社団法人 日本技術士会
The Institution of Professional Engineers, Japan

The Institution of Professional Engineers, Japan (IPEJ)

Introduction of the Institution of Professional Engineers, Japan (IPEJ) and it's overseas business

Professional Engineers - people who will help you open up a bright future, and make contributions to the world communities!

Message from the Executive Committee for Overseas Business Promotions

The Institution of Professional Engineers, Japan (IPEJ) since it's inception 57 years ago, many experienced engineers visited various countries and helped local people in the areas of transfer of technology, technical guidance, etc. covering various technological fields such as machinery, electricity, communication, construction, agriculture, information, management, and so on, and made contributions to the people, businesses, educational organizations, and so on.

The Executive Committee for Overseas Business Promotions, as an arm of organizations of IPEJ, makes great efforts to promote and develop overseas business, as well as to provide necessary study and training so that professional engineers can achieve their goals in foreign countries. Along with such efforts, we continue to publicize our Institution and engineers to various organizations concerned in Japan as well as overseas.

To meet diversified demands from all over the world for technical collaboration and support by professional engineers, we try to satisfy the needs expected of us by sending qualified engineers recognized under the law of Japan with knowledge, experience, creativity, capability in application and high ethical standards.

April 7, 2008

Atsushi Sugiyama,

Chairman

Executive Committee for Overseas Business Promotions, IPEJ

I. Professional Engineers and the Institution of Professional Engineers, Japan

1. System of Professional Engineers

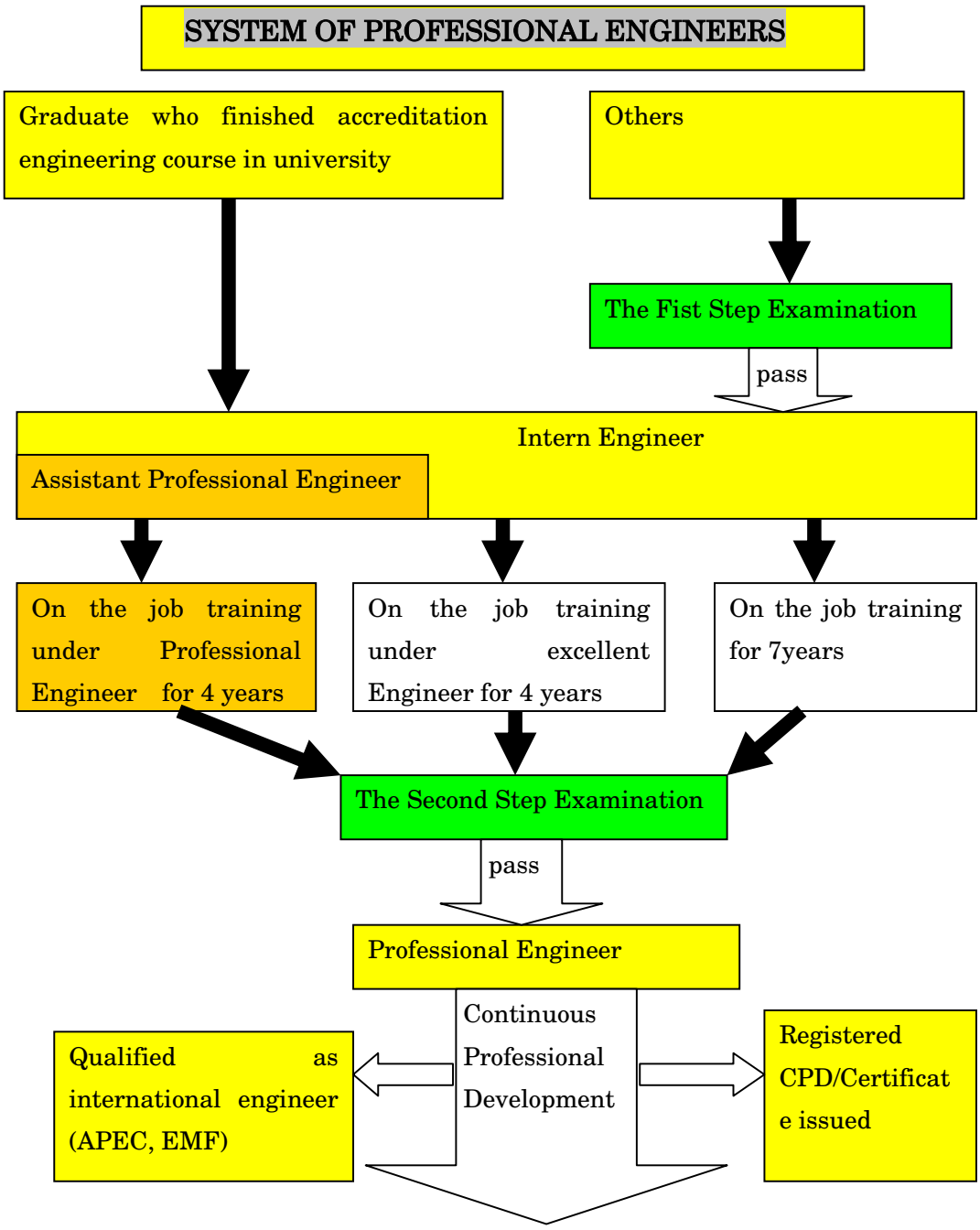
System for professional engineers is a qualification system backed by the Government to develop highly capable engineers with ample practical experience and high ethical standards concerning scientific technology under jurisdiction of Ministry of Education, Culture, Sports, Science & Technology (MEXT) in order to maintain public safety and secure public welfare. Professional engineers are people of profession, which is a term to refer to a group of people with advanced knowledge and high ethical standards needed by society as typically seen in lawyers and doctors. Mr. Toshio Dokoh, former Chairman of Japan Federation of Economic Organizations said that as title of a doctor is given to those who have developed academic doctrines, so title of an engineer is given to those who are capable of applying technology to industries.

In terms of Act, professional engineers are people who are registered under the Consulting Engineer Act and exercise their ability "under the name of engineer, in such areas as planning, research, design, analysis, examination, appraisal or provide guidance concerning these areas.

(1) Test, qualifications and system of Professional Engineer

To be qualified as Professional Engineer, you will need to pass examination and take necessary procedures as follows: Examination consists of two examinations; the First Step Examination and the Second Step Examination in accordance with the Engineer Law.

ㅁ The First Step Examination: Anybody is eligible for the First Step Examination. The examination consists of such subjects as common subject on the knowledge of science equivalent up to the level of foundation course in the science course in university, aptitude subject in view of the Act and engineer's ethical standard, basic subject on the elementary knowledge of overall science and technology and specialty subject on basics and specialty knowledge concerning specific technology area that applicants can select. Those who have passed the First Step Examination and recognized by the MEXT are called "Assistant Professional Engineer".



② The Second Step Examination: To be eligible for the Second Step Examination, you will have to be the one who has obtained designated courses, or the one who has accumulated experiences for prescribed number of years after passing the First Step Examination. The Second Step Examination consists of written examination and oral examination.

Written examination consists of theoretical ability in observation and ability in solution of problems,

and technical knowledge and application capability in connection with specialty technology that applicant selects.

