



● Table 2-3-10/Major Preferential Tax System for S&T Promotion

Item	Purpose	Details	Applicable law	Date of enactment and validity
R&D taxation system	Promotion of research and development investment by the private sector, etc.	<p>Tax Credit for research and development expenditures</p> <p>I. Proportional Tax Credits for total research and development expenses The research and development credit is a percentage (8 to 10%) of the total of research and development expenses. The maximum amount is the sum of 20% of the corporation tax liability.</p> <p>II. Special Tax Credit on special research and development expenditures For joint experimentation and research with and experimentation and research commissioned to universities, public experiment and research institutes, the National Experiment and Research Institute, and other organizations, in addition to Item I above, tax equivalent to 12% of these research and development expenses regarding such experiment and research is exempted (but limited to an amount equivalent to 20% of the corporation tax, including the special tax exemption in Item I above.) (Corporation tax)</p> <p>III. Tax system to strengthen the technical base of SMEs (Applied instead of I or II)</p> <p>(1) The tax credit amount is a value equivalent to 12% of test and research expenses at SMEs (but limited to a value equivalent to 20% of corporation tax). (Remarks)</p> <ol style="list-style-type: none"> 1. The tax credit amount in relation to the above I through III is a value equivalent to 30% of corporation tax only for FY 2009 and FY 2010. 2. In relation to the amount exceeding the tax credit mentioned in I through III, it can be deferred one year for deduction. However, in regards to the amount exceeding the limit occurring in FY 2009 and FY 2010, it can be deducted in FY 2011 and FY 2012. <p>(2) The tax credit amount in (1) above is excluded from the tax base for corporate inhabitants tax (Local tax).</p> <p>IV Proportional Tax Credits for increased research and development expenses Either of the following (a) or (b) will be selected and applied (but limited to an amount equivalent to 10% of the corporation tax, apart from I through III) (corporation tax)</p> <p>(a) When the amount of experimental and research expenses exceeds the average of experiment and research expenses for the current term and for three years before the current term and exceeds the largest amount out of experiment and research expenses for two years before the current term, the tax equivalent to 5% of the amount exceeding the average is exempted.</p> <p>(b) When the amount of experimental and research expenses exceeds 10% of sales amount for the current term and for three years before the current term, the tax is exempted in a predefined proportion to the excessive amount.</p>	<p>Special Taxation Measures Act, Article 10, Article 42-4, 42-4-2, Article 68-9, 68-9-2 (corporation tax), Local Tax Act, Supplementary Provision, Article 8, Item 1.</p>	<p>Enacted in FY2003 (Hereinafter, for private business owners, the tax credit system will remain the same.)</p> <p>Enacted in FY1985</p> <p>Enacted in FY 2008 (until FY 2011)</p>

(Promotion of private-sector R&D activities through government subsidies)

1) Innovation commercialization support program

Government subsidies are provided through the New Energy and Industrial Technology Development Organization (NEDO) to support efforts for development intended for commercialization of technology seeds owned by private corporations. Recipient corporations conduct practical development within fields designated as “four priority fields to be promoted” and “four fields to be promoted” by the 3rd Basic Plan.

2) System for the support of private-sector infrastructure technology research

Proposals are chosen from public calls in order to promote experimental research into infrastructure technologies conducted in the private sector related to the mining, manufacturing, telecommunications, and broadcasting industries. Topics concerning telecommunications and broadcasting technologies are continuously supported through NICT, while those related to mining and manufacturing technologies fall under NEDO in terms of the contract research program.



3) Project for strengthening technological innovation capability of small and medium sized enterprises (SMEs) and promoting their practical applications

To promote SMEs' practical application of their own advanced and unique technologies, project was implemented to assist empirical and evaluation research by collaborative research groups consisting of SMEs and universities and public research institutions with advanced knowledge, technologies and facilities.

(Promotion of private commercialization research)

In order to facilitate rural districts in the 6th industry, commercialization stage R&D programs in the private sector utilizing a variety of abundant resources in the rural districts and which have a good understanding of market needs and costs were promoted.

