Encouragement of Invention in Japan

Japan Patent Office
Asia-Pacific Industrial Property Center, JIII

CONTENTS

I. Introduction

The creation of new technologies is known for effectively bringing about improvements and developments in economic society and civic life, and, as such, is deserving of high expectations. Such developments, for example, boost improvement in productivity, creation of new industrial fields, increases in job opportunity associated therewith, and improvements in the convenience of life. A development of new technologies results in an intellectual property patent right. Research and technical development results in an industrial property right. Since technology acting as the base for an intellectual property right is set up as a "patent right," the results of the research and technical developments are industrial property rights. The rights to the latter can be preferentially used by developers and persons who hold the right.

Hence, the importance of technological development is recognized not only within the context of economy and industry but also within the government structures of many countries and international organizations. Technological development is now being discussed as an international policy issue. Also in our country, the issue is being positively handled in various ways. For example, maintenance of the legal system surrounding intellectual property based on international association and cooperation is now under way. In addition, there are new systems for the promotion of new technological developments via cooperation among industry, academia, and government; encouragement and promotion of university-originated ventures; and promotion of the practical use of idle patents, among other things.

However, technological development is not produced by the system. Technological development is produced from the intelligence and efforts of a developer or engineer. The system thereof functions as an environment for promoting technological development.

In order to continually produce excellent development results, financial environments, such as those for supporting expenses related to research and development, should be expanded. However, it is important to not only expand financial environments but also expand social environments enabling developers and engineers to increase and maintain their volition for research and development.

This document has been created by referencing and partly citing documents and websites of related organs, such as Cabinet Office; the Ministry of Education, Culture, Sports, Science and Technology; Japan Institute of Invention and Innovation; and the New Technology Development Foundation, among others.

II. Flow of System

1. Patent System in Japan

The Japanese patent system started with patent regulations promulgated in 1885 (Meiji 18). The patent system was prepared for Japanese people based on models taken from European and American or Western patent laws and systems.

When the Japanese patent system was being prepared, Western countries were enacting colonial policies globally, while there was dramatic change domestically as Japan opened its borders in the late Edo era following extended isolation. Furthermore, political power shifted from the Edo Shogunate to the Meiji government. Under these circumstances, the Meiji government made plans for "the enrichment of the national enrichment and its defense" and "industrial promotion" as national basic policies. Therein, it established the patent system to implement improvements in the economic strength powering the national base.

Japan joined the Paris Convention (established in 1883) in 1899, and produced a patent system internationally open to foreigners as well. Thereafter, the Japanese patent system has been revised legally and systemically several times , and has continued functioning to the present day.

History

1871 (Meiji 4): General monopoly law (enforcement suspended the next year)
1885 (Meiji 18): Patent laws
(First Patent: July 1, 1885, Tokyo; Hotta Zuisho, "Hotta anti-corrosive paint and coating method therefor")
1905 (Meiji 38): Utility model law (several revisions promulgated thereafter)
1921 (Taisho 10): Patent law revision (from the first-to-invent rule to the first-to-file rule, which is the foundation of the present patent laws)
1959 (Showa 34): Patent law revision
(The entirety of the law was revised, the publication system was abolished in 1995, and English applications started to be accepted)

Related laws
1888 (Meiji 21): Design regulations
(Several revisions were promulgated thereafter, and the present design law was

promulgated through a revision of the whole made in 1959.)

(First design: Stripes in textile in 1889 by Sunaga Yoshibei, Ashikaga City, Tochigi Prefecture)

1884 (Meiji 17): Trademark law

(Several revisions were promulgated thereafter, and the present design law was promulgated through a revision of the whole made in 1959.)

(First trademark: Trademark for plasters and pills by Hirai Yuki, Kyoto, 1885 (Meiji 18))

2. Intellectual Property Right System in Japan

Laws regarding intellectual property rights in Japan are applied on the basis of the Intellectual Property Policy Outline and the Intellectual Property Basic Act. Applied industrial property rights are patent laws (patent rights), utility model laws (model utility rights), design laws (design rights), and trademark laws (trademark rights). Further, there are related laws being enforced such as copyright laws related to copyrights. Measures concerning the creation, protection, and application of intellectual property are intensively and deliberately promoted under the Intellectual Property Strategy Headquarters. The headquarters is organized around the Prime Minister (as a general manager), cabinet ministers, and specialists including those from the economic field. Measures promoted by the headquarters are carried out in cooperation between industry and academia, and through the association of related organizations.

These law systems are intended to build an effective, sensible system with checks and reviews in order to expand on the existing system to create an intellectual property system suitable for a new economic society. This project is now under way aiming to better utilize innovations that correspond to economic and industrial globalization as well as internationalization and the expanding global breadth of research and development produced as a result.

In addition, international cooperation takes place in connection with a variety of treaties relating to the World Intellectual Property Organization (WIPO) and intellectual properties. International cooperation thus corresponds with rapid progress in IT technology after the 1990s and illegal actions against intellectual properties, such as globally prevalent problems with counterfeiting and pirating.