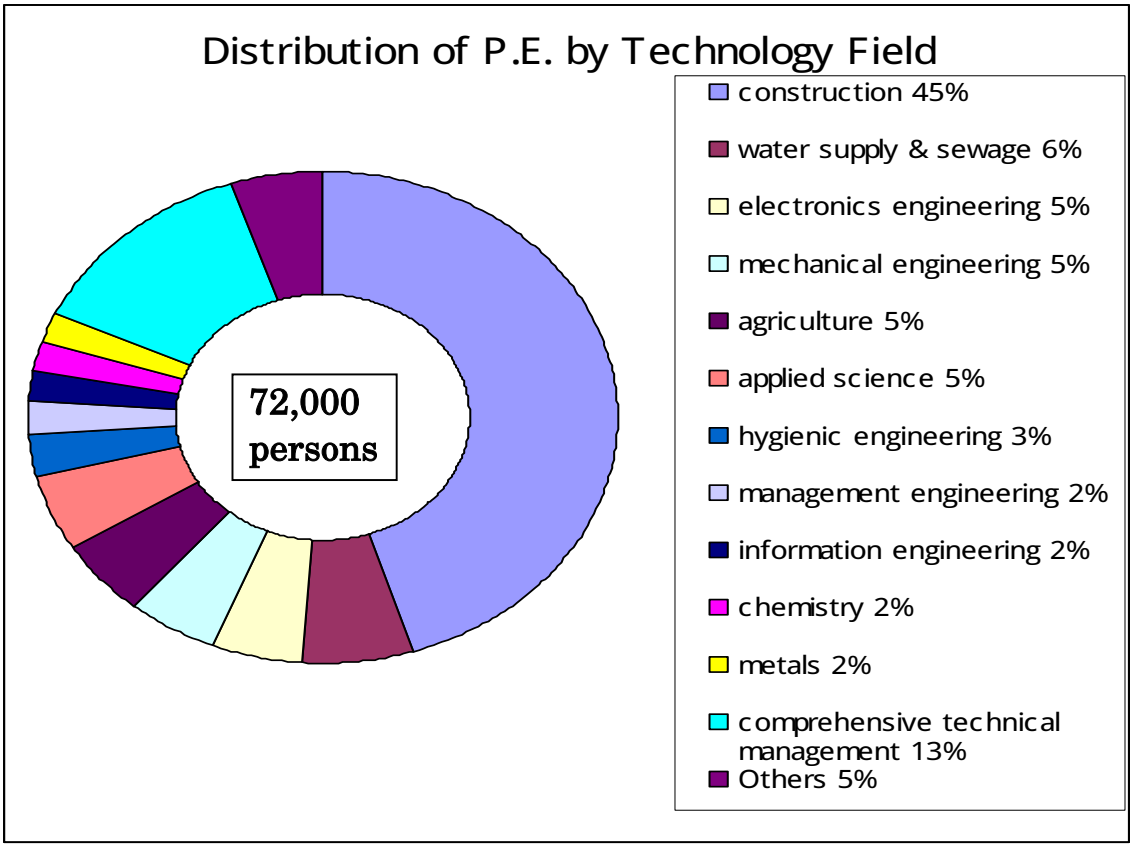
Oral examination is given only to those who passed the written test. It is oral interview to test aptitude and application capability in specialty area.

Those who pass the Second Step Examination and are registered at the Institution of Professional Engineers, Japan (authorized by the Government), are called "Professional Engineers".

(2) Field of Expertise of Professional Engineers

Professional Engineers cover almost all fields of science and technology.

Currently twenty one technology categories are defined. They are mechanical engineering, marine and ocean, aerospace, electrical and electronics engineering, chemistry, textiles, metals, mining, civil engineering, water supply and sewage, environmental engineering, agriculture, forest, fisheries, industrial engineering, information engineering, applied science, biotechnology, environment, nuclear & radiation, comprehensive technical management. Each category is so diversified that it is divided into three or more separate fields that applicants can select. Relationship between each category and separate fields is shown in the chart.

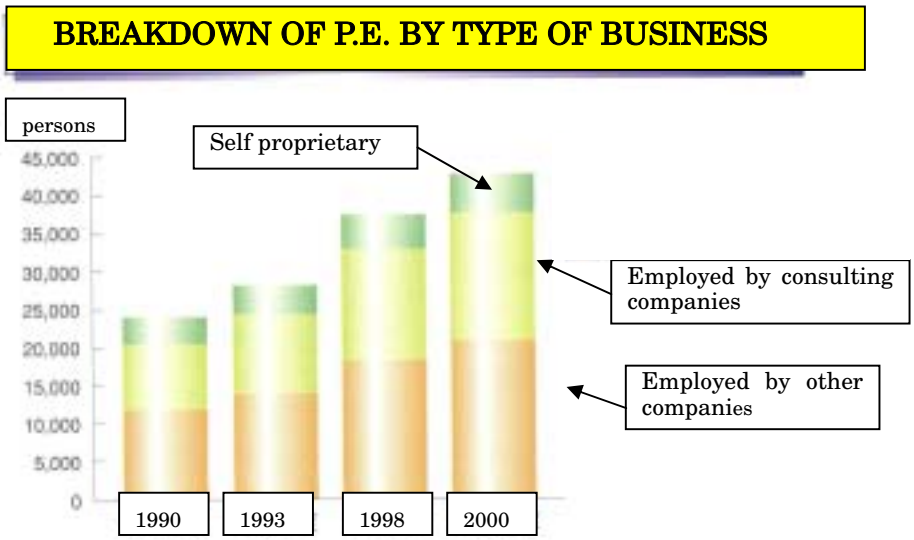


N0.	Technical Disciplines	Subjects for the Second Step of the PE Examination
1	.Mechanical Engineering	Mechanical Design Engineering Strength of Materials Mechanical Dynamics & Control Power Engineering Thermal Engineering Fluid Engineering Processing, Factory Automation & Industrial Machinery Traffic, Logistics Machinery & Construction Machinery Robot Information Precision Equipment
2.	Marine & Ocean	Naval Architecture Ocean Development Marine Equipment
3	Aerospace	Aerospace System Aerospace Navigation Space Utilization
4	Electrical & Electronics Engineering	Generation, Transmission, Distribution & Substation Electric Application Electronics Application Information & Communication Electrical Installations
5	Chemistry	Ceramics & Inorganic Chemical Products Organic Chemical Products Fuel & Lubricating Oil Polymer Products Chemical Engineering
6.	Textiles	Fiber Spinning & Textured Yarns Yarn spinning & Fabric Manufacturing Dyeing & Finishing Sewing, Manufacturing & Evaluation of Textile Products
7.	Metals	Iron & Steel Manufacturing System Nonferrous Metals Manufacturing System Metallic Materials Surface Technologies Metal Working
8	Mining	.Development and Production of Solid Resources Development and Production of Liquid Resources Resources Recycling and Environmental Conservation
9.	Civil Engineering	Soil Quality & Foundation Steel Structure & Concrete Urban & Rural Planning River, Erosion Control & Seashore, Ocean Harbor & Airport Construction for Electricity Road Railroad Tunnel Construction Planning, Construction Equipments & Integration Construction Environment
10.	Water Supply & Sewerage	Water Supply & Industrial Water Supply Sewerage Water Environment
11.	Environmental Engineering	Air Quality Control Water Quality Control Waste Management Air Conditioning Sanitary
12	Agriculture	Animal Industry Agricultural Chemistry Irrigation, Drainage & Reclamation Agriculture & Sericulture Rural Regional Planning

		Rural Environment Plant Protection
13.	Forest	Forestry Forest Civil Engineering Forest Products Forest Environment
14	Fisheries	Fisheries & Nurseries Fish Processing Fisheries Civil Engineering Fishery Area Environment
15.	Industrial Engineering	Production Management Service Management Logistics Operations Research Investment Science
16	Information Engineering	Computer Engineering Software Engineering Information System & Data Engineering Information Network Engineering
17	Applied Science	Physics & Chemistry Geophysics & Geochemistry Geology
18.	Biotechnology	Cell and Genetic Engineering Biochemical Engineering Bioenvironmental Engineering
19	Environment	Environmental Conservation Planning Environmental Measurement Nature Conservation Environmental Impact Assessment
20	Nuclear & Radiation	Design & Construction of Nuclear Power System Operation & Maintenance of Nuclear Power System Nuclear Fuel Cycle Radiation Application Radiation Protection
21	Comprehensive Technical Management	

(3) P rofessional Engineers in each separate field

At the end of March 2007, there are 72,000 registered Professional Engineers and breakdown of the number is shown in the diagram.