(Small Business Innovation Research [SBIR system]¹⁾

The Small Business Innovation Research (SBIR) system is intended to provide consistent support to R&D activities of SMEs and commercialization of their research outcomes through inter-ministerial collaboration. Under this system, efforts are underway to increase opportunities for providing subsidies and paying commissions related to R&D for new technologies that enable SMEs to engage in new business operations. In addition, measures to support commercialization, such as reduction of patent fees and low-interest loans through the Japan Corporation, have been implemented. In FY 2010, seven ministries (MIC, MEXT, MHLW, MAFF, METI, MLIT and MOE) designated a total of 129 cases as eligible for specific grants, and set the goal of providing about 43.5 billion yen to SMEs.

4 Building Regional Innovation Systems and Creating Regions with Vitality

The government is actively promoting regional facilitation of S&T, because it helps to revitalize local industries and enhance local residents' quality of life, which in turn contributes to the advancement and diversification of S&T in Japan as a whole.

Prefectural governments establish councils in charge of deliberating S&T policies and make active contributions to the S&T promotion by formulating their own plans and guidelines related to S&T.

(Table 2-3-11)

¹ Small Business Innovation Research



● Table 2-3-11/Councils Established at Local Governments

Prefecture	List of S&T Councils [Literal Translation] (Established Period)	Prefecture	List of S&T Councils [Literal Translation] (Established Period)
Hokkaido	Hokkaido Sci. and Technology Council (September, 1952-)	Wakayama	Wakayama Pref. S&T Strategic Council (September.)
Aomori	Aomori Pref. Industrial S&T Council (December, 1997 – May, 1999) -> Aomori Pref. R&D Council (June, 2 – March, 2009)	Nara	Nara Pref. S&T Promotion Council (March, 2002–December, 2004)
Akita	Akita S&T Policy (August, 2002 -)	Shimane	Shimane Pref. S&T Promotion Council (October, 1998-)
Iwate	Iwate Pref. S&T Promotion Council (April, 1989 -)	Hiroshima	Hiroshima Pref. S&T Promotion Council (May, 1992–March, 1994)
Miyagi	Miyagi Pref. S&T Promotion Policy Formulation Committee (July, 1998 – March, 1999)	Yamaguchi	Yamaguchi Pref. S&T Promotion Council (May, 1981-)
Yamagata	Yamagata Pref. S&T Council (April, 1999 -)	Kagawa	Kagawa Pref. S&T Council (August, 1997-)
Fukushima	Fukushima Pref. S&T Promotion Council (May, 1997 -)	Ehime	Ehime Pref. S&T Promotion Council (July, 2001-)
Ibaraki	Ibaraki Pref. S&T Promotion Council (September 2003 -)	Tokushima	Tokushima Pref. S&T Promotion Vision Formulation Discussion Meeting (June, 1998 – March, 1999) -> Nara Pref. S&T Promotion Plan Formulation Committee (March, 2008-)