Intellectual Property System In Japan (Concept)

Nation Built on Intellectual Property

- Improving people's lives ← - Reduction in industrial competitive power (corresponding to internationalization)

-Evolution of the economy and society - Establishment of an intellectual cycle (creation and protection of new intellectual results)

Intellectual Property Policy Outline ← **Strategic Council on Intellectual Property strategy**

- Creation strategy
- Protection strategy
- Application strategy
- Intellectual foundation improvement strategy

- International enhancement of competitive power
- Economic activation
- Reservation of internationalism

↓

◎Intellectual Property Basic Act

- Realization of an economic society by intellectual properties
- Creation, protection, and application of intellectual properties

○ **Intellectual Property Strategy Headquarters**

- Intensive and deliberate promotion of intellectual property strategies; Formulation of intellectual property promotion plans

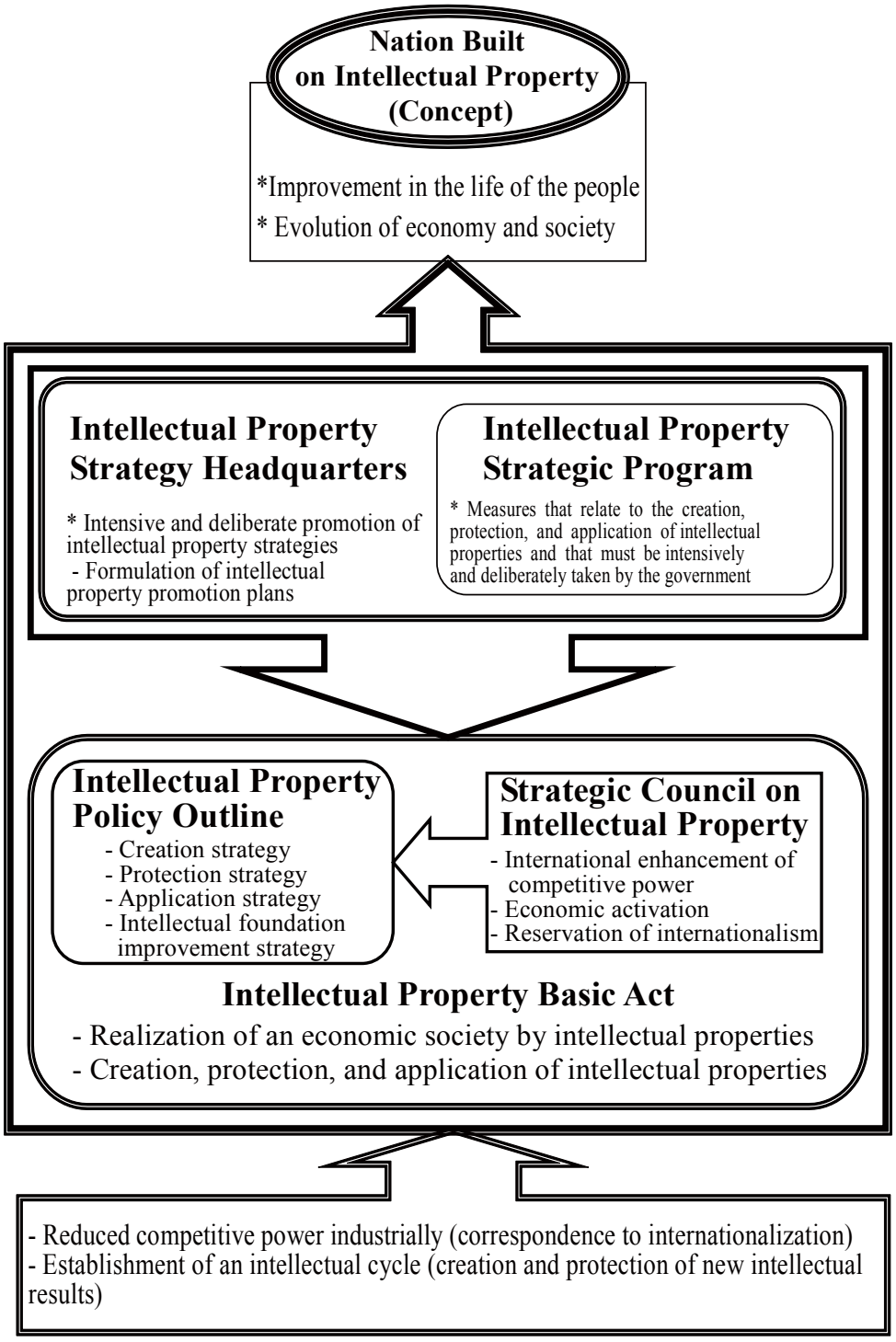
○ **Intellectual Property Strategic Program**

- Measures that relate to the creation, protection, and application of intellectual properties and must be intensively and deliberately formulated by the government

[Related laws]

Necessary revisions and maintenance regarding regulations relate to the following laws, among others:

- Patent laws
- Utility model laws
- Design laws
- Trademark laws
- Copyright laws


Nation Built
on Intellectual Property
(Concept)
*Improvement in the life of the people
* Evolution of economy and society
Intellectual Property
Strategy Headquarters
* Intensive and deliberate promotion of intellectual property strategies
- Formulation of intellectual property promotion plans
Intellectual Property
Strategic Program
* Measures that relate to the creation, protection, and application of intellectual properties and that must be intensively and deliberately taken by the government
Intellectual Property
Policy Outline
- Creation strategy
- Protection strategy
- Application strategy
- Intellectual foundation improvement strategy
Strategic Council on
Intellectual Property
- International enhancement of competitive power
- Economic activation
- Reservation of internationalism
Intellectual Property Basic Act
- Realization of an economic society by intellectual properties
- Creation, protection, and application of intellectual properties
- Reduced competitive power industrially (correspondence to internationalization)
- Establishment of an intellectual cycle (creation and protection of new intellectual results)

Recent trends in intellectual property rights

1975 (Showa 50): Join the World Intellectual Property Organization
1978 (Showa 53): Start of international filing on the basis of Patent Corporation Treaty
1990 (Heisei 2): The world's first opening to the acceptance of electronic applications
1997 (Heisei 9): Join the Trademark Law Treaty
1998 (Heisei 10): Start accepting electronic applications via PC
2000 (Heisei 12): Computerization of procedures for design, trademark and examination
Join the Madrid Protocol
2001 (Heisei 13): National Center for Industrial Property Information and Training was turned into independent administrative institute
2002 (Heisei 14): Drafting of Intellectual Property Policy Outline
Enactment of Intellectual Property Basic Act
2003 (Heisei 15): Inauguration of Intellectual Property Strategy Headquarters
Drafting of Intellectual Property Strategic Program