(4) Breakdown of Professional Engineers by type of business

Professional Engineers are engaged in such different types of businesses as self proprietary consultants, and working for consulting companies or various corporations, etc. playing active roles in such areas as planning, designing, appraising, among all of the twenty one technological categories.

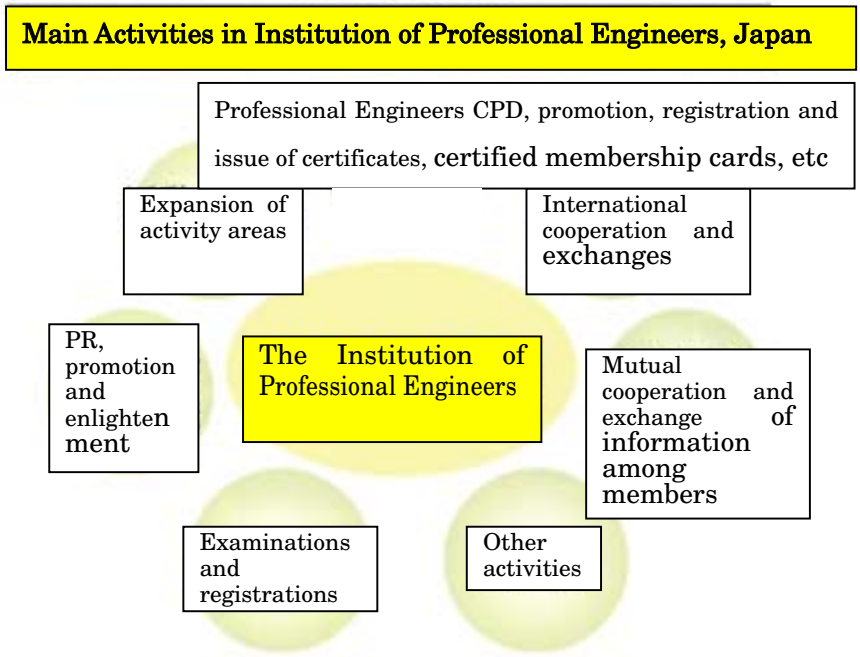
Specific examples are as follows:

① Providing prior research, planning and designing for public projects
② Providing technical research and evaluation for auditing operation in local municipal entities
③ Providing technical research and appraisal for judicial courts, casualty insurance companies, etc.
④ Providing technical consultation for medium and small size companies
⑤ Providing consultation on high technology for large companies
⑥ Providing lecturers for educational institutions such as universities
⑦ Providing technical assistance for developing countries
⑧ Providing technical research and evaluation for banks on their potential borrowers

Employed by other companies

2. The Institution of Professional Engineers, Japan

The Institution of Professional Engineers, Japan, the only nation-wide public interest corporation, was organized in 1951 under the Act to promote and enlighten the system of



Professional Engineers in Japan.

The Institution has 12,420 Professional Engineers as its members as of February 2008. Main activities of the Institution are shown in the diagram. Specifically the activities of the Institution cover wide variety of areas including monthly publication of a magazine titled "Professional Engineers", promotion and enlightenment of the system of Professional Engineers, introduction of new technologies, research of the similar system for engineers in foreign countries, lecture meetings and seminars to further educate Professional Engineers, office routines to provide and take care of information, tests, registrations and related affairs.

(1) Organization and Activities of the Institution of Professional Engineers

The Institution of Professional Engineers, Japan, is operated under Chairman, Vice Chairman and the Board of Directors with the following organization:

There is Secretariat Office that takes care of routine affairs of the Institution.

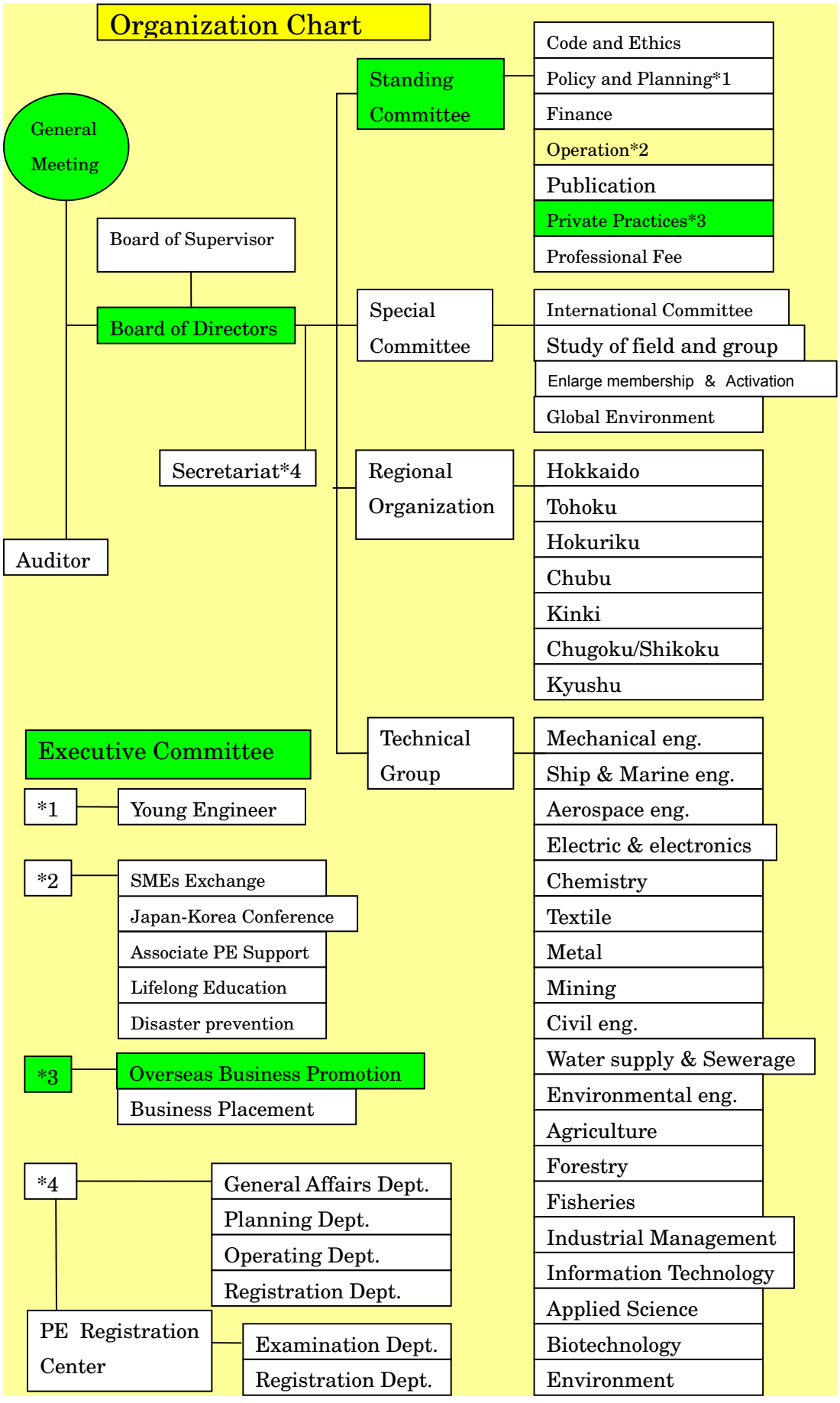
① Head Office/Regional Offices: In addition to the head office in Tokyo, seven regional offices are set up in Hokkaido, Tohoku in Northeast, Hokuriku in Northwest, Chubu, Kinki in Central, Chugoku/Shikoku in Western Honshu and Kyushu in South to serve each regional needs. In some prefectures, you will find local Professional Engineers Association.