Tochigi	Tochigi Pref. S&T Promotion Council (July, 1999-)	Kochi	Kochi Pref. S&T Academy (January, 2004–March, 2006)
Gunma	Gunma Pref. S&T Promotion HQ (September, 1999-)	Saga	Saga Pref. S&T Council (February, 1996-)
Saitama	Saitama Pref. S&T Council (January, 1995-)	Nagasaki	Nagasaki Pref. S&T Promotion Council (October, 1998-)
Chiba	Chiba Pref. Science Council (November, 1994-)	Kumamoto	Kumamoto Pref. S&T Council (September, 1999-)
Kanagawa	Kanagawa Pref. S&T Council (June, 1998-)	Oita	Oita Pref. S&T Promotion Policy Discussion Committee (June, 2002 – March, 2003)
Niigata	Niigata Pref. S&T Council (April, 1998-)	Miyazaki	Miyazaki Pref. S&T Council (August, 2001-)
Toyama	Toyama Pref. S&T Council (November, 1993 -)	Kagoshima	Kagoshima Pref. S&T Promotion Council (April, 2003-)
Ishikawa	Ishikawa Pref. Industrial S&T Council (Dec., 1997–October, 2003) -> Ishikawa Pref. Industrial Innovation Strategic Council (November, 2003 -)	Okinawa	Okinawa Pref. Science Promotion Council (January, 1995–March, 2007) -> Okinawa Pref. S&T Council (October, 2007-)
Fukui	Fukui Pref. S&T Promotion Council (April, 1998 – March, 2004) -> Fukui Pref. Industrial Power Strategic HQ (May, 2004 -)	Kawasaki City	Kawasaki City Innovation Promotion Council (August, 2003–March, 2006)
Yamanashi	Yamanashi Pref. S&T Council (September, 1991-)	Yokohama City	Yokohama City Industry-Academia Promotion Council (October, 1999–March, 2003)
Nagano	Nagano Pref. S&T Industry Promotion Meeting (October, 1999–December, 1999)	Kyoto City	Kyoto City Industrial S&T Promotion Policy Formulation Committee (August, 2005–September, 2006) -> Kyoto City Industrial S&T Promotion Committee (July, 2007-)
Gifu	Gifu Pref. S&T Promotion Council (August, 2006-)	Osaka City	Osaka City Industrial S&T Promotion Plan Council (May, 2000-)
Aichi	Aichi Pref. S&T Council (February, 2000-)	Hiroshima City	Hiroshima City S&T Counsel Council (October, 2003-)
Mie	Mie Science Academy Representative Council (April, 2001 – May, 2005) -> S&T Exchange Council (June, 2005–March, 2007) -> S&T Discussion Meeting (April, 2007–January, 2008)	Kitakyushu City	Kitakyushu City S&T Promotion Council (November, 2002–March, 2004)
Shiga	Shiga Pref. S&T Promotion Council (August, 2003-)	Fukuoka City	Fukuoka City S&T Promotion Vision Adviser Council (September, 2001 – June, 2002)
Kyoto	Kyoto Pref. S&T Council (September, 1961-)		
Osaka	Osaka Pref. S&T Discussion Meeting (December, 1986 -)		
Hyogo	Hyogo Pref. S&T Council (April, 2000 -)		
Nara	Nara Pref. S&T Promotion Policy Improvement Committee (August, 2007–March, 2008) -> Nara Pref. S&T Promotion Council (2008-)		

