Strategy for Innovative Technology (Outline)

Strategic Promotion of Innovative Technologies

Innovative Technologies

- Technologies of the world's top-level
- Technologies that would have a cosiderable ripple effect in the economy

◎ ***Deploy a technology development strategy*** ***for swiftly grow budding innovative technologies into the driving force of society-wide innovations***

◎ ***Specify the potential of excellent innovative technologies and develop them in a timely manner for creating innovations***

◎ ***Provide the potential for growth*** ***by enabling restricting factors such as a lack of resources and environmental factors etc to be overcome and overcome the competition that exist at a global level***

Realization of continuous economic growth and an affluent society

Our Goal : Growth through Technological Innovation

◎ ***Intensive promotion*** *of Innovative Technologies*

◎ ***Strengthen the functions*** *of the Council for Science and Technology Policy* ***as a control tower***

Reform the R&D system to supervise each Ministry's measures to accomplish total management responsibly.

(i) Enhancement of the international competitiveness of industries

- Accelerate R&D of technological seeds for further reinforcement of industries that have supported the growth of Japan.
- Accelerate R&D for promoting the formation of new industries

(ii) Building of a healthy society

- Realize technologies which enable people to enjoy healthier and more comfortable lives.
- Raise the health and healthcare industries.

(iii) Safety and Security of Japan and the world

- Further develop technologies which ensure the safety and security of the nation.
- Advance National Critical Technologies.

Innovative Technologies

Reinforcement of the international competitiveness of Japanese industries

High-speed communication network technologies (All- optical communication technology)

Electronic device technologies (Spintronics, 3D semiconductor devices, Carbon nanotube, Integrated MEMS)

Advanced imaging technology (3D imaging)

Embedded software technologies (Dependable software)

Technologies for addressing global warming (High-efficiency solar power generation, Hydrogen energy system)

Development of a healthy society

Medical engineering technologies (Brain-Machine Interface , Low-invasive medical devices, Heart assist systems)

Intelligent robot technologies (Daily life support robots)

Regenerative medicine (iPS cells)

Drug discovery technology (Vaccines, etc.)

Ensuring of the security of Japan and the world

Detection technologies (Terahertz wave)

Food production technologies (High-yielding soybean, wheat, etc., Complete culture of tunas and eels)

Green Sustainable Chemistry (Use of genetically modified microorganisms, Energy production, New catalysts)

New materials (New super conductors)

Technologies for addressing shortage of scarce resources (Rare metals, etc.)

Critical Technologies (Next Generation Super Computer, Global Ocean Observatory System, X-ray Free Electron Laser, FBR Cycle, Space Transportation System)

* The designation of innovative technologies will be reviewed as necessary by considering technological trend.

* Technologies for addressing global warming will be stated in the “Low Carbon Technology Plan” as part of the “Strategy for Technological Innovation” .

A Significant Extension of the Structure to Promotion "Innovative Technology"

Accelerate R&D with an "All-in-One Japan system"

Establishment of "Innovative technology promotion fund"

- A new "Innovative Technology Promotion Fund" will be established in 2009 for the specific promotion of "Innovative Technology", and investment accelerated in specific technological R&D areas.
- Design a system for use in accelerating R&D being made in an encouraging and flexible manner (the exact scale of which will decided by the end of June 2008 but based on the proposal of being about 1% of the Special Coordination Funds for Promoting Science and Technology that was offered by the Council on Economic and Fiscal Policy).
- Issue specific projects several times a year, apply in a multiple-year contract system, and enable claims to be extended for more than one fiscal year.
- "Innovative Technology", in which the budget of government ministries is used, will be particular resources being distributed with the promotion of "Innovative Technology" as the key issue through "S&T related budget allocation policy " .

R&D Management Related to "Innovative Technology"

- Select "Innovative Technologies" which Japan should invest in flexibly (organize a network of researchers/engineers (group of specialists) and gather an extensive amount of information on domestic/international technology trends).
- Prepare a technology roadmap, establish the PDCA cycle and carry out necessary system reformation promptly.
- The participation of industrial circles will be required from an early stage and top-class intellectuals, irrespective of the organization they belong to, amassed.

"Super Special Consortia" System etc for the Application of Innovative Technology Model Projects

- Meetings (government ministry conferences) will be arranged where the controlling authorities and people participating in the R&D can continuously examine what is happening with the development in a simultaneous manner .
- Organize a complex research body assembled from industry-academia-government R&D organizations and corporations etc.
- The expansion of technology into not only cutting-edge medical care but also other fields will be considered.

Organizing an Environment Where Continuous Innovative Technology can be Developed

Realization of a Research Fund to Increase the Potential for Innovative Technology

Investment in Challenging High-Target-Setting Basic Research

- The number of competitive funds will be increased to promote a variety of basic research being carried out and a new "Big Challenge Research Scheme" set up at a specific percentage.

Continuous Research Fund Supply

- A system will be structured to support excellent results and developments intermittently.
- A tie-up system for all the national competitive funds will be established in 2008 .

Standardization of Competitive Fund Rules

- Promote the standardization of rules for use with competitive funds in order to utilize research funds more effectively /efficiently.

Securing the Human Resources to Explore a New Field

Securing the Mobility of and Educating/Acquiring Top-Class Human Resources

- Promote the mobility of human resources in universities/Independent administrative institutions for R&D and publish their degree of achievement.
- Arrange attractive research/living environments to attract excellent foreign researchers.
- Increase support for the expansion of activities being carried out by women and young researchers.

Securing the Human Resources to Challenge in Next-Generation

- Introduce the “Core Science Teacher Training Program (tentative)”.
- Introduce the “Super Science High School (SSH) Core Base Educational Program (tentative)”.