② Standing Committees & Executive Committees:

There are seven Standing Committees directly under the Board of Directors. They are Code and Ethics Committee, Policy and Planning Committee, Financial Committee, Operation Committee, Publication Committee, Private Practice Committee and Professional Fees Committee.

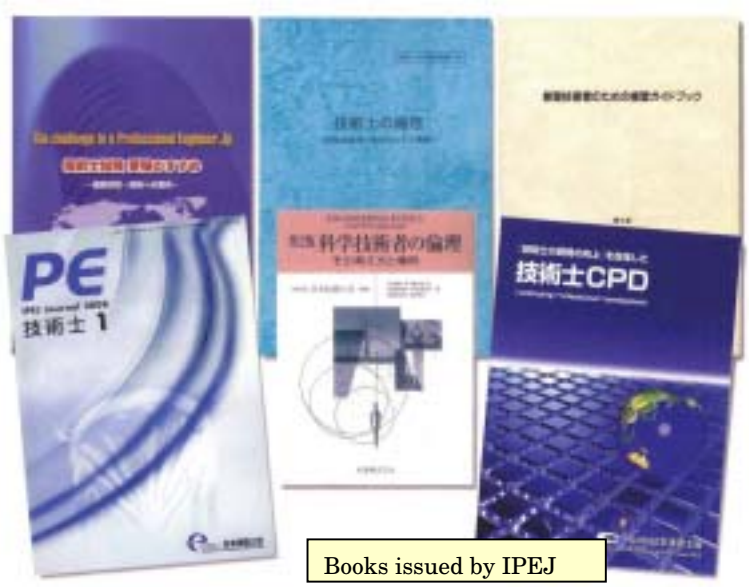
In addition to Executive Committee for Overseas Business Promotion (ECOBP) , there are also seven Executive Committees which are responsible for the business assigned to each.

Organization Chart



③ Technical Groups: There are nineteen Technical Groups corresponding to such specialty fields that Professional Engineers belong to. Each Technical Group is actively engaged in information exchange, research study, inspection tours, lecture meetings, etc.

④ Project Teams: Project Teams are formed with members from different fields or specialties to engage in its own research project, etc. There are currently 52 Project Teams including Japan-China Technology Exchange Center, Professional Engineers on Food Center, Scientific Technology Evaluation Center.



Books issued by IPEJ

(2) Declaration of Professionalism by Professional Engineers

The following is Declaration adopted by Professional Engineers to reaffirm their professionalism, and to be recognized by and to contribute to the society:

> We, Professional Engineers, represent that any each of us as a professional qualified by the Government shall observe principles of behavior set forth hereunder, make efforts to improve quality of skill and comply with self-disciplined rules. We hereby declare that by exercising the above we shall earn confidence from the society and contribute to healthy development of industries as well as realization of happy life for all peoples.

[Principles of Behavior]

1. We, as expected of us being Professional Engineers qualified by the Government, will maintain knowledge and ability, continue to improve them in keeping up with technological progress that keeps advancing and remain responsible for our own technological skills.
2. We will keep confidential contents of business, demands on quality of products of the clients, engage in business sincerely and be responsible toward clients.
3. We will take into consideration any consequences that business might have on society and environment, handle it with utmost care and remain responsible toward the society so that any

business undertaken may not hinder public interest such as safety and welfare of people.

(3) Vision 21 of Professional Engineers

The Institution of Professional Engineers adopted "Vision 21 of Professional Engineers" in June 2004 and made it public. It clarifies the function of the Institution of Professional Engineers, Japan, in supporting members to achieve Vision 21 that ① clarifies the image of the 21st Century Professional Engineers, ② identifies the vocational location of Professional Engineers, ③ earn trust of the society by clarifying their duties and responsibilities and ④ reaffirm principles of self responsibility for each member.

(4) Continuing Professional Development (CPD) for Professional Engineers

In order for Professional Engineers to achieve high ethical standard, participate in progress of science and technology and respond to the changes in social environment and improvement of quality as engineers, the Institution provides Professional Engineers with opportunity for quality improvement and CPD. Specific perspectives in CPD include ethics, environment, safety, technological trend, social trend, industry and economic trend,
trend in technical standard and criteria, management technology, technical trend in general affairs such as contracts and international exchanges as well as professional fields, trend in science and technology, technological issues concerning related laws, examples of accidents, etc.

(5) Professional ethics of Professional Engineers

Professional Engineers have established "Outline of Ethics for Professional Engineers" consisting of ten Paragraphs, encouraging members to keep on top priority in their minds safety, good health and welfare of general public, remain aware of their vocation, social status and official responsibility, continue efforts for lucubration of their technical skills, protect confidentiality and maintain integrity to be neutral and fair.

Outline of Ethics for Professional Engineers

(Retention of Decency)

1. We, as expected of us being Professional Engineers, will maintain knowledge and ability, continue to improve them by keeping up with technological progress that keeps advancing and remain responsible for our own technological skills.

(Dignity of Expertise)

2. Professional Engineers shall always try to improve their expertise and behave with engineers' conscience. Professional Engineers shall not engage in any business beyond their expertise or that they are not confident.

(Adherence to Neutrality and Fairness)

3. Professional Engineers shall adhere to neutrality and fairness in performing their business.

(Compensation for Service)

4. Professional Engineers shall not receive any improper commissions, gifts and benefits of this kind from interested third parties other than the compensation which they are entitled to for their service.

(Specific Contract)

5. Professional Engineers, when accepting business order, shall clearly explain their position and scope of service to be covered prior to execution of a contract to avoid any disputes that may arise between the parties during the performance of service.

(Duty of Confidentiality)

6. Professional Engineers shall maintain their position to protect fair interest pertained to their service and shall not leak or steal any confidential information that they may acquire during the performance of service.

(Fair and Free Competition)

7. Professional Engineers shall try to maintain fair and free competition.

(Mutual Trust)

8. Professional Engineers shall promote mutual trust, respect the other's position and behave not to disgrace or disturb businesses of other Professional Engineers.

(Restriction of Advertisement)

9. Professional Engineers shall not display services other than their expertise or refrain from advertising excessively.

(Cooperation with Other Experts)

10. Professional Engineers shall be willing to coordinate with other engineers of special fields.

(6) APEC Engineers/EMF International Engineers

① APEC ENGINEERS: Professional Engineers now have more opportunity to engage in businesses overseas as more companies undertake activities in foreign countries. Engineers Registration System of APEC (Asia-Pacific Economic Cooperation) is a system which enables capable engineers to engage in business freely beyond boundaries based on a project of APEC for Mutual Recognition of Engineers.