The 3rd Science and Technology Basic Plan calls for competition-based support for activities, with cluster-based regional initiatives, promoting regional systems for innovation and vital communities. The plan also calls for efforts to overcome the wall of segregation among ministries and agencies and increase inter-ministerial collaboration in order to ensure smooth implementation of regional S&T-related measures.

Here is an overview mainly of measures backed by the government to support regional S&T promotion.

(1) Formation of regional clusters

(Efforts toward the formation of Regional Innovation Clusters)

Since FY 2002, MEXT has been implementing the “Knowledge Cluster Initiative” and the “City Area Program” to build a network of industry-academia-government and to form clusters which create sustainable innovation, with universities, which have excellent R&D potential.

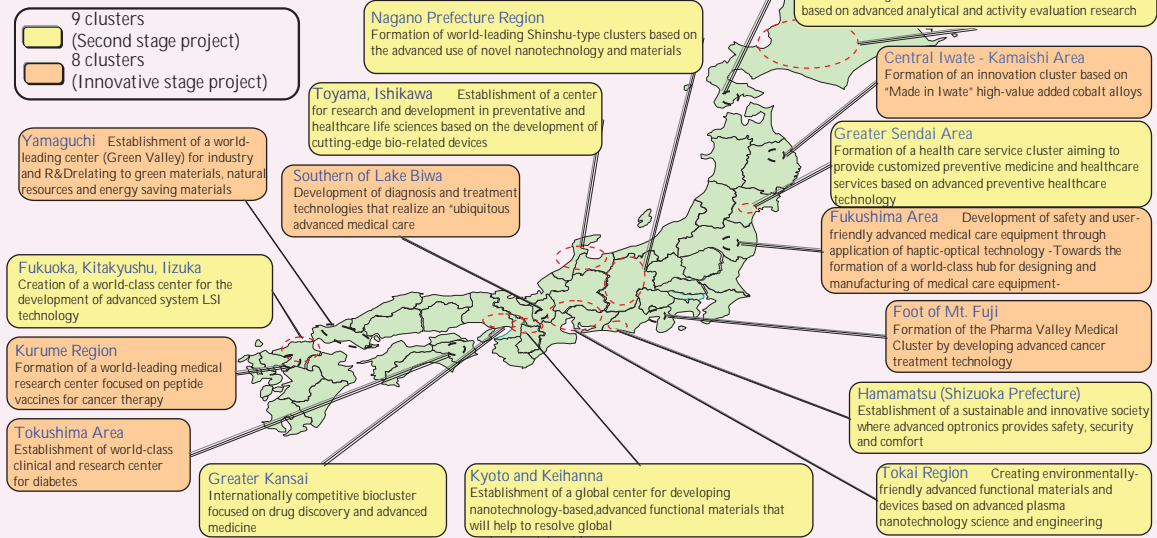
In order to enhance systematic collaboration between regions and universities and to facilitate region's self-reliance through regional clusters, in FY 2010, MEXT newly implemented the “Regional Innovation Cluster Program” in 40 regions nationwide. (Figure 2-3-12)

Figure 2-3-12/Implemented areas: Regional Innovation Cluster Program

FY 2010 Regional Innovation Cluster Program (Global Type) Implemented Area

Outline

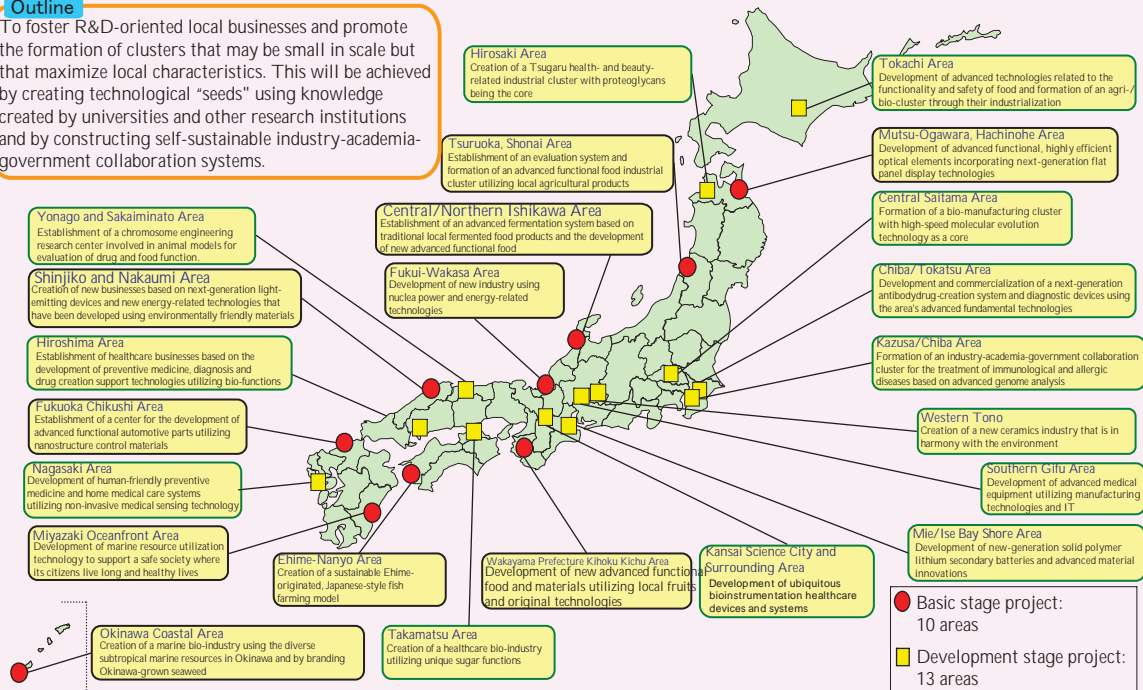
To establish globally competitive, world-class knowledge clusters to attract human resources, technologies and funds from all over the world. This will be achieved by collaborating with other regions inside and outside of Japan and strategically developing a wide range of activities, such as promoting integrated research and development activities by industry, academia and government, fostering technological "seeds" and expanding knowledge clusters.



