China National S&T Infrastructure
Development and Prospect

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May 26th, 2008
Outline

1. Basic Introduction
2. Development Achievements
3. Key Projects Briefing
1. Basic Introduction
Process (1)

◆ “12-year Plan for S&T Development (1956-1967)”: S&T infrastructure system established

◆ 1978-mid 1980s, scientific research institutions and R&D system restructured

◆ Mid 1980s-mid 1990s, development of S&T infrastructure (state key laboratories, engineering research Centre, large-scale S&T facilities)

◆ Mid 1990s-Present, paying attention to the efficiency and effectiveness of S&T resources utilization
Process（2）

- Late 1990s, S&T Infrastructure Program (NSTIP) conceptualized

- 2002, pilot projects started
  (large-scale scientific instruments and equipments, scientific data)

  "“11th Five-Year Action Plan for S&T Infrastructure Development Program " (MOST, MOE, NDRC, MOF)

- 2005, NSTIP implemented

- 2006, NSTIP raised as one of the main National Programs of S&T Development
National Program System for S&T

Basic Programs + Key programs

Main Programs
- Basic research program
- High tech R&D Program
- Key tech R&D Program

Policy-Guiding Programs
- NSTIP
- Spark Torch
- ...
About NSTIC

NSTIC was established in 2006. Its main functions include:

- Policy study
- Project management
- Portal system construction and management
- Consulting service
- International collaboration
2. Development Achievements
To improve national innovation capability by enhancing S&T fundamental capacity

To optimize S&T resources allocation by integration and restructuring

To promote the sharing of S&T resources and improve the status-quo of overlapping and isolation

To innovate the management system and operational mechanism

To enhance public service capacity of S&T resources and its efficiency of utilization
Prior areas

- R&D bases and large-scale equipment
- Natural resources for S&T
- Science data
- S&T literature
- Technology Transfer
- S&T network collaborative environment
Projects and Financing

Unit: 100MRMB

- 2005, 38 Projects
- 2006, 34 Projects after mid-period evaluation
- 2007, 31 projects

2003-2007, Total financing by centre government: 27.5
Outputs Summary

- Preliminarily improve the allocation of S&T resources
- Effectively support R&D activities
- Raise the efficiency of public financing
- Promote technology transfer
- Put forward the development of local S&T infrastructure
OUTPUTS（1） R&D bases and large-scale equipment

- 14,768 pieces of S&T facility and equipment information being collected and gathered to provide sharing service.

- Nov. 2007, national large-scale S&T equipments sharing network portal (www.scilink.cn) launched

- Established the field observation and research network system in areas of the eco-environment, material corrosion, geophysics, special environment and function
OUTPUTS (2)
Natural resources for S&T

- Gathered more than 70% of total domestic natural resources
- Standardized and digitalized 2.99 million pieces of resources owned by 655 different institutes
- Salvaged and conserved endangered and rare 35,000 resources
- Provided services for research by sharing 530,000 copies
OUTPUTS  （3）

Science Data

- Activated deposited science data from public research costing over 25 billion RMB
- Updated 51 databases, built 80 new databases, total storage over 3160 GB
- Provided data services to other important research projects by over 1000 times
Established the sharing service network of S&T literature data and the standardization document data

Integrated resources of 7 biggest S&T libraries, reserved foreign S&T literature amount to over 60% of domestic total in varieties

Currently literature data-sharing services capacity: 21,401 different kinds of literature, 3 million various types of processed data, access to 42 databases and more than 40 million records
Developed a database of more than 200 thousands S&T achievements and service network, covering main industries and regions of national-wide
Integrate super computer calculation capacity to 20TFLOPS

Realize remote online experiments, i.e. electrical telescopes

China digital S&T museum win the World-Summit Award 2007 (e-science)
Shanghai public R&D service platform, By the end of 2007, 128,000 registered, 16 Million yearly visits, providing 2 million services (70% services for enterprises)

Hainan province set up the agricultural S&T 110 service platform, providing services directly to rural people up to 1 million times
3. Key Projects Briefing
New Demands

- International S&T competition increasingly relies on scientific and technological resource development and its utilization.

- Implementation of the national strategy of innovation, achieving the comprehensive goal of building a well-off society and speeding up economic restructuring and upgrading of industrial technology.

- “2006-2020 long-term S&T development outline” put forward the new task for NSTI development to provide full support to all major S&T projects.
New Opportunities

- New revised “S&T Progress Law”: put forward the importance of S&T resources sharing and strengthening S&T infrastructure development.
- New government requested: enhance S&T fundamental capacity and optimize S&T resources allocation.
- Improving enterprise innovation capability: speed up the supporting platform development toward enterprise innovation.
- S&T infrastructure development being prioritized at all levels of national-wide: a environment of knowledge sharing is shaping within the whole society.
Mission and Objectives

- **Mission:**
  - Integration, sharing, optimization, enhancement
  - Centralization, top-down designing, Overall planning, coordination
- **Objectives:**
  - Provide full support for the implementation of major S&T projects
  - Promote enterprise cluster development and industrial innovation
  - Enhance public service capacity of S&T infrastructure
Key Projects

- National S&T resources survey
- New-round projects of NSTIP
- Policies, regulations and standards
- NSTI portal system
- International cooperation
National S&T Resources Survey

- Distribution of important S&T resources
- The level and conditions of S&T resources
- Monitoring S&T resources variation and updating in time
- Creating the S&T resources sharing environment
Main Tasks

- Design
- Survey
- MIS
- Overall Plan

Output
- Data Base
- Report
- Mechanism

Tasks:
- Training Admin.
- Date Analysis
- Examine
- Inspect
New-round Projects of NSTIP

- Public R&D platform to support strategic S&T projects
- Innovation supporting platform towards enterprises for regional industry development
- S&T resource sharing platform for more access to sharing services
Research on the legislative framework of S&T resources sharing

Study and formulation of policies on management, assessment, evaluation, financing, etc.

Establishment of Technical Standardizations Committee, promoting formulation of standards and specifications
NSTI Portal System

- Solve the problem of “isolated information island”, strengthening the collection and integration of S&T resources information
- Display the achievements of S&T infrastructure development, providing high-quality open-sharing services
- Enhance the evaluation and monitoring capability to platform operation
Framework of NSTI Portal System
NSTI Portal System
International Cooperation

- Strengthen communications with relevant international organizations, actively participate in related joint programs
- Communicate with developed countries on legislation, policy-making and standardization
- Promote S&T resource international sharing based on NSTI portal system, in the fields of large-scale equipment, science data, S&T literature, etc.
THANKS!