APEC Engineer Coordinating Committee 2007

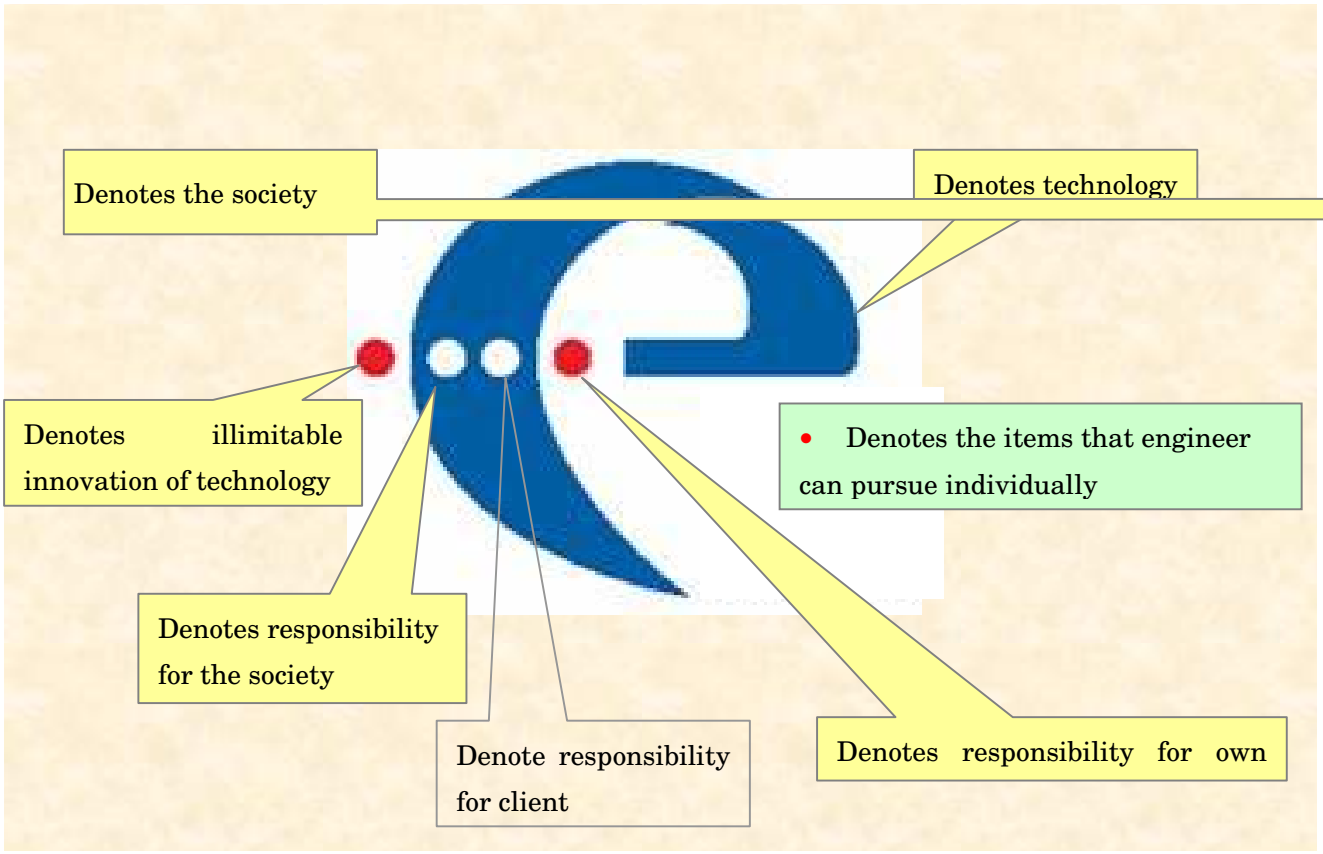
In the APEC summit conference held in Osaka in November 1995, a resolution was adopted to read "For the development of APEC countries, it is important to encourage transfer of technologies, and to achieve this goal it is essential to give engineers mobility across boundaries of countries." As of 2008, thirteen economies participate in the project, i.e. Japan, United States, Australia, Canada, Hong Kong (China), Korea, Thailand, Malaysia, New Zealand, Indonesia, Philippines, Taiwan, Singapore. The framework of Mutual Recognition of Engineers project of APEC consists of two stages; firstly to recognize virtual equality and secondly to conclude mutual exempt treaty.

② EMF INTERNATIONAL ENGINEER:

EMF is a forum on the mobility of engineers (Engineers Mobility Forum) is organized with private organizations of engineers from thirteen countries and economies combined, i.e. Japan, Korea, Hong Kong, Malaysia, Singapore, Australia, New Zealand, Canada, United States, Ireland, South Africa, United Kingdom and Sri Lanka, that have agreed to EMF treaty with a purpose to encourage experienced engineers to participate in international activities. Organizations of engineers in each economy which joined the treaty have created and maintain their own systems of international registration for Professional Engineers from abroad and register engineers who have satisfied certain criteria as International Professional Engineers.

(7) Logo (Symbol Mark) of the Institution of Professional Engineers

The Institution of Professional Engineers has created a Logo in order to strongly appeal the image of the Institution that takes initiative to promote innovation based on the discipline of "Vision 21 of Professional Engineers". This Logo has been created to combine letters p and e into a design, symbolizing the idea to be pursued by Professional Engineers for the secured, safe, healthy and peaceful society, bounteous environment and high ethical standard.

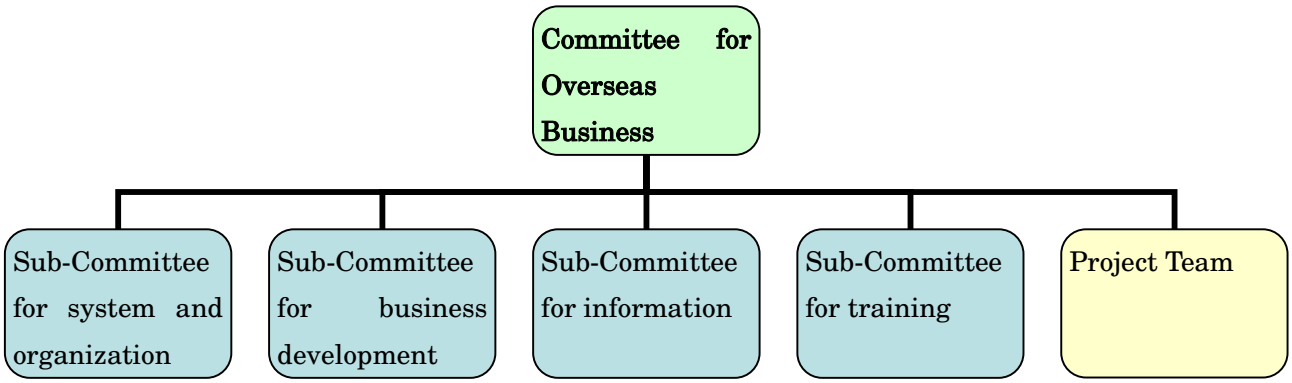

Denotes the society
Denotes technology
Denotes illimitable innovation of technology
• Denotes the items that engineer can pursue individually
Denotes responsibility for the society
Denote responsibility for client
Denotes responsibility for own

II. Executive Committee for Overseas Business Promotion and Overseas Businesses

1. Executive Committee for Overseas Business Promotion (ECOBP) and its activities

(1) The Purpose and Current State of ECBOP

ECBOP aims to solidify the foundation and consolidate the environment where Professional Engineers are able to play their roles overseas as the international engineers for the sake of Engineers who are desirous to business overseas. For the purpose of the above Executive



Committee for Overseas Business Promotion endeavors to give public relations activities toward related domestic and foreign organizations as well as provide continuous trainings, seminar, technical researches on overseas market and so on to raise Professional Engineers' quality and capacity.

(2) Committee members and organization

Executive Committee has as its members Engineers with wide range of expertise in mechanical engineering, electricity, civil engineering, fisheries, resources, biology as well as Engineers from Central, Kinki and Kyushu Districts who not only have expertise knowledge and ample experience but also Engineers with background in technological cooperation and overseas business.

Executive Committee also has organized the following Sub-Committees to further promote its business:

Sub-Committee for system and organization
Sub-Committee for business development

Seminar to support overseas business sponsored by ECBOP

Sub-Committee for information
Sub-Committee for training
Project Team

① Sub-Committee for system and organization: Planning and control of Executive Committee, as well as affairs related to public relations, and organization and system.
② Sub-Committee for information: Entry of people who desire to work overseas in database, transmission of information from Executive Committee.
③ Sub-Committee for business development: Screening and introduction of overseas projects involving Professional Engineers
④ Sub-Committee for training: Organizing training seminars, symposium, etc. related to overseas business promotion.
⑤ Project Team: Project Teams are formed to establish effective cooperation framework as necessity arises, comprising with strategic experts related to projects involving more than one technological field, technological cooperation required over years and requiring Professional Engineers in overseas.