FY 2010 Regional Innovation Cluster Program (City Area Type) Implemented Area

Outline

To foster R&D-oriented local businesses and promote the formation of clusters that may be small in scale but that maximize local characteristics. This will be achieved by creating technological "seeds" using knowledge created by universities and other research institutions and by constructing self-sustainable industry-academia-government collaboration systems.

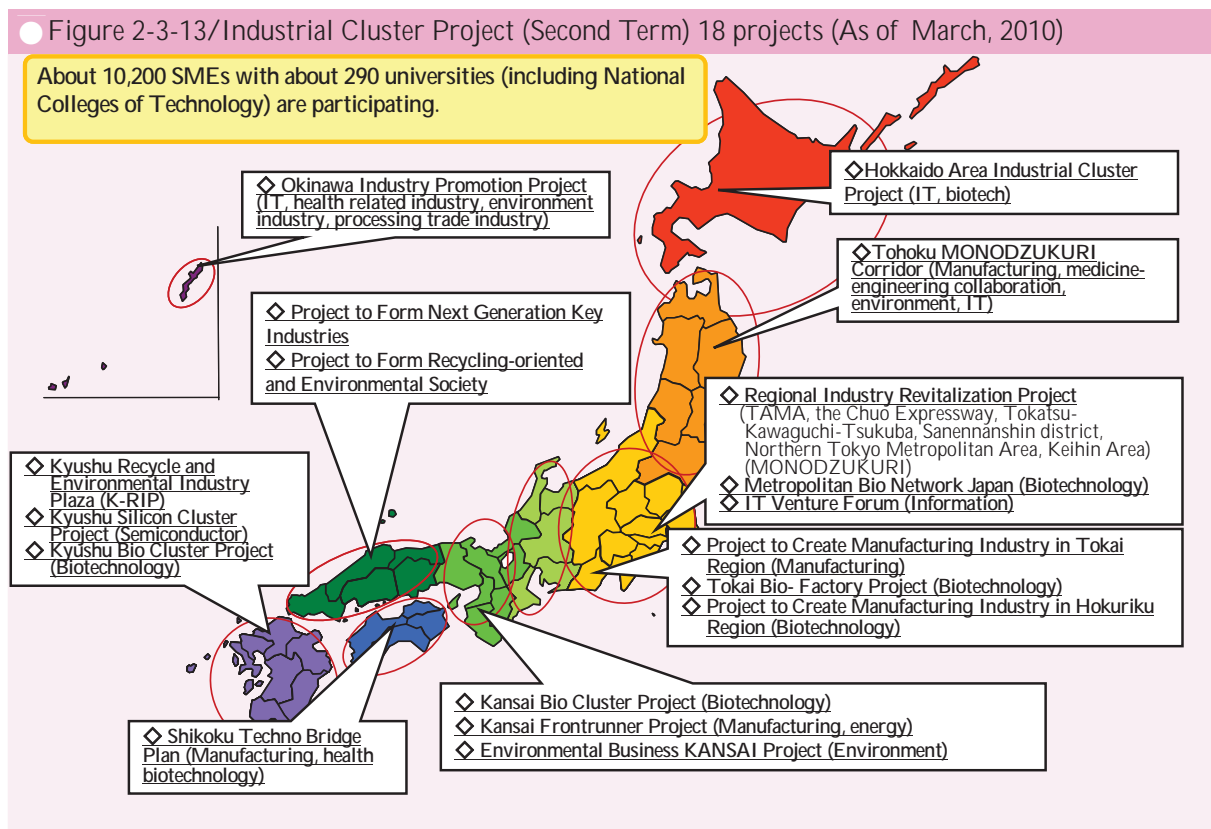




(Efforts toward the formation of industrial clusters)