III. Research and Development Promotion System

1. Promotion of Science and Technology

Japan's efforts to create new and innovative technologies are based on the Science and Technology Basic Plan approved at a Cabinet meeting. The Plan was reviewed and prepared by the Council for Science and Technology Policy under the Science and Technology Basic Low enacted in 1995 to define **policy for science and technology promotion, responsibilities of the central and local authorities, preparation of the Science and Technology Basic Plan,** and **measures the Government should take,** among other things. The objectives of the "Advanced Science and Technology-oriented Nation" became the theme "for achieving dynamic development in society and the economy so as to realize truly affluent lives while contributing to the scientific and technological progress of the world as well as the sustainable development of human society," and to implement systematic and consistent science and technology policies.

The Science and Technology Basic Plan specifies that the length of a stage is 5 years. The first stage is aimed at strengthening support for postdocs. The second stage is intended to establish innovative science and technology systems - including by strategically identifying key investment areas and strengthening cooperation among industrial, academic, and government circles. The investment amounted to 17 and 24 trillion yen for the first and second stages, respectively. The budget for science and technology increased more significantly than other policy budgets, leading to effective policy implementation.

The third-stage Basic Plan, starting in 2006, to implement 6 specific and easy-to-understand objectives and 12 sub-objectives was designed to inherit the basic concepts and three principles from the second-stage Basic Plan. The basic concepts include (1) science and technology supported by the general public and bringing benefits to society and (2) giving priority to developing human resources, establishing a competitive environment, and respecting individuals in organizations.

Advanced Science and Technology-oriented Nation (Concept)

○ Scientific and technological progress/Sustainable development of human society

○ Realization of affluent lives/Dynamic development of society and economy

↑

〈Creation of new technologies and innovative technologies〉

◎ Science and Technology Basic Law

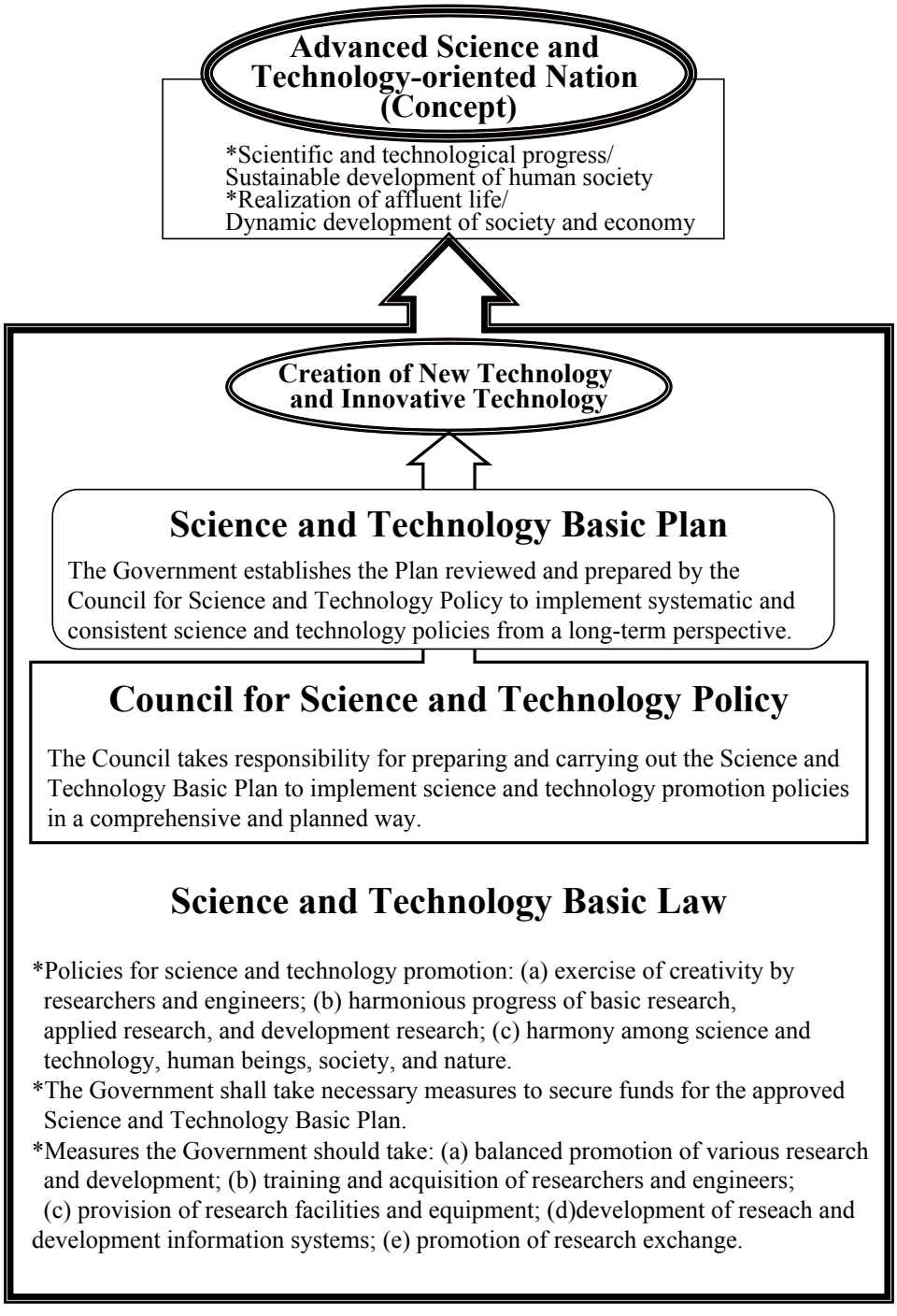
- **Policies for science and technology promotion: (a) exercise of creativity by researchers and engineers; (b) harmonious progress of basic research, applied research, and development research; (c) harmony among science and technology, human beings, society, and nature.**
- **The Government shall take necessary measures to secure funds for the approved Science and Technology Basic Plan.**
- **Measures the Government should take: (a) balanced promotion of various research and development; (b) training and acquisition of researchers and engineers; (c) provision of research facilities and equipment; (d) development of research and development information systems; (e) promotion of research exchange.**

