

Technology Trend Analysis and Foresight Planning

The policy research, monitoring and evaluation of National Science and Technology (2014.02.01-2017.01.31)



1. To systematically monitor and explore trends in **technology dynamics**, (focus on the area of ICT & IoT, Machinery & Precision Manufacturing, Advanced Materials and etc.)
2. To develop an evidence-based planning tool/process for **priority setting** by such approaches as scenarios, bibliometrics, participatory methods and etc.
3. To explore useful “strategic intelligence” for policy makers to assist in the formation process of national science and technology policies.

Science and Technology Policy Analysis and Planning



Methods of Technology Forecasting

- Commonly adopted methods of technology forecasting include the Delphi method, forecast by analogy, growth curves and extrapolation.
- Normative methods of technology forecasting — like the relevance trees, morphological models, and mission flow diagrams — also used.



Thanks for your participation

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