METI launched the “Industrial Cluster Project” in FY 2001 and has been supporting establishment and growth of regional industrial clusters¹, in order to formulate industrial clusters which constantly create new business and for regional SMEs to make use of an expansive network which includes supporting organizations and regional financial organizations, while utilizing the seeds of universities and research institutions. (Figure 2-3-13)

The initial plan was set as Term I: Industrial Cluster Launch Period (through 2005), Term II: Industrial Cluster Development Period (2006-2010), and Term III: Industrial Cluster Autonomous Growth Period, which would let the industrial cluster develop autonomously. However, based on the results of the creation of new business and with a view toward speeding up a move toward self-sustainment, in 2009 the assistance for activities such as constructing networks was ended one year ahead of schedule, and the transition to self-sustaining activities started in 2010.



(2) Smooth development of regional S&T policies

MEXT works to promote joint research and other efforts among industry, academia, and government, focusing on universities and other institutions in regional areas to create new technology seeds. METI works to open up new fields for businesses, and to create start-ups and new products by promoting

¹ A system that takes the technological innovation of universities and other public research institutions, and of companies in the surrounding area and encourages wider area cooperation between universities and companies, and between different companies, to create a chain reaction of innovation and creation of new businesses and industries.



collaborative projects among industry, academia, and government, such as technology development leading to practical applications, focusing on corporations.

The two ministries are cooperatively enhancing industry-academia-government collaboration in regions, by providing new technology seeds, and offering feedback concerning market needs to R&D activities.

Also, the two ministries have been supporting a nationwide organization, the "Innovation Initiative Network Japan." It aims to promote collaboration over a large area for both industry-academia and industry-industry and also strengthen cooperation between clusters. This promotion and strengthening is realized through the construction of regional networks among industry, academia, government, and financial organizations under a common understanding, sharing information with each other and carrying out activities to promote exchanges and to solve common issues.

In addition, as a platform to explore the efficient creation of regional innovations and enhancing inter-regional networks in areas the government should be promoting, such as "green innovations" and "life innovations," "Regional Innovation Symposiums" were held in three locations in FY 2010.

(Projects for promotion of S&T in the community)

Government ministries and agencies implement various measures for regional S&T promotion. The main measures concerned are as follows:

1) MIC

The "Research and Development Promoting Info-Communications Technology for Community Development in the Strategic Information and Communications R&D Promotion Program" promotes joint research in the information and communications field between SMEs and universities engaged in R&D contributing to the creation of locally-based new industries, the promotion of local industries or the reinvigoration of local communities.

2) MEXT

MEXT boosts innovation in regions through JST's "Adaptable and Seamless Technology Transfer Program for Target-driven R&D (A-STEP)" under careful support from S&T coordinators, by using JST Innovation Plazas as footholds for ensuring a consistent flow of R&D activities from the discovery of seeds through commercialization.

In 2010, by implementing the "Project to arrange centers for local industry-academia-government collaboration research [literal translation]," which aimed at promoting industry-academia-government research to exploit local characteristics, while accelerating the deployment of research outcomes in medium-sized corporations, SMEs, and society, MEXT completed development of facilities in all 40 regions and built systems for regions to promote industry-academia-government activities.

3) MAFF

By determining research topics for regional revitalization and solutions for technical issues at production sites, etc. by utilizing a free flow of regional ideas in the "Research and development projects for application in promoting new policy of Agriculture Forestry and Fisheries," MAFF promotes R&D activities through industry-academia-government collaboration mainly consisting of prefectural research institutes and



regional universities. Moreover, to promote R&D of agriculture, forestry and fisheries, MAFF appointed industry-academia-government collaboration coordinators specializing in the fields of agriculture, forestry and fisheries and food industry.

4) METI

Based on advanced technological seeds that can help create new regional industries, METI implements practical-application R&D in collaborative fields within agriculture-commerce-industry through joint research entities from industry, academia, and government.

AIST invited researchers from public experiment and research organizations who understood the needs of regional SMEs (12 researchers invited in FY 2010), and cooperated with engineers of such enterprises when necessary to resolve technical problems faced in joint research programs. In addition, AIST is developing a system to support local medium-sized corporations and SMEs with open use of testing equipments, with public research institutions, etc.