○ Council for Science and Technology Policy

- The Council takes responsibility for preparing and carrying out the Science and Technology Basic Plan to implement science and technology promotion policies in a comprehensive and planned way.

○ Science and Technology Basic Plan

- The Government establishes the Plan reviewed and prepared by the Council for Science and Technology Policy to implement systematic and consistent science and technology policies from a long-term perspective.


Advanced Science and Technology-oriented Nation (Concept)
*Scientific and technological progress/ Sustainable development of human society
*Realization of affluent life/ Dynamic development of society and economy
Creation of New Technology and Innovative Technology
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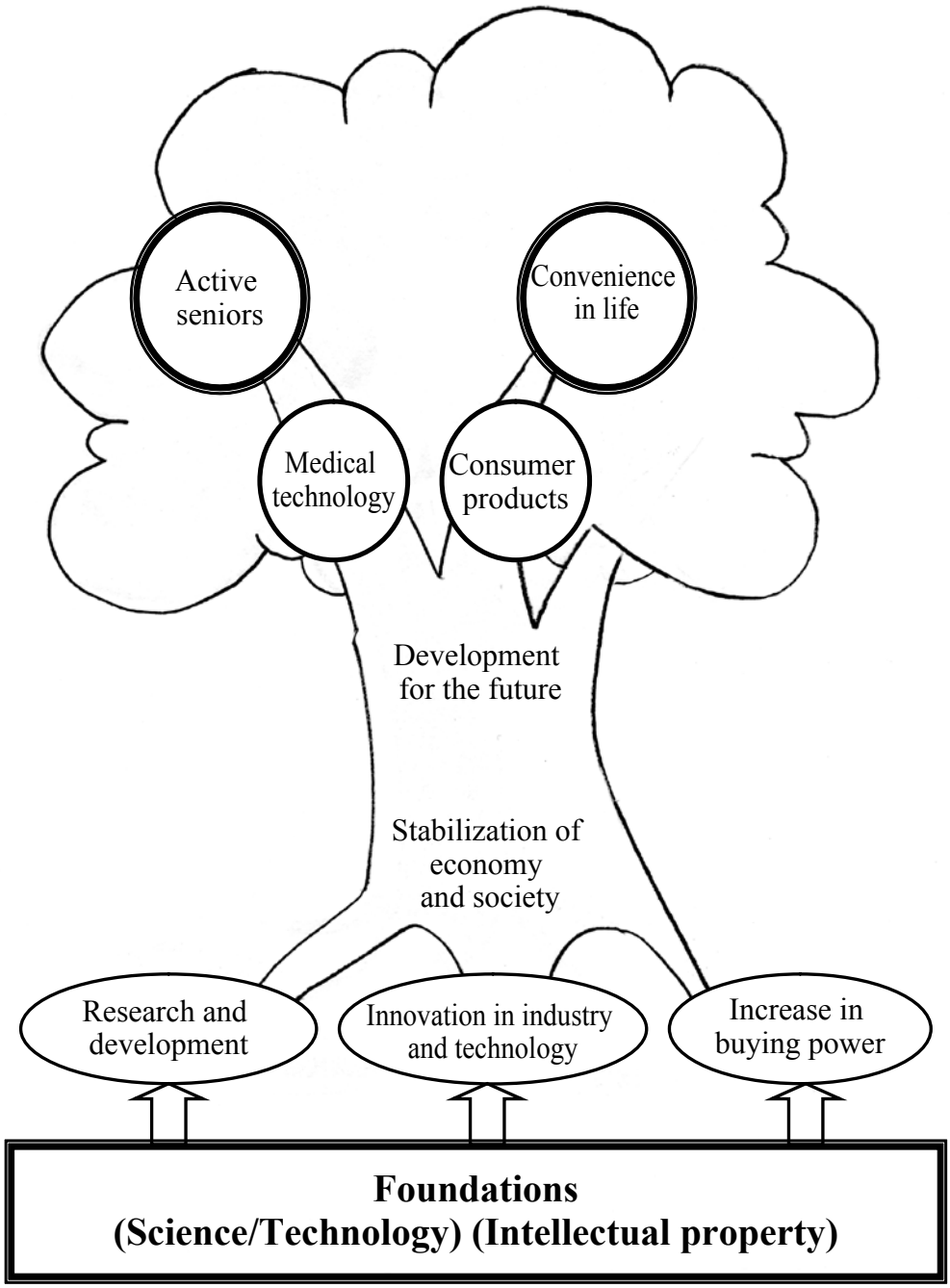

Active seniors
Convenience in life
Medical technology
Consumer products
Development for the future
Stabilization of economy and society
Research and development
Innovation in industry and technology
Increase in buying power
Foundations
(Science/Technology) (Intellectual property)

The Third-stage Science and Technology Basic Plan (Outline)

◎ Principles

○ Basic Concepts

(1)Science and technology supported by the general public and bringing benefits to society.