(3) Specific Activities

① Solid foundation as a means to promote overseas business: As to organizations located in Japan, we are working on organizations such as Ministry of Foreign Affairs, Ministry of Economy, Trade and Industry, Japan International Cooperation Agency (JICA) which is an independent administrative corporation, Japan Bank for International Cooperation (JBIC), European Bank for Reconstruction and Development (EBRD), Japan Overseas Development Corporation (JODC), China Association for International Exchange of Professionals, etc. to encourage active use of Professional Engineers as well as to appreciate the value of their quality, when they consider dispatching experts abroad or make consultation for businesses.


Chinese Int. talent exchange rally in Shenyang

② Sending Professional Engineers abroad: As to organizations located overseas, we are working on organizations in Asian neighboring countries such as China and Korea, as well as in Southeast Asia, Africa, Eastern Europe, etc. to cultivate opportunities of activities for Professional Engineers. We

make remarkable technological contribution to these countries by sending many Professional Engineers.

③ Data-based files for those who desire to work overseas: In order to meet the needs for Professional Engineers in overseas business with reasonable manner and speed, (a) to locate appropriate candidate that we can introduce, (b) to transmit immediately a job history of a candidate to overseas party, and (c) to respond with fields and numbers of experts that this Committee can provide, we keep in files job history and other information of those who desire to work overseas in the data-base.

④ Furnishing information concerning overseas businesses and educational campaign: Executive Committee has organized seminars and lecture meetings with respect to international cooperation once or twice a year to provide those who are interested in overseas business. Lecture meetings organized in the past, for example, include "ODA system and international cooperation", "How businesses should be evaluated", "Technological cooperation provided by European Bank for Reconstruction and Development", "Reasonable logistics in South America", "Trend in economy and technology in China" to which we invited responsible people and those with overseas experience from the Ministry of Foreign Affairs, Ministry of Economy, Trade and Industry, Embassy of China, JICA, JBIC, etc. as lecturers.

⑤ Enlargement of homepage: To provide useful information to members, the Executive Committee has set up a special space entitled "A Page for the Executive Committee for Overseas Business Promotion" in the Homepage of Professional Engineers. You will find in the Homepage information such as activities of the Committee, introduction to overseas businesses related to Professional Engineers, introduction to organizations that utilize the services of Professional Engineers, trend in ODA(Official Development Assistance) as well as government and international organizations with respect to assistance activities, talks of people who experienced in overseas business, etc.

⑥ Promotion of overseas businesses: The Committee is also engaged in such activities as sending research mission to foreign countries, organizes seminar meetings, etc. to promote overseas business and publicizes the Institution of Professional Engineers as well as Engineers.

2. Professional Engineers who are active in overseas market

The Institution of Professional Engineers and Professional Engineers are superior to engineers in general with the following merits:

① Professional Engineers are the engineers certificated by the only Law that regulates all technological fields with wide range in Japan. Ample experience, knowledge, capability to apply technology, etc. are recognized under the Professional Engineers Law.

② Professional Engineers have accumulated enough technology, know-how and career that are needed in developing countries through their jobs at corporations, government offices and other

organizations. Many of them have been instrumental to the high economic growth that Japan achieved.

③ Institution of Professional Engineers is an organization which is an aggregate body consisting of 21 different technological categories. It is capable, therefore, to propose for improvement, development, evaluation, etc. concerning a problem from viewpoints of multiple directions and angles participated by plural number of Professional Engineers.

④ Professional Engineers as members of the Institution of Professional Engineers are contributing to corporations as well as the society with skills and thorough ethical standard acquired through training and study sessions within the Institution of Professional Engineers, Japan.

Meeting on technological guidance

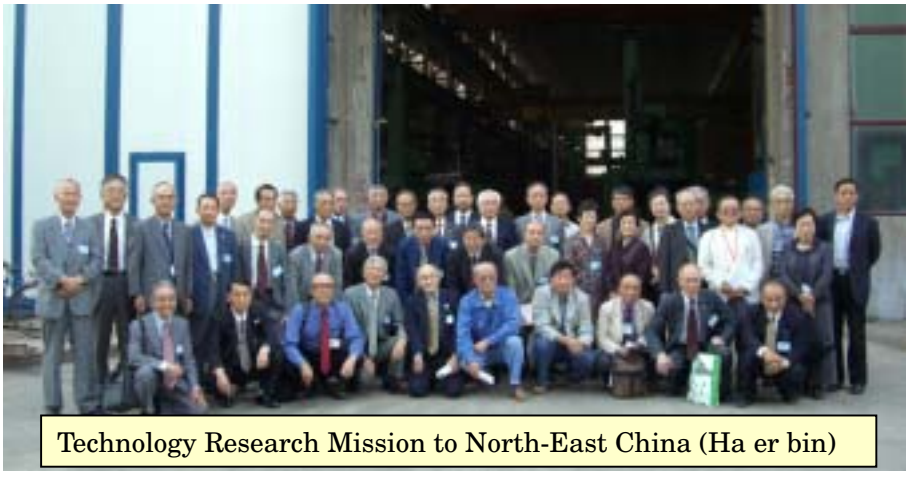
With these facts in background, Professional Engineers as well as the Institution of Professional Engineers are prepared and capable to perform their duties in overseas businesses. Since the perception of the Institution of Professional Engineers, Japan, many Professional Engineers have experienced overseas businesses and made contributions to industries, educational institutions and the people of the world as well.

(1) Examples of achievement

The following are some of the examples of achievement.

Visited TANICA, Tanzania (a project for mechanical engineering diffusion & cooperation)

"Introducing packaging technology attains positions of consequence in case of exporting agricultural product such as coffee, tea, vanilla, etc. to Europe, the US and Japan with enhance of their additional value ."



Technology Research Mission to North-East China (Ha er bin)

Other examples:

① "A JICA project, Food packaging improvement project in Philippines"

② "A JICA project, Project for improvement of packaging technology for distribution within Mercosur Common Market"

③ "A JICA project, Research project for formation of food safety policy in Thailand"

④ "A JICA project, Guidance for improvement of fruit and vegetables distribution channels"

(2) Themes to be challenged in near future

Themes expected in future on overseas business will be considered to shift from the way of improving each technological subject to the way of presenting a goal for improvement across the board and then on the basis of presenting that to the way of consulting technical improvement proposal, implementation and evaluation. Here are several specific themes:

① Examples for general themes

Guidance for lectures, or formulation of curriculum for universities, graduate schools and vocational schools

To serve as an intermediary for joint research or development between industry and university

Establishment of system and supervision from production to sales pursuant to international standards such as ISO

Challenges and proposal on improvement and evaluation method at Factory _____

Technology to reduce cost by _____ % at Factory _____

Technology to improve quality of equipment by _____%

Technology to reduce energy cost by _____ %

Development of system to utilize unused energy

Rationalization of production system at a factory and training of employees

Establishment of solid distribution and information system and reduction in distribution cost

Establishment and evaluation of system with secured safety (i.e. food, common facility, etc.)

Formulating method of reduction environment load at Factory_____

Analysis of accident at _____ and establishment of prevention measures for the future.

Supervising and reviewing on plant, equipment, machinery and production system

Establishment, implementation and evaluation of education system for factory technicians and engineers

Establishment of risk management system

Organizing seminars for technological innovation and reconstruction of businesses

② Examples for specific themes

* Providing supervision and guidance for development of off-shore soft-wares, and organizing

seminars and workshops

For a reliable and successful development of soft-wares by syndicating companies between Japan and China, it is necessary to understand problem area inherent to development of off-shore soft-wares and take necessary measures in advance. We will provide training, and organize seminars and workshops concerning life circle of planning, processing orders and maintenance of soft-wares on the basis of criteria of supervision for development of off-shore soft-wares that both sides should comply with.

* Education and training of bridge system engineers (SE)

For a reliable and successful development of soft-wares by syndicating companies between Japan and China, it is necessary to understand problem area inherent to development of off-shore soft-wares and need soft-ware engineers (Bridge SE) who can act as a bridge between the two parties. We will provide guidance to educate and train bridge SEs who have management knowledge as additional requirement to ordinary SE skills.