5) MOE

MOE implements local environmental research—joint research with national research institutions and public research institutions or independent administrative agencies and public research institutions. This focuses on research themes for which there is strong demand at the regional level, and which require study that matches the characteristics of the regional environment. In order to develop and disseminate advanced environmental technologies and promote regional environmental businesses by placing increased emphasis on R&D activities at the regional level, the ministry sets special quotas (regional quotas) featuring local individuality and characteristics in strategic general research supported by the “Environmental Research and Technology Development Fund.” Furthermore, in model regions, the ministry has implemented a model project for establishment of environmental technology development infrastructure through industry-academia-government collaboration in respective regions.

(Strengthening the activities and functions of public experiment and research institutions as R&D and technology support organizations)

The relevant government ministries implement various measures directed at public research institutions. These measures are summarized in (Table 2-3-14).



Table 2-3-14/Enhancement of Activities and Functions at R&D/Technology Agencies Supporting Public Research Agencies

Ministry	Outline
Ministry of Internal Affairs and Communications	Adopts local tax allocation measures for the research and development activity expenses of prefectural industrial technology centers, sanitation research institutes, agricultural test sites, livestock test sites, fishery test sites, and other public testing and research institutions.
Ministry of Agriculture, Forestry and Fisheries	Implements the following projects and supports prefectural research institutions. 1 Research projects consigned to prefectural institutions implemented as part of national research. - Breeding programs for major crops - Compliant research and development on priority issues 2 Supports efforts to effectively conduct collaborative research as a practical technology development project to promote new measures for agriculture and fisheries, while formulating the inter-prefectural "Collaborative Research Agreement"
Ministry of the Environment	1 Promotes joint research with the environmental research institutions, etc., of local governments (prefectural or city governments), to contribute toward the preservation and improvement of the local environment. 2 The National Environmental Research and Training Institute (NETI) offers training for national and local governmental officials, etc., toward the goal of acquiring environmental analysis technologies.

In order to revitalize regional S&T and local economies while affording regions more autonomy, MEXT has established the "Investigative Commission of the Role of Public Research Organization in Promotion of Regional Innovation [literal translation]," in operation since July, 2010, with concern for a decline in the potential of public research organizations, due to a trend of decreasing budgets and personnel numbers at such organizations. This Commission organized and analyzed the promotion of regional science and technology and the current status of the public research organizations, and after a series of discussions on what roles the organizations should play to promote regional innovations and necessary measures to take to realize the promotion, completed the report at the end of FY2010.

(Interregional collaboration and exchange)

JAREC was established in June 1992, based on funds provided by local governmental authorities, with the aim of supporting research exchanges and promoting regional research concerning S&T. It hosts training sessions throughout the country as well as study groups to discuss solutions to the individual issues facing each community, to assist in deploying S&T policies. Other operations include training of personnel for technical transfer.

(Consolidation of R&D bases)

The National Spatial Strategies¹ specifies the utilization of universities and experimental research institutions including the organizations concentrated in the Tsukuba Science City and the Kansai Science City for the purpose of contributing to nationwide development as they are important intellectual and human resources.

1) Tsukuba Science City

Tsukuba Science City was created as a center for high-level research, experiment, and education in Japan and to contribute to reducing the overcrowded status of Tokyo. At present, 31 institutions, including

¹ National Spatial Strategies(National Plan) (Cabinet decision: July 4, 2008)



national experimental research and education institutions, as well as many private-sector research institutions, are located in the city. They promote various measures such as research exchange advancement and establishment of international research exchange functions.

2) Kansai Science City

The Kansai Science City was constructed as a center for contributing to the development of Japanese and worldwide culture, science, and research, as well as development of the national economy. At the end of FY 2010, more than 110 facilities were established within the city, and are operating various research activities.