(2)Giving priority to human resource development and the establishment of a competitive environment.

○ Clarification of Science and Technology Policy Objectives

Setting and clarifying specific policy objectives under the principles: (a) The discovery and invention of advanced knowledge; (b) Scientific and technological breakthroughs; (c) Economic development with environmental considerations; (d) Japan as an innovator; (e) Leading a long and healthy life; (e) Building a country proud of its safe and secure environment.

◎ Identification of key areas in policy-initiated research and development

○ Promotion of Basic Research

- Ensuring diversity and sustainability

○ Identification of key areas in policy-initiated research and development

- Implementation of research and development in four key promotion areas based on promotion strategy by sector

◎ Innovation of Science and Technology Systems

○ Encouragements in developing and securing human resources and helping with career planning

○ Scientific development and continual innovation

○ Reinforcement of infrastructures for science and technology promotion

○ Strategic promotion of international activities

◎ Science and Technology Supported by the General Public

○ Responsible approach to ethical, legal, and social issues

○ Strengthening accountability and information disclosure

○ Generation of public awareness

○ Participation of the public

◎ **Role of the Council for Science and Technology Policy**

○ Strengthening administrative functions

-Effective and efficient implementation of governmental research and development

-Removal of systematic and operational bottlenecks

〈Council for Science and Technology Policy〉

The Council for Science and Technology Policy was established as one of the "major policy councils" based on the Law on the Establishment of the Cabinet Office of the Government of Japan. Under the leadership of the Prime Minister and headed by the Minister of State for Science and Technology Policy, its role is to plan and coordinate comprehensive fundamental policies for the implementation of scientific and technological policy in Japan.

2. Establishment of Research and Development Environments

Research and development is presently making rapid progress in all areas within the current global competitive environment. It is imperative that environments for research and development enabling researchers and engineers to work innovatively and productively are achieved.

Japan has a leading role in scientific research and development in the world. Its efforts have resulted in technical development in industrial sectors and progress in the economic world. Developments have improved the living standards of Japanese people and helped Japan carry out its international responsibilities.

In an international IP environment, the government intends to create advanced intellectual property for developing the economy, improve living standards, and contributing to international society. With the objective of effectively and efficiently advancing research and development in basic science and technology, policy issues,

and key technology, efforts are being made to establish objective assessment systems, build competitive funds, and provide research and development environments such as those supporting multidisciplinary cooperation among industrial, academic, and public sectors.

Policies for Research and Development (Examples)

○ The Development and Securing of Scientific, Technological, and Academic Human Resources

To lead the world in science and technology, the government aims to develop and secure human resources needed for scientific, technological, and academic activities for: a) maintaining and improving its research and development capability and international competitiveness, and b) to build safe and secure high-quality living environments. The subjects for such development programs include students at elementary, middle, and high schools, colleges, universities, and graduate schools, as well as non-student adults.

○ Research and Development Assessment

Assessing research and development has an important role in improving the quality of research and development and returning results to the general public. Assessments lead to the effective and efficient implementation of research and development thus opening up new academic and research fields at an international level of high regard, while contributing to social and economic progress.

○ Approaches to the Shared Use of Research Facilities

The government encourages the shared use of research facilities owned by universities and independent administrative institutions (extensive use in a wide range of sectors) to produce innovative results. It has launched a “project for the shared use of advanced research facilities to create innovation” for that purpose.

○ The Creation of New Japanese Brands (Continuous generation of values and their delivery to the world)

It is indispensable for the medium and long-term development of the country to produce new products and services through technology and business model innovation and propose their values and lifestyles to international society. The government hence takes the following measures:

(1)Investing in human resources and technology, and the protection of intellectual property (Investment in value creation infrastructures)

(2)Development focused on industries with international competitiveness

(3)Promoting small and medium businesses and reviving local economies

(4)Development of strategic trade policies such as the formation of an Asian Economic Zone

○ Building a Reliable Society (Reconstruction of social systems for supporting creative businesses)

Social systems need to have flexibility, transparency, safety, security, and reliability for free business activities. The Government works on the following policy issues to build such a “reliable society”:

(1)Construction of strong yet flexible structures for supply and demand in energy , as well as a positive approach to environmental problems

(2)Reform of corporate systems, such as business systems, using IT and establishing market rules

(3)Establishment of tax systems and social security systems useful for stable macroeconomic management and increasing vitality

Research and Development Systems for Creating Innovation (Examples)

○ Strategic Creative Research Promotion Project

(Creation of technology seeds to address social needs)

- CREST: Organizes groups to create promising seeds and conduct research on them
- PRESTO: Specifies research areas for finding the seeds for future innovation and conducting research under supervisors
- ERATO: Creating new scientific and technological areas to produce innovation and gather researchers for conducting research under supervisors

○ Innovative Technology Development Project

(Promotion of innovative and creative technological development for opening up the future of next-generation industries and building the bases for new development)

○ Social Technology Development Project

(Using knowledge in the natural sciences, humanities, and social sciences for solving various social problems)

○ Industrial-Academic Cooperation and Technology Transfer Project

(Comprehensive support for technology transfer, industrial-academic cooperation for producing and commercializing advanced and creative innovation, commercialization, discovering and commercializing local seeds to return research results to society)

3. Construction of Intellectual Systems

In 2002, the Strategic Council on Intellectual Property formulated the Intellectual Property Policy Outline as the fundamental working principle in Japanese intellectual property policy designed to overcome issues such as decreased industrial competitiveness and the need to establish an intellectual creation cycle. The strategy includes strengthening the creation, protection, and application of intellectual property strategies and enhancing the human resources related to them. The Outline aims to lead a nation built on intellectual property, using it to create high-value added products and services, as well as an energized economic society. The Intellectual Property Basic Act was enacted based on the Outline. In March 2003, the Intellectual Property Strategy Headquarters was set up in the Cabinet to

implement policies on the creation, protection, and application of intellectual property, taking into account the increasing necessity for increased international competitiveness of Japanese industries in response to national and international changes in the economy and society.

Based on the Intellectual Property Strategic Program designed by Headquarters, government ministries and agencies, local governments, and related institutions including private organizations are cooperating to support a wide range of research and development covering basic and applied research and practical applications in a variety of fields including life, medicine, and pharmaceutical science and materials for creating new and innovative technologies, thus contributing to protecting the intellectual property of researchers and engineers.

Strategic Council on Intellectual Property

(Established in 2002–2003 following approval by the Prime Minister)

Strategic Council on Intellectual Property consists of the Prime Minister, related ministers, and specialists. The Prime Minister holds the Council to establish key intellectual property policies essential for strengthening the international competitiveness of Japanese industries and vitalizing its economy.

↓ ↓

Intellectual Property Policy Outline

◎ **Current Status and Issues**

- Lowering of industrial competitiveness
- Establishment of intellectual property creation cycles

↓

◎ **Strategies**

○ Creation strategy: creation of intellectual property
○ Protection strategy: quick examination, decision, etc.
○ Application strategy: evaluation and application of IP
○ Human resource enhancement strategy: Invitation of specialists

→ ◎Leading the world in intellectual property; Stimulation of the economy and society

↓ ↓

Intellectual Property Basic Act (Summary)

○ **Objective**

The increasing necessity of strengthening the international competitiveness of Japanese industries requires that the country create new intellectual property and added values for building a dynamic economic society.

○ **Composition**

The Law consists of 4 Chapters containing 33 Articles. The Chapters include General Provisions, Basic Measures, Promotion Program on Creation, Protection and Exploitation of Intellectual Property, and Intellectual Property Policy Headquarters.

○ **Definitions**

“ Intellectual property” includes inventions, devices, new plant varieties, designs, literary works, and other products resulting from human creative activities, trademarks, trade names, and other marks used for products or services, trade secrets, and other technological or business information useful for business activities.

Intellectual Property Strategy Headquarters

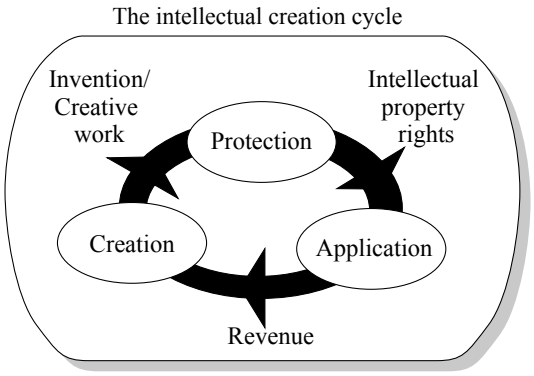
○ Objective

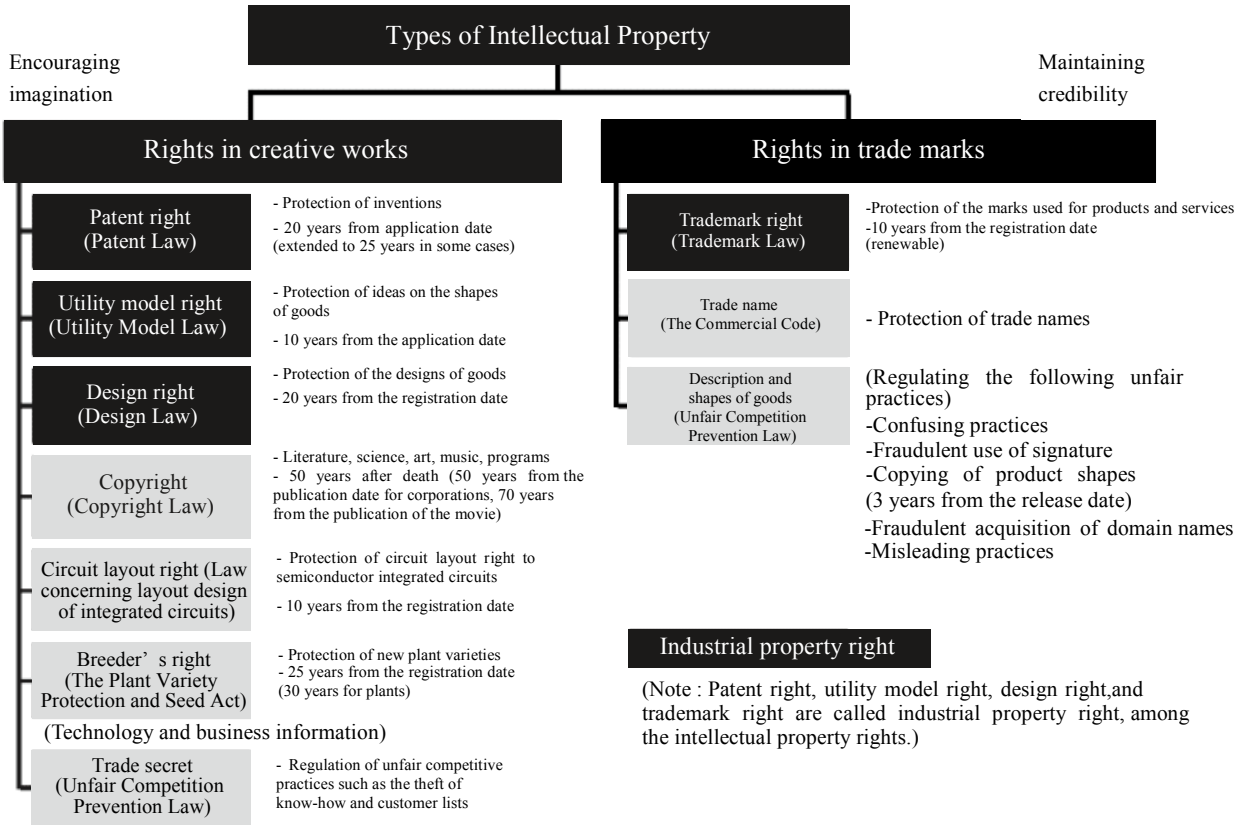
Preparation of promotion plans for the creation, protection, and application of intellectual property

○ Members

Set up based on the Basic Law on Intellectual Property, the Intellectual Property Strategy Headquarters consists of the Prime Minister as Chief of the Headquarters, all state ministers, and the specialists with deep insight on the creation, protection, and application of intellectual property. The Cabinet Secretariat is in charge of its secretarial work.

The intellectual creation cycle activates industry!





(Quoted from Japan Patent Office website).

IV. Award Systems for Researchers and Technological Developers

1. Award Systems

Japanese national honors system awards orders and medals to individuals in appreciation for their achievements. In addition to these awards, ministers, the heads of government agencies, prefectural governors, and city, town, and village mayors also give awards to recognize individuals and groups in a variety of fields and regions. Public entities such as foundations, corporations, and news media like newspaper companies have systems to honor achievements in specific areas. These awards honor individuals and groups for their activities in a variety of fields including cultural assets protection, environmental conservation, traffic safety, lifesaving, community activities, industry promotion, educational support, technology development, academic discovery, social contribution, regional development, academic development, and technological innovation.

Award Systems (Concept)

Orders
↑
Medals
↑
Ministers' Awards
↑
Prefectural Governors' Awards, Public Entities' Awards
↑ ↑
City, Town, Village Mayors' Awards/Regional Public Entities' Awards
↑
Individual Organizations' Awards (e.g. Companies' Awards)

◎ Orders

In 1875 (Meiji 8), the "Decree on Orders and Service Medals" was issued, providing the basis for the current Orders of the Rising Sun System. It was followed by the decrees on the Order of Chrysanthemum, Order of the Sacred Treasure and the Precious Crown, and Order of Culture, issued in 1876 (Meiji 9), 1888 (Meiji 21), and 1937 (Shouwa 12), respectively. The decrees, revised in 2003 (Heisei 15), are the bases for honoring individuals for their service to the country or the public interest.

〔Types of Orders〕

Orders of the Rising Sun

Orders of the Sacred Treasure

Order of Culture: an order awarded to individuals with distinguished achievements in cultural development

◎ Medals

In 1881 (Meiji 14), the "Decree on Medals" was issued to establish the Medal with Blue Ribbon. It was followed by decrees on the Medal with Dark Blue Ribbon, and Medals with Yellow Ribbon and Purple Ribbon, issued in 1918 (Taisho 7) and 1955 (Shouwa 55), respectively. The decrees, revised in 2003 (Heisei 15), are the bases for honoring individuals for their service in the following areas:

〔 Types of Medals 〕

-Medal with Yellow Ribbon: a medal awarded to exemplary individuals for their diligence

-Medal with Purple Ribbon: a medal awarded to individuals for their distinguished achievements in scientific or artistic invention, improvement, and creative work

-Medal with Blue Ribbon: a medal awarded to individuals for their service to public interest or work

-Medal with Dark Blue Ribbon: a medal awarded to individuals who donated private funds for public interest

-Others

◎ Prime Minister's Awards

People's Honor Award

An award given to nationally beloved and respected individuals for their distinguished achievements in giving hope for the future of society. It was established in 1977 (Shouwa 52).

Prime Minister's Prize

Given to individuals and groups. It was established in 1966 (Shouwa 41) (approved by the Prime Minister).

Hideo Noguchi Africa Prize

Established in 2006 (Heisei 18) (approved by the Cabinet) with the objective of publicly recognizing Africa-related medical research and service to control disease like infectious diseases common in Africa, thus contributing to human prosperity and world peace. The award ceremony is held at the Tokyo International Conference on African Development (TICAD) hosted by the Japanese Government in Tokyo. The first ceremony was held on May 28, 2008 (the first day of TICAD IV).

Green Academic Prize

It was established in 2008 (Heisei **20**) (approved by the Prime Minister) to award individuals for their distinguished "green" academic achievements in research and development on plants, forests, green space, gardening, and nature conservation. Its award ceremony is held at the time of a Greenery Ceremony.

◎ Ministers' Awards

Ministers and State Ministers award individuals and groups for distinguished achievements in related areas.

◎ Regional Public Entities' Awards

Prefectures, cities, towns, and villages award individuals and groups for distinguished achievements in community activities.

◎ Public Entities' Awards

Public entities and companies like corporations and funds award individuals for achievements in specific areas such as environmental activities, regional development, and technological development.

2. Award to Individuals Engaged in Research and Development

The above award systems are used for honoring researchers and engineers in Japan. The awards are a symbol of social appreciation for their efforts in research and development. They help motivate researchers and engineers to conduct research and development.

The award systems evaluate the results of research and development from academic viewpoints such as originality and progressivity; industrial economic viewpoints such as impact on technological innovation and economic effects; and social viewpoints such as environmental improvement and conservation, while focusing on the improvement of living standards as well as social and economic development. Taking into account that modern research and development are often conducted by a group of researchers and engineers, committees consisting of specialists of industrial, academic, and government backgrounds assess the roles of the researchers and engineers concerned in obtaining achievements based on objective data such as papers and patents.