* Establishment of information security management system (ISO/IEC27001)

We will use our experience in screening information security in Japan (ISO/IEC27001) to provide guidance to help establish information security management system based on international standards (ISO/IEC27001) with respect to information security. We will provide assistance to help obtain recognition on ISO/IEC27001 for overseas corporations.

* Workshop on ethical standards for engineers; how are accidents prevented and how can safety be secured ?

This workshop will take recent examples of accidents and misconducts, and provide students with basic stance on subjects such as ① basic concept of ethics experienced in business practice, ② how can safety be secured? ③ strategies learned from specific examples on jobsite and ④ how to contribute to the society, etc.

* Cooperation provided for food industry strategy concept of East Asia

This is a project to establish know-how to commercialize products utilizing human as well as natural resources and aim for promotion of export and expansion of domestic demands as well in neighboring countries, Japan, Europe, etc. with a judicial foundation Industry Center, one of affiliated organizations of Ministry of Agriculture and Fisheries, as a leader, and funded equally with the budget of ODA and companies who are looking into East Asia for business opportunity, and Professional Engineers are to provide their services.

* Recommendation on policy for food safety project

Safety of food is a common wish of all people, and is considered as a challenge of top priority in China as well as developing countries. It is important to organize workshops, appeal the necessity of technology for food safety and attract the attention of market needs on this subject by inviting promising companies in the neighboring countries. We will put together a proposal to finalize the details. We also feel it necessary to visit food factory and determine the direction that reflects on –the-scene voices and actual conditions.

* Approach to environment and issue of waste disposal

Environmental issue covers wide range of areas such as air, wastes, water treatment, noise, vibration, etc. and its measures range from inside of a factory to community wide involvement. We will take steps to understand specific objectives such as research of present conditions, measure, follow-up research, technique for measures, technique for improvement, evaluation, based on past examples and the trend in the world

* Scientific analysis of traffic accidents

Insurance is one of the measures for economic risks such as traffic accidents, illness, earthquakes, casualty, etc. which functions as compensation as well as saving. In the age of self-responsibility, we explain in lectures the characteristics of life and casualty insurance product in connection with contract.

* Metrology engineering in steel mills from Japan

Steel mill is structured with many equipment and facilities. To operate it rationally and safely, it is necessary to keep getting information on operational conditions as well as malfunction. We explain in lectures a plan to install and operate a sensor at steel mill.

* Safety of plant equipment

Plants such as chemical and steel plants are structured with many equipment and machines, and their malfunction and accident affect production cost adversely. Although international standards provides safety standard, more practical approach in designing, points to keep in minds, education of employees, etc. will be explained comprehensively in the lectures.

* Reasonable technique to maintain and control public facility

Infrastructure such as roads, rivers and sewage facilities has enormous impact on general public unless it is properly managed. It is also required to maintain safety of equipment as well as reduction of maintenance cost, safe and stable operation of the facility for the maintenance and

operation of the facility. Application of related technology is logically and clearly explained in the lectures.

* Design and management technique for energy conservation

Energy conservation includes saving of electricity and fuels, their effective use and saving of natural resources as well. In order for any buildings, factories and common facilities to promote saving of energy effectively, it is necessary to make all staff at each facility aware of the importance of the task as well as to organized participation. When investment in equipment is accompanied in the efforts of energy conservation, it is necessary to evaluate the effect of energy saving and equipment investment prior to the investment. For this purpose, it is most important to have basic knowledge and experience with regard to technology on energy saving. In our lectures, we will explain by giving examples of problems and measures how to achieve energy saving which can be used on the job site.

* Designing and maintenance technique of electric equipment in a factory

Electric equipment in a factory consists of electricity supply equipment (receiving and transforming, distribution, generating, emergency electric source), load equipment (motor, lighting, earth connection, communication, disaster prevention), monitoring and control equipment, instrumentation equipment. Electric equipment in a factory is going through automation and upgraded function of production line following electric innovation, resulting in rapid technology development and introduction. In order to use electric equipment safely in a factory over a long period of time, it is important to make sure that maintenance and improvement of production activities be based on keeping up with planning, designing, operation, maintenance. We will provide electric equipment engineers with practical knowledge and know-how on technique for design and construction, operation, maintenance and inspection.

* Construction plan and management technique of electrical works

In recent construction and electrical equipment, the scope of electrical works has increased due to advancement of functions which have become upgraded, multi-dimensional and more information oriented. In large scale project, all staff concerned is required to understand construction schedule, construction period, expenses, safety of construction, including coordination between Joint Venture (JV) partners. Experience and knowledge of construction outline often help solve problems. In our lectures, engineers who have job experience will show the class how to plan working schedule and introduce practical materials for use of economy of construction, easiness of work and maintenance.

* Design and construction of electrical information for information technology

Optical technology on the basis of light technology brought about global network system that covers

the whole world by combining communication technology such as computer and digital equipment by way of high speed transmission of optic fiber. Information and communication technoloy requires convenience, flexibility and safety to utilize digital information anytime, anywhere and anyhow. Optical communication system, optical information system, optical electronics device technology, information and communication wiring design and construction points will be explained with examples in the lectures.

(3) Organizations overseas assumed for delegation

The following are overseas organizations to which Professional Engineers may be wanted:

① Administrative agencies, their affiliated research institutions, etc.
② Corporations and their consortiums
③ Educational institutions such as universities, vocational schools, etc.
④ Engineering sections in other organizations

(4) Means to provide technology

Professional Engineers are capable of providing technology, guidance, lectures, etc. in various fields.

① Recommendation for improvement on production, logistics system, quality and evaluation for corporations
② Recommendation and guidance for technological development of equipment and machines, their improvement, etc. in corporations
③ Guidance on lectures, contents of lectures, etc. for educational institutions
④ Preparation for seminars on technology, lectures, etc.
⑤ Supervision of design and construction, and evaluation of technology
⑥ Other technological items

(5) Terms of service

Terms of service may differ depending on technology requested, Professional Engineers who is being assigned and other factors. In principle, it is decided through consultation among requesting institutions, Institution of Professional Engineers, Japan and Professional Engineers themselves.

① One week to one month (Short term)
② One month to half a year (Medium term)
③ More than half a year (Long term)
④ After return to Japan following completion of one of the above ① ~ ③, continued guidance, though remote, will be provided utilizing IT.

3. Application to request for service of Professional Engineers, procedures and contract:

(1) How to request for service of Professional Engineers

There are two ways to request for service of Professional Engineers that are ㉠ on individual subjects and ㉡ project type subjects. To comply with such requests accurately we provide the following programs on a routine basis:

㉠ Vigorous public relations on activities, ability and performance records of the Institution of Professional Engineers, Japan as well as its member engineers (such as improvement of homepage, preparation of pamphlets on overseas business, etc.)