5 Effective and Efficient Implementation of R&D

(1) Effective use of research funds

Pursuant to the “Guidelines for Management and Audit of Public Research Funds at Research Institutions (Implementation Standards)” (Minister of MEXT decision: February 15, 2007), MEXT requested research institutions to improve their systems, and has been assessing the current status of system improvements according to the “Report on the Implementation Status of Systems” from the research institutions, and by performing site inspections of such institutions, to prevent inappropriate use of public research funds. Four years after the guidelines were drawn up, in addition to the ordinary way of understanding and analyzing improved systems at the institutions, there was a common understanding that there was a need to construct more efficient system improvements through the institutions’ self-ascertainment of proper operations. Based on this, a checklist form instead of an item-description form for the “implementation status reports” was made, following the advice of the “Council for Management and Audit of Public Research Funds at Research Institutions by Experts [literal translation],” Also, for this form change, MEXT held briefing sessions for research institutions on the aim of the change and checklist items and made a request for more effective system improvements.

In addition, each competitive funding agency positively utilized the Cross-Ministerial R&D Management System: e-Rad (www.e-rad.go.jp/)¹, in order to eliminate unreasonable overlapping of allocations and excessive concentration of funds.

The Cabinet Office, with the support of ministries and agencies concerned, has been collecting data for the National R&D Database, which is utilized for macro analysis necessary for the formulation of Basic Plans and research and deliberations concerning fund allocations, by using the e-Rad.



Cross-Ministerial R&D Management System (e-RAD)
Top page

(2) Emphasis on the development and utilization of human resources

MEXT’s Grants-in-Aid for Scientific Research program endeavors to expand funds for young

¹ This is a system to support a series of processes related to R&D management online (application -> assessment -> selection -> project management -> report on outcomes, etc.) to eliminate unnecessary redundancy and excessive concentration of competitive funding for researchers. (Commenced in Jan 2008)



researchers. Since FY2011, through the basic research promotion system in MLIT's transport sector, efforts have been made in enhancing grants for young researchers and female researchers. Measures continued from the previous year to support young researchers include MIC's "Strategic Information and Communications R&D Promotion Program," MHLW's "Health and Labour Sciences Research Grants," MAFF's "Basic Research Promotion Program for Creation of Innovation", METI's "Grant for Industrial Technology Research", and MOE's "Environment Research and Technology Development Fund."

(3) Reform of evaluation systems

In order to promote excellent, world-class R&D which contributes to both society and the economy, and the development of new science fields, it is effectively and efficiently, important to improve the R&D evaluation system.

All ministries and agencies conduct R&D evaluation using national budgets, based on their own detailed guidelines specifying evaluation methodologies that have been formulated in accordance with the National Guideline on the Method of Evaluation for Government R&D (Prime Minister decision of October 31, 2008). In December 2010, to follow up on the national guidelines, the Cabinet Office announced the outcomes of surveys on the progress of R&D evaluations conducted by each ministry. MEXT, which accounts for more than 60% of the government's total S&T-related expenses, set forth the Guideline for Evaluation of Research and Development in MEXT (Minister of MEXT decision) to be used as the basis by which the appropriateness of a budget request is judged by conducting preliminary evaluation which uses external evaluation. Then, interim evaluation is conducted to confirm the necessity of making changes to the plan, and post evaluation may also be necessary for application to the next deployment.

Meanwhile, independent administrative agencies and national universities conduct evaluation of their performance in accordance with the Act on General Rules for Independent Administrative Agency (Act No. 103 of 1999) and the National University Corporation Act (Act No. 112 of 2003), respectively. Ministries and agencies conduct policy evaluation in accordance with the Government Policy Evaluations Act (Act No. 86 of 2001).

Section 3

Reinforcing the Platform for the Promotion of Science and Technology

1 Strategic and Prioritized Improvement of Facilities and Equipments

(1) Improvement of facilities of national university corporations etc.

The facilities of national universities¹ play a vital role as centers of activities for creative and cutting-edge academic research, the development of creative and talented human resources, and promotion of the most advanced medical treatments.

Following the "Second Five-Year Program for Emergent Renovation and Building of Facilities of National Universities," decided in April, 2006, MEXT has been systematically and intensively promoting improvements of facilities, such as overhauling deteriorated facilities (including seismic retrofit), and

¹ Inter-University Research Institute Corporation including Institute of National Colleges of Technology, Japan