Research and technology awards are given to either individual researchers and engineers or their groups. Awarding a group means recognizing all individuals involved in the research and development. It leads to protection of their most important rights like intellectual property rights, thus contributing to maintaining their motivation for research and development.

Award recommendation bodies, which are usually organizations and institutions which the researchers and engineers belong to, need to add objectivity and social reliability to criteria for assessing achievements and award candidates. When recommending award candidates, recommendation bodies use an effective system such as the step-by-step recommendation of candidates in the order of related bodies' awards, ministers' awards, and national awards.

Awards on Research and Development

◎ Orders

-Supreme Orders of Chrysanthemum and others

- Order of Culture

◎ Medals

- Medal with Purple Ribbon: a medal awarded to individuals for their distinguished achievements in scientific and artistic invention, improvement, and creative work

-Medal with Blue Ribbon: a medal awarded to individuals for their service to public interest or work

-Medal with Yellow Ribbon: a medal awarded to exemplary individuals for their diligence

◎ Science and Technology Award by the Minister of Education, Culture, Sports, Science and Technology

The Minister recognizes the latest scientific and technological achievements in developing and improving Japanese society, economy, and living standards, and awards individuals or groups for their distinguished achievements.

Types

-Special Science and Technology Award:

An award given to individuals or groups for their distinguished achievements or for their activities contributing to increasing public awareness and understanding. The Ministry of Education, Culture, Sports, Science and Technology selects candidates and determines awardees. No public recommendation is accepted.

-Science and Technology Award:

An award given to individuals and groups for their distinguished inventions or scientific and technological achievements in developing and improving Japanese society, economy, and living standards or for contributions to increasing scientific and technological understanding.

There are five sectors: development, research, science and technology, promotion, and the sector for increasing understanding.

-Young Scientist Award:

An award given to young individuals for their distinguished achievements demonstrating a high-level of research and development capability in

fledging research, research from a creative viewpoint, etc.

-Ingenious Innovator Award:

An award given to individuals or groups contributing to scientific and technological advancement or improvement in occupational fields through excellent ingenuity.

- Creativity Education School Award:

An award given to schools for their distinguished achievements in creativity education.

◎ Local Public Bodies' Awards

Prefectures have their own science and technological development award systems including non-regular ones.

◎ Other Entities' Awards

- Japan Institute of Invention and Innovation's Award

- National Commendation for Invention:

These are commendations given to inventors and creators, including the individuals who encouraged them or implemented their results, for distinguished achievements in invention and design leading to significant economic and social effects. They include Imperial Invention Prize, Prime Minister Prize, The Prize of the Minister of Education, Culture, Sports, Science and Technology, The Prize of the Minister of Economy, Trade and Industry, The Prize of the Chairman of Japan Business Federation, etc.

2008 National Invention Award Ceremony

-The Exhibition of the Concourse of Schoolchildren's Inventions:

Prizes are given to students and children in the country. They include The Imperial Prize, Prime Minister Prize, and The Prize of the Minister of Education, Culture, Sports, Science and Technology, The Prize of the Minister of Economy, Trade and Industry, etc.

Prince and Princess Hitachi hear a presentation on awarded works at The Exhibition of the 66th Concourse of Schoolchildren's Inventions

Other awards include regional invention awards, prefectural invention awards, and awards given to students and children.

◎ **New Technology Development Foundation**

-Ichimura Award (industrial sector): an award given to individuals and groups, including business executives, for achievements in developing domestic technology and contributing to the progress of Japanese industries

(One main award, several achievement awards, and contribution awards)

-Ichimura Award (academic sector): an award given to individual technological researchers and groups working at research institutes like universities for achievements in contributing to academic progress

(One main award, several achievement awards, and contribution awards)

◎ **Okochi Memorial Foundation**

- Okochi Memorial Award: an award given to individuals and groups for distinguished achievements in Japanese production engineering, research and

development on production technology, and implementing advanced production methods

(One Okochi Memorial Award, several Okochi Memorial Technology Awards, one Okochi Memorial Special Production Award, and several Okochi Memorial Production Awards)

◎ **Science and Technology Foundation of Japan**

-Japan Prize: a prize given to individuals from any nation for their creative and distinguished achievements in scientific and technological progress

The award committee selects two sectors each time among all science and technology sectors for awarding prizes. Prizewinners are determined based on Cabinet approval.

Academic organizations like academic societies, industrial bodies like industrial associations, and media like newspaper companies have their own award systems, besides those mentioned above.

Concept of Award Examination (Example)

○ **Effects of Research and Development**

- Contribution to people's lives and society

-Improvement in safety: earthquake-resistant technology, crime-prevention technology, traffic control technology, etc.

-Improvement in life quality: medical diagnosis and treatment technologies, air-conditioning systems, low-pollution technology, etc.

-Improvement in convenience: food refrigeration technology, new transportation systems, etc.

-Environmental conservation: low-pollution technology, environmental cleanup technology, etc.

- Contributions to the economy

-Stimulation of the economy (increases in personal income): innovative new products, new bullet trains, etc.

-Technological advancement: energy-saving technology, low-cost production technology, etc.

○ **Assessment of achievements**

- Difference from conventional technology: speed, energy efficiency, cost, universal use, etc.

- Effects on industry and society: improvement of working efficiency through

the use of Shinkansen bullet trains

-Needs of society and living people: fulfillment, satisfaction, etc.

○ **Assessment of developers and groups**

-Who are the developers: Which principle was used? → What triggered the application? → What were the barriers to the realization? → How were they solved?

◎ **Fairness among individuals and groups involved in development (fair assessment)**

- Awarding: giving prizes to developers, groups, or their representatives, recognition of behind-the-scene workers, treatment of developers and groups, etc.

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