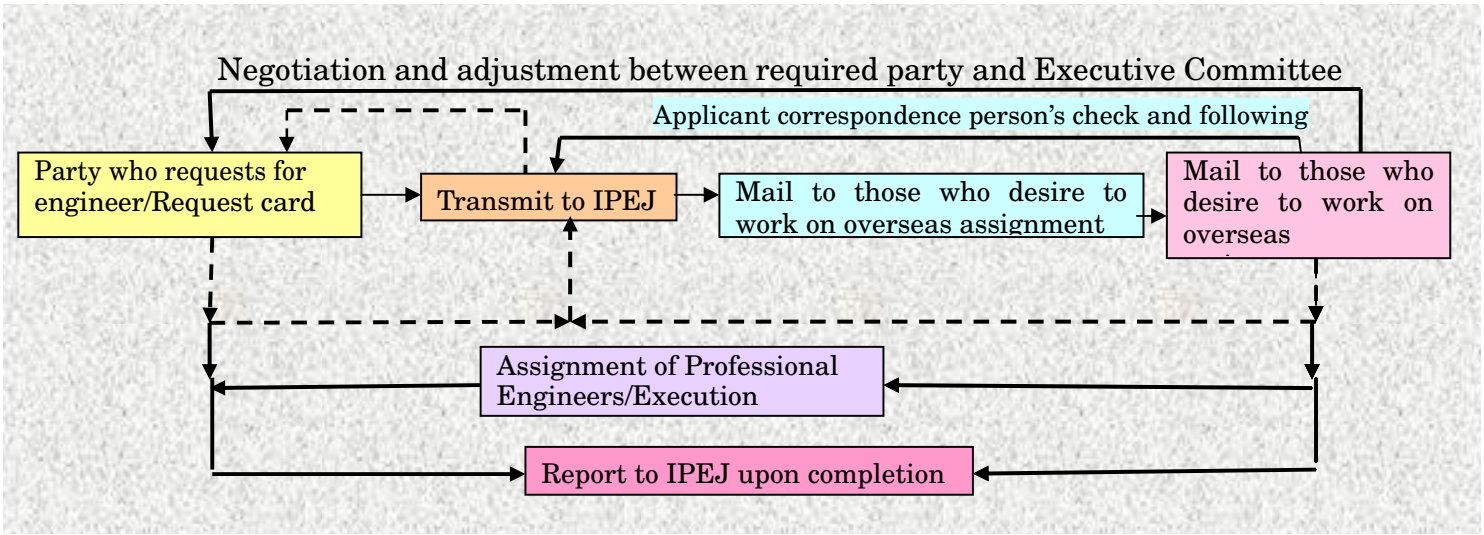
㉡ Prior to assigning engineers, it is important to have consensus among such parties as the one who requested for service of engineers, engineers who are being assigned and the Institution of Professional Engineers, Japan, on assignment of responsibility, establishment of basic target for improvement and method of evaluation, distribution of profit and formula in case of complaints. (Manual on basic business practice and evaluation will be prepared in the future)

㉢ After the assigned work is completed, engineers and the party who requested for engineers are requested to submit a report to the Institution of Professional Engineers using a designated form. The report will be used for the future reference.

The following are flow charts on the procedure:

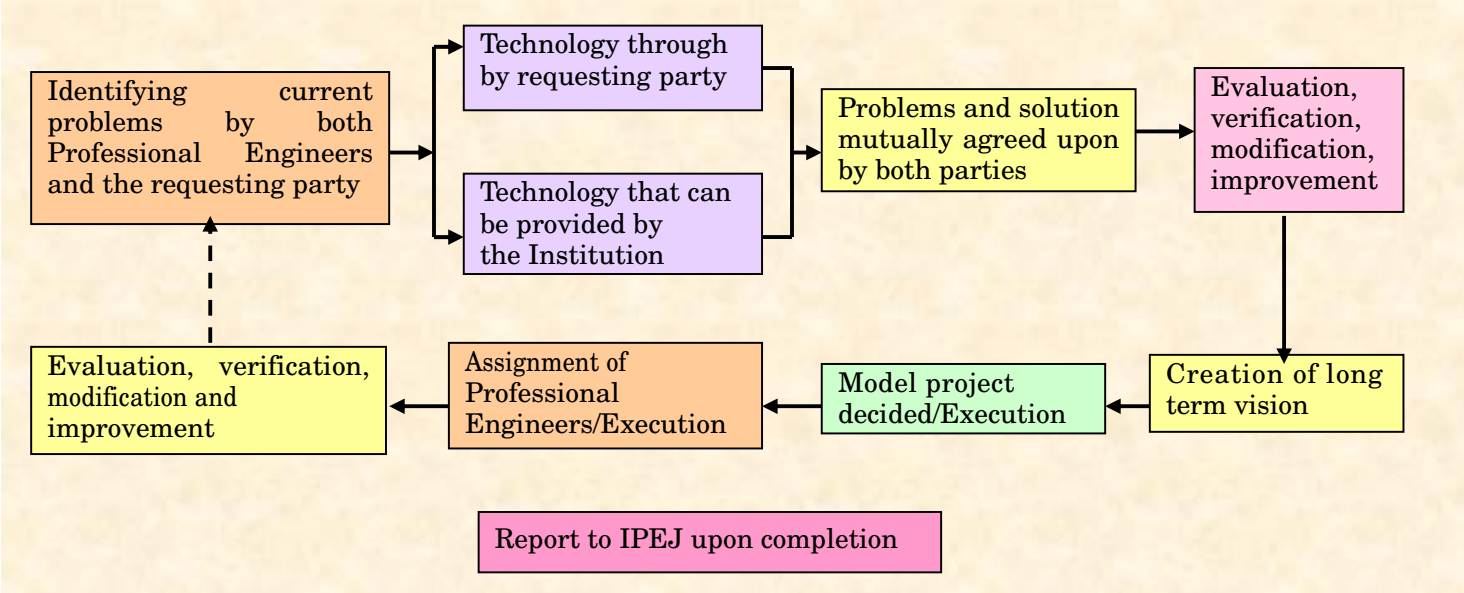
㉠ Flow of procedure for an individual subject

Assignment of engineers on an individual subject is to assign an engineer to assist on a single subject, and nature of technology requested is generally clear.



㉡ Flow of procedure for project type subject

In a project type subject multiple numbers of Professional Engineers are assigned to multiple numbers of corporations, educational institutes, etc. over a long period of time covering wide range of scope. Type of Professional Engineers to be assigned are selected through adjustment between the requesting party and Executive Committee for Overseas Business Promotion of the Institution of Professional Engineers, Japan after reviewing in details the nature and content of technological cooperation being requested. Once decided the Institution of Professional Engineers, Japan and the requesting party exchange a memorandum on the items agreed. We continue to work together and establish a system to improve or solve problems.



This is a system that takes advantage of superiority of Professional Engineers and the Institution of Professional Engineers to create long term vision concerning range and method of technological cooperation by discussing technology required, technology that can be supplied from mutual view points, degree of improvement and method of evaluation.

(2) Procedure to apply for service of Professional Engineers

To request for service of Professional Engineers, please send us by email, fax or regular mail your request that describes technology needed, name of the corporation, compensation, conditions for service, term of service.

If you have any question about the application for the service of Professional Engineers, please contact us at our office given in (3).

(3) Office and contact to request for Professional Engineers

Secretariat Building of IPEJ

Executive Committee for Overseas Business Promotion
c/o The Institution of Professional Engineers, Japan
Tanakayama Bldg. 8 Floor
1-20 Toranomon 4-chome, Minato-ku, Tokyo 105-0001
Tel: 03-3459-1331 Fax: 03-3459-1338
E-mail: kaigaib@engineer.or.jp
Homepage: http://www.engineer.or.jp/

This pamphlet will be updated from time to time based on new information

Prepared by: Executive Committee for Overseas Business Promotion, the Institution of Professional Engineers, Japan

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Remarks:

APPLICATION ON REQUEST FOR SERVIE OF PROFESSIONAL ENGINEERS

TO: THE INSTITUTION OF PROFESSIONAL ENGINEERS, JAPAN

Mr. Osamu Takahashi, Chairman

(Fax) 03-3459-1338

APPLICANT (NAME OF CORPORATION):_____

This is to apply for the service of a Professional Engineer to assist us in the following business:

Date: _____

(Form 1)

Department			Person in charge		
Tel		Fax		E-mail	
Address					
Name of Project					
Detailed request: Location where service is needed, technology needed (as much detail as possible as to what is specifically needed), term of service, compensation, travel expenses, interpretation, existence of counterpart, reason for the need of service and other information such as how engineers are treated, necessity of prior consultation, etc. Please use additional sheet if necessary. Also please attach any materials that explain your corporation. Request may be made either in Japanese or English. Space below for IPEJ use only					
Date of acceptance			Name of engineer assigned		

Space below for IPEJ use only:

Received/Responded by: