

JISHA

ANNUAL REPORT 2016



Statue of Health

The Statue of Health was erected in front of the JISHA headquarters building in 1971, as a symbol of health in; physical, mental and social areas, made of stainless steel.

JAPAN INDUSTRIAL SAFETY AND HEALTH ASSOCIATION (JISHA)



Safety and Health Motif

The green cross motif was adopted at the first-ever Safety Week in 1928 as a symbol of safety activities, while the white cross motif was then adopted at the 4th Industrial Health Week in 1953 to symbolize occupational health activities. In 1965, in order to underline the objective of pressing forward with safety and health as the unified concept, the two separate motifs were reworked and integrated into the safety and health motif that you see here.



President's Foreword

The number of industrial accidents in Japan has been steadily decreasing in the long term, and the annual death toll has fallen below one thousand in 2016 for the first time since its statistics were first collected. However, even now over 540 thousand workers have been suffering from occupational accidents.

There are several factors behind: in expanding tertiary industry along with changes in industrial structure, workers' safety awareness have not been fully raised: inexperienced workers are not able to sense dangers behind job sites. Recently, raising standard of safety and health activities at small and medium-sized enterprises/workplaces (SMEs) is growing a critical issue, although its accident rate is so high. In addition, how to activate those activities at workplaces in the tertiary sector, such as retailing, social welfare facilities, and restaurant business is a further concern.

In light of these circumstances, Japan Industrial Safety and Health Association (JISHA) is, above all, working hard on measures for SMEs, which are the foundation of the Japanese economy. These measures include offering the program in which experts provide free advice on OSH matters to the workplaces in the SMEs of manufacturing and the tertiary sectors, as well as establishing safety and health consultation section to help resolve these worries.

In the international arena, we will continue pursuing exchange and cooperation with International Labour Organization (ILO) and various countries/areas, I believe that it is important for us to participate more aggressively in undertakings within the regions covered by Asia-Pacific Occupational Safety and Health Organization (APOSHO), whose annual conference a delegation from JISHA has attended every year. Besides, in light of economic globalization, we will step up support for Japanese companies that are venturing overseas.

We will devote ourselves to taking a role of promoting government safety and health policies further, at the same time, as the body which provides cutting-edge technical services for OSH, joining forces with people from all quarters, and making every effort to reduce industrial accidents, in order to do a better job meeting the demands of companies and workplaces more than ever.

We feel it is important, for the purpose of actively carrying out the above efforts, to widely convey information in and outside Japan about our endeavors. Accordingly, we have published this Annual Report 2016, which describes the status of our initiatives. We hope you find it useful.



August 2016

Nobuyuki Yamaki

Nobuyuki Yamaki
President of JISHA

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Introduction to JISHA

JISHA, which was established in 1964 under the Industrial Accident Prevention Organizations Act, is a legal entity whose membership consists of employers' associations, with associate members of individual employers (workplaces). JISHA's overall objective is to help prevent work-related accidents and injuries and protect health of workers by promoting safety and health efforts undertaken by employers, and by offering Occupational Safety and Health (OSH) guidance and services. JISHA's major activities are listed below.

- Promoting industrial accident preventive efforts undertaken by employers
- Establishing and administering facilities for education and technical guidance
- Providing technical guidance and assistance
- Collecting and disseminating OSH information and documents
- Conducting research, surveys and public relation services

In the 1960's, industrial accidents much occurred and the situation at that time was on its worst level, ultimately, the number of industrial accidents came up the highest ever. Under this circumstance, the government enacted the Occupational Safety and Health Act in 1972 to take comprehensive measures to resolve problems and to improve the status. Until now, the situation has much improved by efforts of those concerned, based on the said law and measures of JISHA.

However, many problems and issues have still existed and new ones are taking place. JISHA will tackle these tasks in cooperation with relevant organizations/institutes including the government by the following activities.

JISHA's Core Activities

In 2015 the number of work-related fatalities was 972 (person, and so forth) compared with the previous year, a decrease of 85 (-8.0%). Also the sum of fatalities and injuries requiring 4 or more days off from work was 116,311, compared with that of a decrease of 3,224 (-2.7%).

The sum of occupational diseases requiring 4 or more days off from work was 7,368, and the rate of abnormal findings in periodical medical examinations on regular employees required by the OSH Act was 53.6%, both of them were stuck at high level. (see the statistics in the appendix.)

Contributing to prevent occupational accidents, diseases, and to secure OSH for workers, JISHA undertakes the core activities described below.

1. Support for introduction of risk assessment (RA) and establishment of OSH management systems (OSHMS)

(1) In response to enterprises' demand for skilled manpower that will immediately be useful in the field of RA and OSHMS, JISHA organizes a set of seminars.

Furthermore, JISHA implements training courses on RA and risk reduction relating to machinery and equipment in accordance with the Guidelines for the Comprehensive Safety Standards of Machinery, established by the Ministry of Health, Labour and Welfare of Japan (MHLW) and the international standards (ISO 12100, etc.). It also implements RA training courses on chemical substances for preventing explosions and fires as well as health impairment.

(2) Upon request from enterprises, JISHA sends experts to workplaces in order to provide support to employers, in all stages, introducing, and establishing risk assessment and OSHMS as well as implementing and improving it.

JISHA also conducts the certification service based on the JISHA OSHMS Standards System in accordance with the guideline of the MHLW and the International Labour Organization (ILO).

2. Expansion of OSH education for strengthening on-site capacity

(1) JISHA organizes OSH trainings/seminars, targeting each rank of people in enterprises, corresponding to each level: OSH Top Seminars designed to help top managers learn the importance of OSH management in business; trainings designed to help newly employed staff, foremen, OSH-responsible staff learn practical know-how and techniques about OSH affairs corresponding to each role and duty. JISHA also dispatches experts to enterprises upon their requests to provide technical advice or to help organize in-house training.

(2) The OSH Education Centers in Tokyo and Osaka respectively run a variety of OSH technical training courses for OSH trainers/instructors of enterprises.

(3) Zero-Accident Campaign is a culture-oriented activity that places priority on OSH and aims to realize a lively workplace. Based on philosophy of respect for human beings, all of top managers, supervisors and employees are to participate in industrial-accident preventive activities at each workplace, striving to find solutions by themselves and to attain "zero accidents" as their ultimate goal. Currently, JISHA is carrying the Five-year plans to promote Total Participation Zero-Accident Campaign started in 2013 forward.

(4) In order to promote Zero-Accident Campaign across the country, JISHA organizes a set of seminars, trainings: seminars for top managers who are planning to introduce the campaign

activities in enterprise; seminars for line managers who are primarily responsible for the campaign in the workplace based on zero-accident theory and practice; and training for Hazard Prediction (KY) trainers who will educate leaders of Hazard Prediction activities in the workplace. Recently, in addition to the above-mentioned activities, JISHA implements Hazard Prediction trainings focusing on safety driving and medical actions as well.

3. Physical health promotion and mental health support

- (1) In order to promote both physical and mental health of workers, JISHA provides upskilling support with industrial physicians from the beginning, implements in fostering instructors and practitioners of enterprises in the field of physical exercise, nutrition guidance and health guidance, counseling as well as organizing seminars to follow up the context and sending experts to enterprises upon request for in-house health promotion training.
- (2) Besides, in order to promote mental health measures in the workplace, JISHA runs seminars to help learn from the primary to the tertiary stages of prevention comprehensively, for example, including training for staff who will be involved in mental health issues at their workplaces, and those designed to help supervisors or OSH staff learn approaches and techniques required to their specific responsibilities. Further, JISHA sends experts to enterprises upon their requests to train supervisors or OSH staff. In addition, according to the amendments of Industrial Safety and Health Act, it renews and provides the JISHA's health-advice service that has been developed as the tools to promote workers' self-awareness of living condition and stress.

4. JISHA's on-demand technical services

- (1) Upon request from enterprises, JISHA sends experts such as safety/health officers to the workplace to diagnose issues relating to OSH management of production facilities and processes, operation methods, and workplace environments, and to give employers necessary advice on problems.
- (2) In addition, upon request from enterprises and etc., JISHA provides a technical support for non-regulated hazardous chemicals, including preparation of SDS compliant with GHS, hazard assessment based on hazard statement, advice for setting occupational exposure limit, exposure measurement, etc.
- (3) Regarding working conditions stipulated by law and rule, JISHA conducts measurements of dust, lead, noise, intensity of illumination for VDT work, velocity control of local exhaust ventilation systems, and status of use of organic solvents and specified chemical items. Based on the measurement results, JISHA proposes countermeasures to improve conditions, or sends experts to enterprises to help with in-house training.
- (4) JISHA analyzes workers' blood, urine, or hair to detect chemical substances. It also conducts analysis of airborne and material-embedded free silicic acid (free silica) and asbestos, and airborne toxic substances including metals and organic solvents. Recently requests for analysis of rare metal indium in the serum have been on the increase.
- (5) JISHA provides a series of guidance/advice from gap analysis to implementation of appropriate measures for improving OSH issues for SMEs.

5. Production and distribution of publications and other items; provision of the latest OSH information; and public relations and educational activities

- (1) JISHA issues monthly magazines and other publications, and produces and sells posters and other

OSH-related goods.

- (2) JISHA offers people information relating to “The East Japan Earthquake and Tsunami” on its website.
- (3) Every autumn, JISHA holds National Industrial OSH Convention. In addition to ceremonial events including award ceremonies, presentation of OSH activities and good practices for improvement in the enterprises, special lecturers and symposia by experts are organized. Participants have opportunities to learn the latest OSH information and knowledge as well as OSH practical experience from other enterprises.
- (4) JISHA provides the latest information on OSH protective equipment and devices at Green Cross Exhibition, which it holds concurrently with National Industrial Safety and Health Convention.

6. International cooperation

- (1) JISHA promotes international exchanges with overseas OSH organizations in the form of receiving guests or attending international meetings such as World OSH Congress and Asia Pacific Occupational Safety and Health Organization (APOSHO).
- (2) JISHA organizes the JISHA OSH Seminar annually to provide technical cooperation with overseas OSH organizations. In addition, it arranges training courses on OSH policy-related affairs, on commission from Japan International Cooperation Agency (JICA) and ILO/ROAP. Besides it dispatches lecturers on request of OSH organizations.

7. Investigation of chemical substances for toxicity and safety testing

On commission from the government and private companies, Japan Bioassay Research Center conducts a variety of animal toxicity tests on chemical substances and mutagenicity tests using microorganisms and cultured cells, and provides them with the resulting data.

JISHA's Detailed Activities

1. Proactive Development of Programs relating to Risk Assessment (RA) and OSHMS

Risk assessment (RA) is the string of practice of identifying hazards to people or potential sources of harmful effects, estimating their effects (risks), and eliminating or reducing unacceptable risks.

Occupational Safety and Health management system (OSHMS) is the system for achieving specific organizational goals set out in an OSH policy made by top management, creating a concrete plan for achieving those goals, and ensuring those works together toward the goals with making each individual fully play his or her part. PDCA (plan-do-check-act) cycle is regarded as an effective tool for implementing the system.

(1) Expansion of RA and OSHMS programs

The revision in 2005 of the Industrial OSH Act, which went into force in April 2006, stipulates that the employer shall make an effort to implement RA. JISHA conducts the following training courses in order to develop human resources needed to implement RA based on the Guidelines for Risk Assessment published by the MHLW in March 2006, besides that, to introduce, set up, and operate OSHMS properly based on the Revised Guidelines for OSH Management Systems, published by the MHLW. Figure 1 below shows the flowchart of RA.

Fig. 1: Flowchart of RA

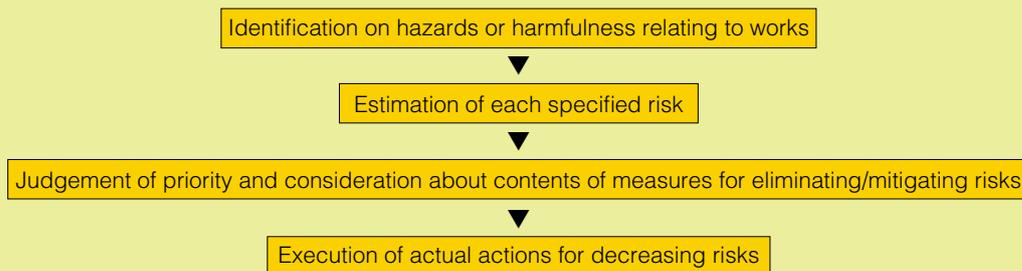


Table 1 on page 9 shows these training courses held in fiscal 2015.

(a) Practical risk assessment training course for OSH staff members

A training course on proper procedures for RA, implementation method and creation of RA system, targeting OSH staff members and others who will play main roles in introduction of RA system and improvement of its implementation procedures.

(b) Risk assessment training course for workplace leaders

A training course on practical procedures for RA in the workplace with a focus on exercises, targeting managers, supervisors and workers who actually identify risks and hazards and implement risk assessment/evaluation in the workplace based on RA system.

(c) Management system leader training course

A training course on proper establishment and implementation of OSHMS based on the OSHMS guidelines, targeting OSH staff members who will play main roles in establishment and operation of OSHMS.

(d) Practical management system auditing training course

A training course on proper implementation of OSHMS auditing based on the OSHMS guidelines, targeting OSH staff members who will play main roles in OSHMS auditing, in creating the framework and improving implementation structure of OSHMS.

(e) OSHMS internal auditing training course

A training course on practical procedures of OSHMS internal auditing, targeting persons who will actually be in charge of internal auditing of OSHMS.

(f) Risk assessment upper level training course

A training course on following up to support an effective or sustainable effort of RA, targeting OSH staff members or others at the workplace where RA system has been introduced.

(g) Learning risk assessment through exercise training course

A training course on specific case study exercises to deepen understanding of RA system, targeting workers on-site, corresponding to the needs of workplaces where RA system has been operated.

(h) Practical OSH training course for operating OSHMS

A training on how to acquire practical OSH activities procedures by making full use of OSHMS, targeting OSH staff members or others at the workplace where OSHMS has been introduced or are being considered to be introduced.

(i) Introductory training course for establishing management system for the first time.

The purpose of the training course is to capture the entire structure toward the introduction of management system and understand its framework, targeting persons in charge of safety and health.

(j) Risk assessment training course for indirect departments

A training course with drills on RA for indirect departments such as maintenance, distribution, quality assurance, office work, targeting OSH staff members at such workplaces.

(k) Management system training course for upper level (OSHMS)

A training course to learn know-how required to promote flexible and upgraded OSHMS, targeting OSH staff members who have already operated OSHMS at workplaces.

(l) Risk assessment training course for medical organizations

A training course with drills on the needs of RA in medical industry and identifying inherent risk, assessment, measurement to reduce the risk, etc. targeting administrators in medical organization, OSH staff members, etc.

Table 1: RA/OSHMS Training Courses in Fiscal 2015

Training course	Number of times	Participants
a. Practical risk assessment training course for OSH staff members (RA)	73	2,165
b. Risk assessment training course for workplace leaders (RA)	49	1,396
c. Management system leader training course (OSHMS)	15	335
d. Practical management system auditing training course (OSHMS)	7	118
e. OSHMS internal auditing training course	25	800
f. Risk assessment upper level training course (RA)	2	28
g. Learning risk assessment through exercise training course (RA)	2	43
h. Practical OSH training course for operating OSHMS	3	32
i. Introduction training course for establishing management system for the first time	2	30
j. Risk assessment training course for indirect departments (RA)	3	54
k. Management system training course for upper level (OSHMS)	1	4
l. Risk assessment training course for medical organization (RA)	1	6
m. ISO 45001 information session	5	492
Total	188	5,503

JISHA also sends experts to the workplaces that are planning to introduce or are in the process of establishing OSHMS, to provide 70 on-site training courses, 59 OSHMS total support services, and other services.

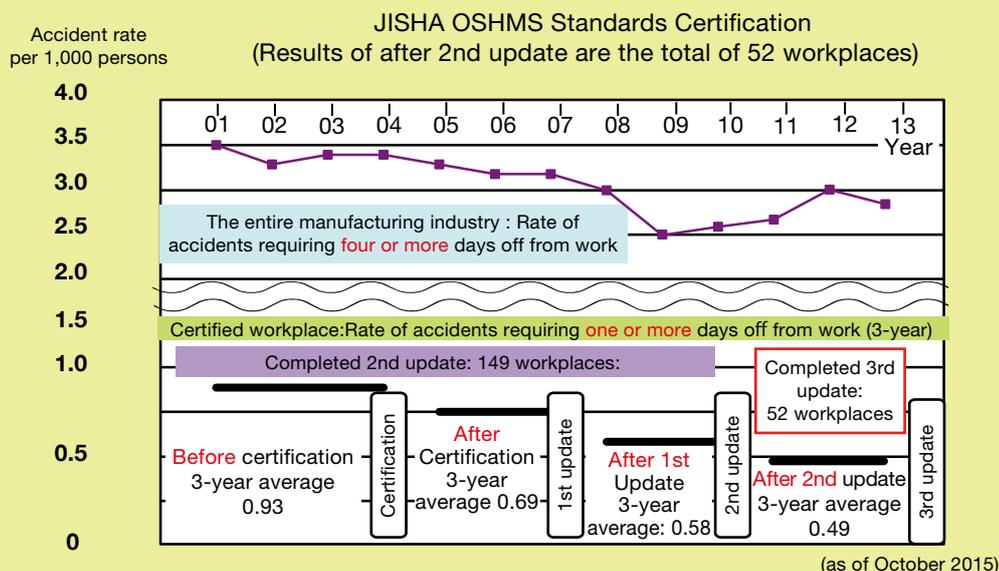
In addition to the training courses shown in the table 1, JISHA conducted one comprehensive management system training course and one JISHA OSHMS Standards certification auditing training course.

(2) JISHA OSHMS Standards Certification service

JISHA conducts the JISHA OSHMS Standards Certification service. The certification criteria follow the guideline of the MHLW and that of ILO. The certification is based on the investigation that includes whether management system established at the workplace contributes to improve OSH level, whether OSHMS has been set up properly, and whether it is operated appropriately to produce step-by-step improvement in OSH performance.

Now that it has been over ten years since JISHA started the OSHMS certification service, improvement in occurrence status of industrial accidents can be seen as the effect of acquiring the OSHMS certification. Figure 2 on the next page shows the change in accident rate per 1,000 persons of the average of 149 JISHA-certified workplaces during 2003–2009. Despite the fact that they were, even before acquiring the OSHMS certification, of high OSH level with a low accident rate, 3 years before certification, 3 years after the first certification and that 3 years after the update, each of their three-year average rate of accidents requiring 4 or more days off from work has certainly declined after certification, which indicates the effect of OSHMS introduction. Moreover, the 52 workplaces that implemented the third update as of October 2015 among the 149 workplaces are prone to show further declination.

Fig. 2: Change in accident rate per 1,000 persons in 149 certified and updated workplaces that acquired JISHA Certification in 2003–2009



(3) Enhancement of assistance in RA of chemical substances and of machinery and equipment

JISHA provides a comprehensive set of services relating to chemical substances, ranging from RA to risk reduction measures. Furthermore, it holds a variety of training courses on control of chemical substances including assistance in implementing details of RA: preparation of SDS compliant with GHS; and analysis and measurement for exposure assessment.

Regarding machinery and equipment, JISHA helps ensure an intrinsic safety measure of machinery at workplaces through RA and risk reduction based on the three-step method machinery manufacturers and users, and has also started to help ensuring risk assessment in the process of design from a standpoint of machinery manufacturers since 2015. The various training courses are arranged so that trainees can, step by step, study safety techniques classified by occupation, which are compliant with the guidelines of the MHLW and international standards, including ISO12100 applicable on site.

Upon request from enterprises, JISHA also provides on-site training programs on chemical substances and machinery/equipment.

Table 2 shows the training courses on control of chemical substances, and safety management of machinery and equipment held in fiscal 2015.

Table 2: Training Courses on Control of Chemical Substances in Fiscal 2015
Training relating to chemical substance management

Training course	Number of times	Participants
1. Basic training on chemical substance management	6	202
2. Training on basic understanding on SDS and control banding	6	247
3. Management for chemical substances and risk assessment	3	54
4. Basic Training to development management staff for on chemical substances	13	641
5. Training on basic understanding on SDS(MSDS)	1	49
6. Chemical risk assessment practical training to prevent health impairments	4	178
7. Chemical risk assessment training to prevent health impairments	10	454
8. Chemical risk assessment training to prevent explosions and fires	4	94
9. Chemical risk assessment expert training to prevent health impairments	2	72
10. Chemical risk assessment expert training to prevent explosions and fires	1	35
11. Estimating hazardous substance concentration in the operating environment by using mathematical model	1	12
12. Chemical substance management by utilizing exposure measurement by person	1	12
13. Training on how to make SDS of a mixture	2	86
14. Training of dioxin operation supervisors	15	637
Total	69	2,773

In addition, JISHA conducted 69 on-site training courses on control of chemical substances and 4 courses on machinery and equipment.

(4) SMEs' Certification service

JISHA has started, since FY2013, new service "OSH Certification for Small-Medium sized Enterprise" so-called "JISHA Good Safety Company (GSC)" service which evaluates basic OSH activities and its fundamentals to sustain them in order to support autonomously efforts of SMEs to improve their OSH activities and status, thereby it certified 38 enterprises in FY2015.

2. Promotion of OSH Education

(1) A broad arrangement of training and education programs, plus instructor dispatch

Firstly, based on the concept that OSH of workers must be ensured by the initiatives of top management, JISHA offers the "Top Seminar on OSH". This seminar, targeting the management of companies, includes lectures on OSH basic information including the latest issues such as mental health as well as lectures on relevant laws and regulations of those topics. Participants of the Top Seminar also have opportunities to exchange information with the management of other companies.

Secondly, targeting line managers, supervisors, OSH staff, and newly employed staff, JISHA provides training courses with lectures and discussions in order to acquire OSH knowledge corresponding to each level. Furthermore, it conducts training courses on particular topics such as understanding of relevant

laws and regulations, prevention of human errors, preparation and implementation of operation procedures, and safety patrol in the workplace, etc.

In fiscal 2015, JISHA held 342 seminars and training courses, which were attended by 10,191 people (see table 3).



Top Seminar

Table 3: Seminars and Training Courses in Fiscal 2015

Training course	Number of times	Participants
1. Top Seminar on Occupational Safety and Health (for executives)	2	96
2. Seminar for General manager for safety and health	6	148
3. Safety and health management training	78	2,714
4. Education for foremen (including staff responsible for safety and health)	83	1,707
5. Seminar for Industrial Hygienist	14	370
6. Special education for nuclear decontamination works, etc. (including supplementary class)	16	574
7. Education for operation leaders of nuclear decontamination works, etc.	11	183
8. Special education for accident-derived industrial waste disposal, etc.	4	81
9. Seminars to acquire basic and practical knowledge and skills	104	3,092
10. Heat stroke prevention seminar, etc.	8	411
11. Practical training course to experience risk	16	815
Total	342	10,191

(2) Instructor training for OSH education

The OSH Education Centers were established in Tokyo and Osaka to train trainers, instructors and others who are responsible for OSH education conducted by enterprises, as well as OSH advisers and promoters. Both centers were established by the Ministry of Labour (currently the MHLW) and are now operated by JISHA.

The OSH Education Centers distinguish themselves by offering highly practical education under the guidance of experienced experts and offer cutting-edge education facilities, and provide an environment in which trainees seek to compete against and emulate each other by living communally. The centers conduct a wide variety of training programs including RST, which is the MHLW standard training for OSH education trainers. After completing the education and training courses, trainees help raise OSH levels at enterprises and other organizations not only as trainers and instructors but also as production line supervisors and OSH staff members.

In fiscal 2015, both Centers held in total of 363 training courses, received for a total number of 5,945 participants.

(3) Assistance to SMEs and tertiary industries

JISHA supports SMEs, social welfare facilities, and tertiary industries (i.e. retailing, etc.). It provides a series of basic/practical training for staff concerned for improving OSH situation in the workplace.

In fiscal 2015, JISHA held 9 training courses, received for a total number of 192 participants.

Table 4: Training courses for SMEs in Fiscal 2015

Training course	Number of times	Participants
1. How to make the workplaces at social welfare facilities safe	5	118
2. Practical seminar for safety and health activities: You can use it from today	4	74
Total	9	192

3. Expansion of Zero-Accident Campaign

JISHA began to advocate Total Participation Zero-Accident Campaign in 1973 and has been promoting it ever since. The campaign is based on the spirit of respect for human beings which holds the idea that “each person is an indispensable being,” as expressed in three basic principles: (1) “the principle of zero-accidents,” which requires that all kinds of danger in every person’s daily life, not limited to the dangers lurking at workplaces and in jobs, be detected, comprehended, and resolved, and which is aimed at stamping out all accidents including industrial accidents, occupational diseases, and traffic disasters; (2) “the principle of pre-emptive action,” which requires detection, comprehension, and resolution of all dangers (and problems) hidden in workplaces and in jobs before one starts action and thereby prevents accidents and disasters; and (3) “the principle of participation,” in accordance with the idea that top management, supervisors, staff members, and rank-and-file workers cooperate and act to resolve problems in their respective positions through self-initiated endeavors.

In order to spread and expand Total Participation Zero-Accident Campaign, focusing on the principles and techniques, aiming to put those into practice, JISHA holds: “Total Participation Zero-Accident Campaign Top Seminar” for executives,

“Total Participation Zero-Accident Campaign Program Training” for line managers and supervisors,

“Hazard Prediction Trainer Training”,

“Hazard Prediction Training for Medical Care Safety” primarily for safety supervisors at medical institutions,

“Traffic Hazard Prediction Training” primarily for driving safety supervisors, and

“Training for line managers on improving coaching skills for strengthening on-site capacity”.

To prevent occupational accidents, it is also vital to strengthen on-site capacity of workers to



KYT seminars



proactively identify risk factors and other problems that occur in the workplace and to resolve them. To this end, JISHA holds a set of campaigns to enhance capabilities in OSH field, within Zero-Accident Campaign framework, emphasizing introduction of Zero-Accident Campaign as the first step toward boosting on-site capacity of all members in the workplace, which lead them to think about risks and problems there in terms of worker's perspective and which enable them to take actions for resolving problems.

What is Hazard Prediction Training?

For preventing accidents due to human errors and ensuring OSH at site, it requires that leaders at site take initiative to identify hidden dangers in the workplace and in work tasks, and take action to resolve them. To do this, efforts should be made to heighten workers' sensitivity to danger, foster their powers of concentration and problem-solving abilities, and increase their eagerness to put these skills into practice. The cultivation of these series of activities is called as Hazard Prediction.

Hazard Prediction training, which is basically based on the practice of predicting hazards and resolving problems.

It is carried out in teams based on the following four steps (four-round method):

Step 1: Understanding the current situation

Members at workplace talk with each other about the kinds of hazards that could be hidden in a given situation.

Step 2: Investigating nature of hazards

The essence of each hazard is clearly defined.

Step 3: Establishing countermeasures

Members talk with each other about their ideas for how to deal with the identified hazards.

Step 4: Setting targets

The countermeasures are defined in terms of the specific actions to be taken, and the action targets are set for each team.

Hazard Prediction is helpful to effective implementation tool for RA, which is the core practice in OSHMS.

In addition to regular Hazard Prediction training courses, JISHA dispatches instructors to enterprises and extends guidance in hazard prediction upon request. Aiming to support enterprises' social activities and increase participation in the campaign, it has established the registration system for enterprises which declare their commitment to running Zero-Accident Campaign to public.

And so far, JISHA has been working to increase the number of courses.

Table 5 shows training courses relating to Zero-Accident Campaign and Hazard Prediction courses held in fiscal 2015.

Table 5: Zero-Accident Campaign and KYT Training Courses in Fiscal 2015

Training course	Number of times	Participants
1. Zero-Accident Total Participation Campaign Top Seminar (for executives)	2	99
2. Zero-Accident Campaign Program Study Course	7	280
3. KYT Trainer Training	181	7,311
4. KYT Training for Medical Care Safety	8	211
5. KYT Training for Safe Driving	4	143
6. Line Manager Coaching Seminar for Strengthening On-site Capacity	2	78
Total	204	8,122



Logo of the Zero-Accident Campaign

4. Promotion of Physical and Mental Health Programs

(1) Physical and mental health promotion for workers

As Japanese society ages, the number of person who has underlying disease of so-called lifestyle-related diseases—such as hypertension, diabetes and ischemic heart disease—continues to rise. This tendency reflects not only OSH conditions of workplaces but also lifestyle people have led since their youth, including meals, exercise and habitual behavior, as well as levels of stress workers have been exposed to. For this purpose, the government revised the Industrial Safety and Health Act in 1988, which stipulates that the employer shall make an effort to take steps to maintain and promote health of employees, including providing general health education and medical advice. In the same year, the government also launched the Total Health Promotion Plan (THP) for workers, and JISHA started the following projects to promote THP.

Figure 3 below shows the flow of the THP programs.



Health care training

Fig. 3: Flow of THP Programs

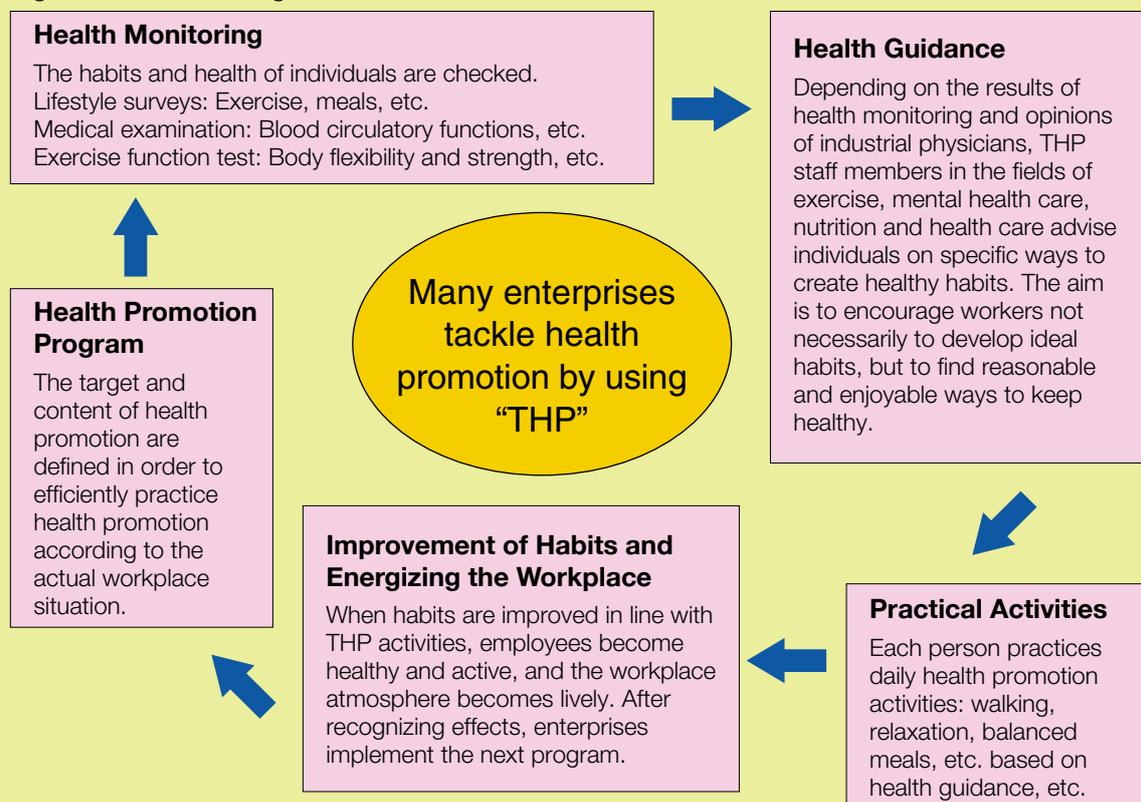


Table 6 shows the THP training courses conducted in fiscal 2015.

Table 6: THP Training Courses in Fiscal 2015

Training course	Number of times	Participants
1. THP leader training	17	1,124
2. Health Measurement Practical Seminar-Exercise tolerance test and individual instruction card	3	92
3. Practical training for improvement	25	1,394
4. Specified health guidance practitioner training for THP leaders	2	134
5. Health maintenance practical seminar to work healthy	1	20
Total	48	2,764

Besides the courses shown in the table, JISHA conducted seminars for the aged workers “Prevention of stumbling down—Preventing depression of physical function” (6 times, 125 participants), and “Brush up Seminar for both mental and physical” (8 times, 282 participants)

(2) Mental health measures

In March 2006, the MHLW published the Guideline for Promoting Mental Health Care of Workers, which outlines the principal measures for mental health care that employers are advised to provide. The basic points of mental health measures in the guideline are:

“establishing, publishing and disseminating policies for mental health measures”;

“preparing a mental health promotion plan”;

“establishing a counseling system”;

“implementing education and training for managers, supervisors and employees”;

“making efforts to improve working environment”;

“setting up rules governing how employees who have taken a long leave for a mental health reason can return to work”.

JISHA conducts the following seminars to disseminate the above points and to make sure they are implemented:

“In-house mental health promoter training”, which helps staff in charge of mental health measures in enterprises learn topics ranging from fundamental points of mental health measures to policies on returning to work;

“Management personnel seminar”, for managers and supervisors to learn necessary attentive listening skills;

and in order to help workers who have taken a long leave due to mental health problems smoothly return to work, JISHA started “Setting up support system for return-to-work seminar” and “Mental health seminar, example study) for enterprises to learn how to create a system to support those workers, along with case studies covering the workplace.

As the amendments of Industrial Safety and Health Act required employers to offer stress check to employees, JISHA has continued to hold seminars to utilize stress check to workplaces since last year.

Table 7 shows the training courses relating to mental health held in fiscal 2015. In addition to running the courses shown in the table, JISHA organized mental health promotion symposia (310 participants).

Also, regarding the JISHA health advise service, which diagnoses status relating to mental health of workers, the number of the service users asking for grasping health practice status was 12,509 and that for assessing stress status was 158,050; in total 170,559.



Tool of stress research

Table 7 : Mental Health-related Training Courses in Fiscal 2015

	Number of times	Participants
1. In-house mental health promoter training	26	1,108
2. Line care seminar for managers, supervisors, and leaders	20	639
3. Mental health seminar to learn from case studies at workplace	4	188
4. Seminar to utilize stress testing at workplace	31	1,445
5. Other mental health-related seminars	42	1,991
Total	123	5,371

(3) Dispatch of OSH Instructors

JISHA dispatches OSH instructors to workplaces to conduct a variety of mental health care promotion training courses: specified for managers and supervisors, and on self-care for employees, upon request from enterprises.

Table 8 : Dispatch of Instruction in Fiscal 2015

Dispatch of OSH instructors	1,265 cases
-----------------------------	-------------

5. Provision of OSH Technical Services

(1) Workplace OSH diagnoses

JISHA's OSH officers, as OSH professionals/experts, visit enterprises to conduct OSH diagnoses, upon request. They comprehensively verify compliance with OSH legislations, check status of OSH management, diagnose problems relating to OSH management of production equipment, processes, work procedures and workplace environments, and provide accurate advice for making improvements. They also accept requests from enterprises to help with their OSH education based on the diagnosis results.

In fiscal 2015, these professionals conducted 342 OSH diagnoses, provided 1,181 OSH education sessions, and gave 475 OSH lectures.



Safety and health education on how to wear dust protective masks properly

(2) Working environment measurements' biological sampling and analyses of airborne and material-embedded substances

JISHA takes measurements to help improve working environment. Measurements are conducted on dust, organic solvents, specified chemical substances, lead and other metals, which are harmful substances specified by law and rule, and noise, intensity of illumination for VDT work, and velocity control of local exhaust ventilation systems, as well. It also provides support for improving working environment, including suggestion on improvement measures based on the measurement results and the inspection on local exhaust ventilation systems.

JISHA conducts analyses of toxic substances and their metabolites in biological samples such as urine, blood, and hair, as well as analyses of airborne and material-embedded free silicic acid (free silica) and asbestos, and airborne toxic substances including metals and organic solvents. Upon request, it also conducts analyses, investigations, research, and counseling on a large range of non-regulated chemical substances and develops sampling and analysis methods.

Table 9 shows the working environment measurements and other technical services provided in fiscal 2015.

Table 9: Working Environment Measurements and Other Technical Services in Fiscal 2015

Services	Cases
1. Working environment measurements	1,282 enterprises
2. Biological sample analysis	28,756 samples
3. Non-biological sample analysis	7,777 samples
4. Analysis and measurements of asbestos (in raw materials, construction materials and airborne)	71 samples



Analytical measurements

(3) Activities on Industrial Health

JISHA implements practical occupational health training courses targeting to the industrial physicians, upon request of organizations related and certified by them. It held 11 training courses and there were 1,395 participants in fiscal 2015.

6. Distribution of Publications relating to OSH

(1) Production and distribution of periodicals, books, posters, and other items

JISHA produces and distributes two monthly magazines, “Anzen to Kenko” (“Safety & Health”) for OSH staff and managers and “Anzen-Eisei no Hiroba” (“OSH Plaza”) for workplace leaders, and a quarterly journal, “Kokoro to Karada no Oashisu” (“Mental and Physical Oasis”) dealing with a wide range of health programs for enterprises including the tertiary industry. It also produces and distributes two semimonthly publications, “Anzen-Eisei Tsushin” (“OSH News”), a bulletin of OSH information, and “Anzen-Eisei Kabeshimbun” (“OSH Wall Newspaper”), using illustrations to explain points of OSH measures.

Additionally, JISHA produces and distributes approximately 360 textbooks, paperbacks, and other publications on OSH. In all, nearly 1.90 million copies were issued in fiscal 2015.



“Anzen to Kenko”



“Kokoro to Karada no Oashisu”

Main types of books (all in Japanese):

- Textbooks for obtaining qualifications and the like: “Textbook for operational chief of the work for handling oxygen deficient danger”, “Textbook for operational chief of organic solvents work”, etc. for technical training, “Health Management (Vol. 1) (Vol. 2) Class-1 health officer”, etc. for license examinations, and “Handbook for grinder work for Safety”, “Handbook for assembly of scaffolding dismantling and alteration operator work for safety”, etc. for special educational topics.
- Books that clearly explain what should be done in workplaces based on the latest law amendments: “Simple Learning about risk assessment for chemical substances from the basic”, “New stress check system that advise what and how needed to be done now”, etc.
- Books that explain laws and ordinances: “Directory of OSH Legislation”, which contains information on the OSH Act and ministerial ordinances, and “Explanation of the Ordinance on Prevention of Specified Chemical Substances”, etc., which explains specific laws and ordinances and guidelines, etc.
- Books useful when OSH staff and managers implement OSH activities: “Well-experienced and skillful staff teach 33 tips and vital points for learning safety and health”, “Safety check in your workplaces”,

“4S principles Plus 1S~Improvement of the working environment”, “Practical books that help develop skills to identify risk”, etc.

- Illustrated pamphlets for workers that clearly explain prevention of work accidents and information related : “Take immediate actions to eliminate and prevent further risk of accidents caused by human error”, “Expanding awareness and consciousness. Thinking ahead what might happen in near future to improve mental health”, “Guideline for creating vigorous and lively workplaces~ to realize ideal workplace environment”, etc.
- Books that explain OSH topics in a reading material presentation: “JISHA paperbacks—Disaster Management of Corporations—earthquake disaster management, learn from March 11, 2011”

Furthermore, JISHA produces and sells numerous books, posters, and other items relating to campaigns: National Safety Week, National Occupational Health Week, Year-End and New-Year Zero-Accident Campaign, the campaign to promote OSH education, the campaigns for prevention of heat stroke, and the campaigns.

Every year, JISHA issues the “General Guidebook on Industrial Safety” before National Safety Week and the “General Guidebook on Industrial Health” before National Occupational Health Week as the books that provide guidelines for activities at enterprises. (Note: With regard to these campaigns, please refer to 7. (3).)

All these publications, posters, and other items are available at JISHA Publishing and Sales Department, and Regional OSH Service Centers, besides, Regional Labor Standards Association and other agents.

7. National Events and Campaigns, Public Relations and Enlightening Activities

(1) Provision of the latest OSH Information

JISHA provides the latest information through its website at a time of the events such as topics, highly concerned seminars/workshops, and in collaboration with Japanese government, opens specific pages to campaign such as 「Stop! Project for tumbling accident on prevention, including National Safety Week”, “National Occupational Health Week”, and “Year-end and New Year Zero-Accident Campaign”. Further, it provides information through mass media by announcing at a press conference about its various activities.

(2) National Industrial OSH Convention and other events

Every autumn, JISHA holds National Industrial OSH Convention. The Convention was initiated in 1932, and in recent years it has been attended by approximately 10,000 OSH personnel and other interested persons from across Japan. The convention includes awards and other ceremonies, presentations of research findings and case studies on OSH activities undertaken by different workplaces, lectures and symposia. Convention attendees can learn the latest OSH information and knowledge, and OSH practical experience from other enterprises.

Table 10: Convention Program (3 days)

General Assembly	Opening ceremony, awards ceremony, convention declaration, and special lectures
Group meetings	Risk assessment/management system group meeting
	Safety management activity group meeting
	Tertiary industries group meeting
	Machinery and equipment safety group meeting
	SMEs workplaces group meeting
	Safety and health education group meeting
	Occupational health management activity group meeting
	Chemical substance management group meeting
	Zero-Accident campaign group meeting
	Traffic safety group meeting
Mental health group meeting / Health promotion group meeting	
Simultaneously held events	Green Cross Exhibition 2015



Opening of the National Occupational Safety and Health Convention



Award



Group meeting



The Green Cross Exhibition

In fiscal 2015 the 74th convention, was held over three days in October 28–30 in Nagoya city, attended by about 12,429 people.

Concurrently with National Industrial OSH Convention, JISHA holds Green Cross Exhibition. Green Cross Exhibition, the fair meant to develop workers' sense of OSH, is the largest exhibition of OSH equipment and devices in Japan, offering techniques and information relating to OSH management in many kinds of workplaces and working environment improvement. The number of 134 exhibitors including companies and organizations participated in the exhibitions in 2015, which attracted over 20,000 visitors.

Table 10 shows a program summary of the fiscal 2015 convention.

(3) National OSH campaigns

Together with the MHLW, JISHA holds campaign activities every year during National Safety Week (first seven days of July) and National Occupational Health Week (first seven days of October). In the month prior to each campaign, as a preparatory period, awareness campaigns activities are conducted.

Ongoing since 1926, the 88th National Safety Week was marked in 2015. It is targeted as an opportunity to roll out a campaign aimed at deepening awareness of industrial accidents prevention and encouraging a steady implementation of safety activities in each workplace.

Continuing since 1950, the 66th National Occupational Health Week was held in 2015. This campaign is designed as a chance to promote efforts to ensure and advance health of workers and to create comfortable workplaces.

Additionally, JISHA holds Year-End and New-Year Zero-Accident Campaign for a month and Heat Stroke Prevention Campaign for 4 months from May to August, and it also rolls out OSH education activities campaigns from January to the end of April.

(4) Various awards

In 2015, it granted a company for its distinguished contribution to promotion and improvement of OSH (the JISHA Chairman's Award to 1 company); persons for their fine performance on the research (the Distinguished Service Award to 3 persons); and persons, etc. for their distinguished contribution to promotion of OSH area (90 persons). Also, the official commendation for Zero-Accident record was given to 155 SMEs.

(5) Research and surveys

In response to changes in the environment that companies are facing such as evolving industrial structure or employment patterns, JISHA conducts research and surveys on both the status quo and the ideal form of OSH management.

The results of the research and surveys are posted on the website and published in various publications. These results are also utilized in OSH education or at the time of providing guidance, etc.

The main research and surveys conducted in FY2015 are shown in Table 11.

Table 11: Research and Survey Topics in Fiscal 2015

1. Review of the guideline for safety and health management method of off-routine work at automatic production system
2. Research and survey on safe and health measures at social welfare facilities

8. International Services

(1) Exchanges with OSH organizations abroad and provision of OSH information

JISHA engages in international exchanges with OSH organizations abroad. These exchanges take form of acceptance of overseas guests on a daily basis, dispatching personnel to organizations related and participating in international conferences, including meetings of the World Congress on OSH at Work and annual conferences of Asia Pacific Occupational OSH Organization (APOSHO), as well as ILO/CIS national centers meeting.

JISHA gathers OSH information from the United States, European, Asia-Pacific areas, and other countries/regions and provides information in Japanese via its website. It also provides information in English for people abroad.



APOSHO General Meeting in 2016 (in New Delhi, India)

(2) Technical assistance to developing countries/regions

JISHA conducts the OSH seminar once a year to provide technical assistance to OSH organizations abroad. Furthermore, on commission from Japan International Cooperation Agency (JICA), it conducts

seminars on policy improvement of OSH, which is both group (multiple countries) training courses, besides, provides support for country-specific technical assistance projects in China.

In addition, JISHA dispatches experts overseas and arranges customized study tours in Japan, upon request abroad or ILO.

(3) International services conducted during fiscal 2015 are introduced in detail in Appendix 5.

(4) Seminars for Japanese enterprises operating abroad

Recently, Japanese enterprises are accelerating to run their business in foreign countries/regions. JISHA support them with holding seminars. etc.

In fiscal 2015, it held 2 seminars in Tokyo.



9. Support for the Recovery and Reconstruction of the East Japan Earthquake and Tsunami

Japan experienced the East Japan Earthquake and Tsunami disaster and the Fukushima Nuclear Power Plant accidents in March 11, 2011

Now, Japan has orchestrated its collective efforts to work tirelessly for recovery and reconstruction including the debris removal, nuclear decontamination work, and resumption of operations. JISHA also has continued our overall supports of the OSH measures such as implementing education/training to operation leaders or operators of nuclear decontamination work. (refer to table 3.)

Besides, in order to provide the latest safety and health information to the employers/workers who are engaged in the recovery/reconstruction works from the disaster, JISHA has set up a special page relating to activities.

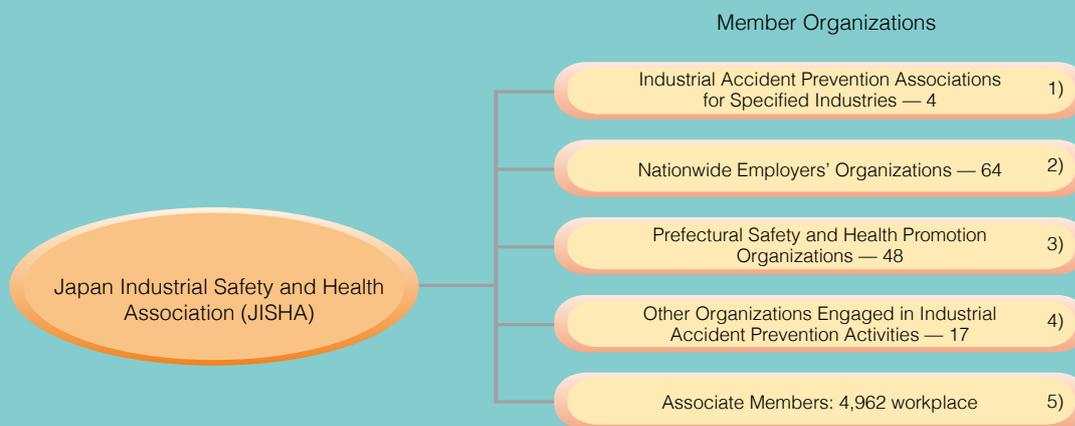
At present, the situation is getting better and on the way of restoring, due to support of many kinds of people as well as a huge amount of assistance from foreign countries/regions.

Appendices

Appendices

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Membership



JISHA Members and Associate Members (March 2016)

Notes

1) 4 Industrial Accident Prevention Associations

- Japan Construction Occupational Safety and Health Association
- Japan Land Transportation Industry Safety and Health Association
- Japan Port Transport Industry Safety and Health Association
- Japan Forestry and Timber Manufacturing Safety and Health Association

Note: Japan Mining Safety and Health Association, dissolved on March 2015

2) Nationwide Employers' Organizations

There are 62, including:

- Japan Business Federation
- The Japan Iron and Steel Federation
- The Federation of Electric Power Companies Japan
- The Japan Electrical Manufacturers' Association
- Japan Petrochemical Industry Association
- Japan Chemical Industry Association
- The Shipbuilders' Association of Japan

3) “Prefectural Safety and Health Promotion Organizations” are established in each prefecture. There are 48 such organizations.

4) Other Organizations Engaged in Industrial Accident Prevention Activities

There are 16, including:

Japan Boiler Association

Japan Crane Association

Japan Association of Safety and Health Consultants

Japan Association for working Environment Measurement

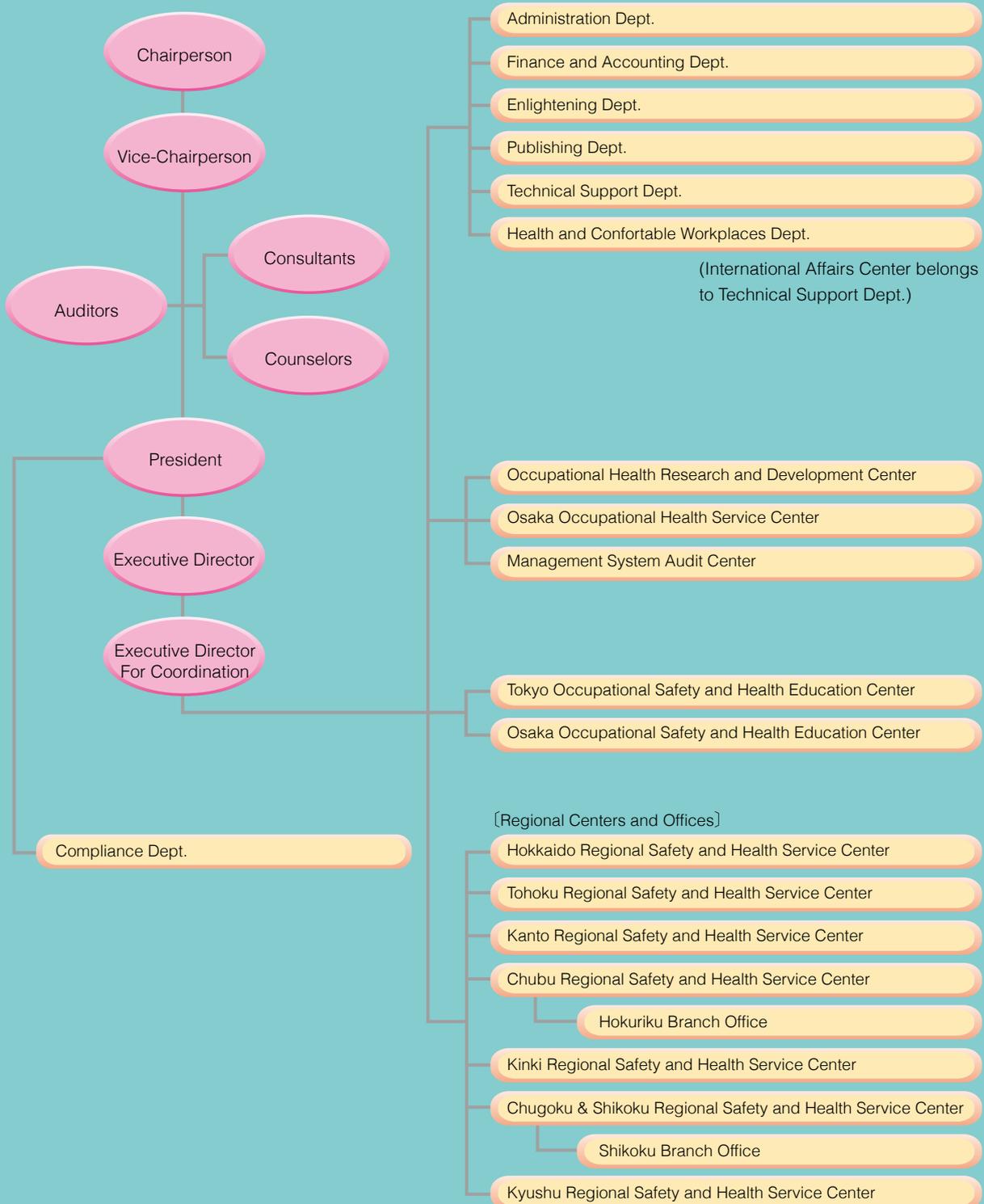
National Confederation of Occupational Health Organization

5) Associate Members, by Industry

(as of March 31, 2016)

Industry	Number	Industry	Number
Agriculture	0	Metal products	189
Forestry	0	General machinery	224
Fishery	0	Electrical machinery	279
Mining	17	Transport machinery	254
Construction	598	Precision instruments	58
Foods	299	Other manufacturing	256
Textiles	42	Electricity, gas and water	89
Lumber and furniture	26	Transport	232
Pulp and paper	122	Finance and insurance	16
Publishing and printing	69	Telecommunications	79
Chemicals	448	Labour unions	29
Coal and petroleum	91	Public sector	60
Rubber	59	Others	245
Ceramics, clay and stones	94	Services	669
Iron and steel	148	Medicine and public health	191
Nonferrous metal	79	Total	4,962

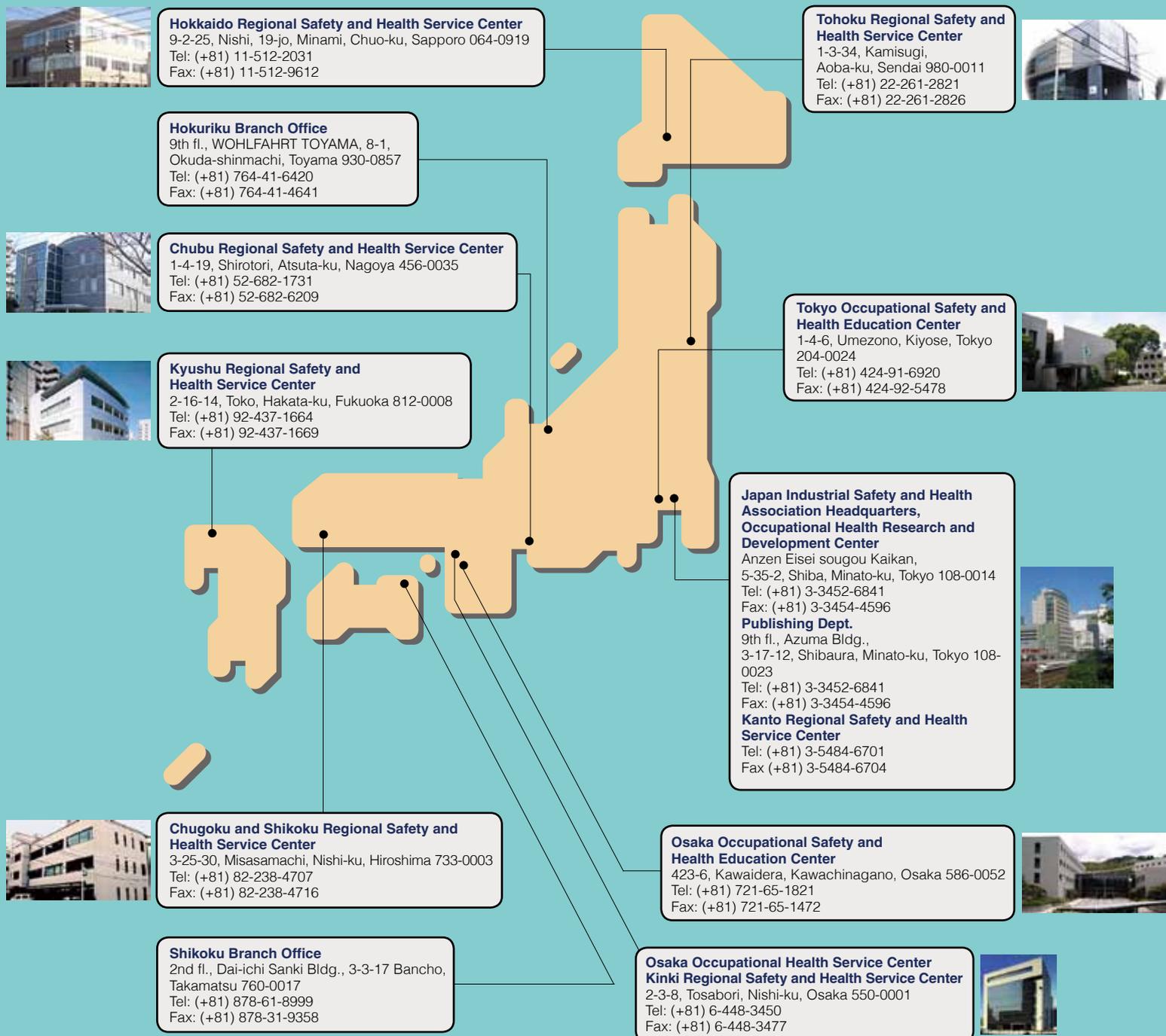
JISHA Office Organization Chart



(as of August 2016)

JISHA Office Locations

JISHA operates the Occupational Safety and Health Education Centers in Tokyo and Osaka, the Occupational Health Research and Development Center, the Osaka Occupational Health Service Center, as well as seven Regional Safety and Health Service Centers and two branch offices. Regional Centers offer technical advice, conduct working environment measurements, organize seminars and sell books/other JISHA OSH materials. This map shows the location of JISHA facilities throughout Japan.



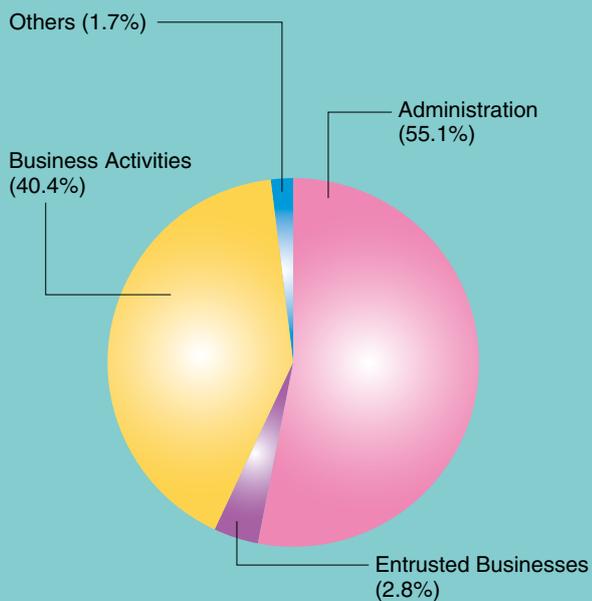
Budget

Changes in Budget

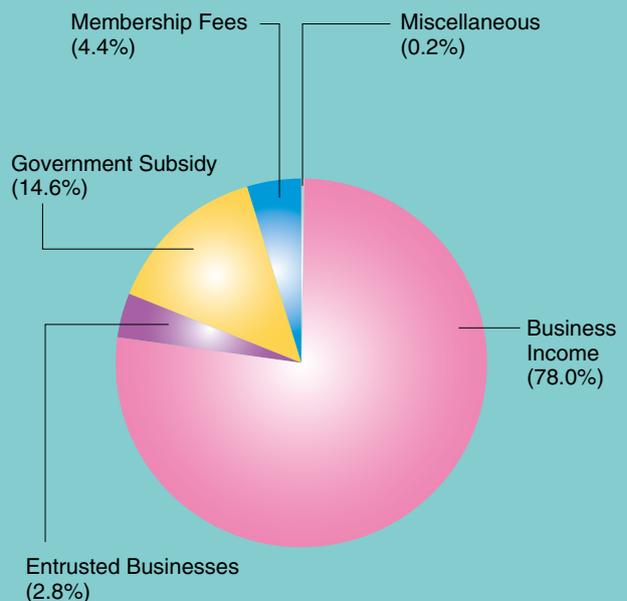


Expenditure and Income for FY2016 (General Account)

EXPENDITURE



INCOME



FY 2015 International Services

Promotion of Global Cooperation

Name of Project	Project Outline
<p>1. Promotion of technical cooperation and assistance for developing countries</p>	<ul style="list-style-type: none"> • Held JISHA Safety and Health Seminar <ul style="list-style-type: none"> * The training program for 5 trainees from overseas (Theme: Zero – Accident Activity and Occupational Safety and Health Management System) (Mar. 14 – 18, 2015, Hong Kong, Taiwan, Philippines and Mouricious) • Acceptance of trainees and dispatch of staff <ul style="list-style-type: none"> * Held group training <ul style="list-style-type: none"> Group training course “Policy of Occupational Safety and Health” (9 Participants, Oct.13 – Nov. 13, 2015) * Collaboration with capacity building project of China Occupational Health <ul style="list-style-type: none"> • Acceptance of trainees <ol style="list-style-type: none"> 1. Health guidance for workers (7 participants, Jun. 6 – 19, 2015) 2. Risk assessment (12 participants, Jul. 22 – 31, 2015) 3. Administrative guidance for occupational health management (10 participants, Oct. 21 – 31, 2015) (Made a presentation by trainee at the National Industrial OSH Convention) 4. Instructional method for enterprises (Individualized case) (8 participants, Nov. 3 – 17, 2015) 5. Health Management relating to organic solvent (9 participants, Dec.1 – 15, 2015) <ul style="list-style-type: none"> • Short-term expert dispatch <ol style="list-style-type: none"> 1. Chemical substance risk assessment, etc. (Measurements and administration for enterprises) (2 participants, Aug. 4 – 7, 2015) 2. Simultaneous assessment survey (Improving working environment) (1 participant, Sep.10 – 17, 2015) 3. Case report conference of organic solvent (Industrial poisoning, Occupational disease diagnosis) (2 participants, Nov. 10 – 16, 2015) 4. Final wrap-up meeting (Administrative guidance survey) (1participant, Feb.22 – 25, 2016) • Held meetings with overseas operation of companies to communicate and exchange opinions and information on occupational safety and health <ul style="list-style-type: none"> * Small meeting for exchange of opinion (19 participants, Jul. 3) * Meeting for exchange of information (36 participants, Mar. 2, 2016) * Panel discussion (Oct. 30, 2015) (National convention) • Commissioned project by Ministry of Health, Labor and Welfare Held Japan - Beijin, China Safety and Health Symposium (125 participants, Feb.24, 2016)
<p>2. Providing information and general consultation on occupational safety and health in Japan and overseas</p>	<ul style="list-style-type: none"> • General consultation on overseas safety and health information (93 cases) • Providing information on JISHA website <ul style="list-style-type: none"> * Posted overseas topics (17 cases) • Publishing and contribution for overseas information on magazine., etc. <ul style="list-style-type: none"> * Overseas information on JISHA's monthly magazine, “Safety and Health” (9 cases) • Annual Report 2015 Edition in Sep. Distribution them to relevant organizations
<p>3. Promoting exchange with overseas safety and health organizations</p>	<ul style="list-style-type: none"> • Dispatch of Director <ul style="list-style-type: none"> * Speech at the 104th Anniversary of Establishment and General Annual Meeting of Safety and Health Association of Taiwan (ISHA) (2 participants, May. 15 – 18, 2015) (Taiwan, Taipei) * Speech at the 30th Annual Conference of Asia Pacific Occupational Safety and Health Organization (APOSHO) in Seoul, Korea (4 participants, May. 31 – Jun. 5, 2015) * Speech at the 45th the XX World Congress for Safety and Health at Work in Querétaro, Mexico (1 participant, Dec.3 – 7)

	<ul style="list-style-type: none"> • Acceptance of visitors and trainees * Four officials from China Occupational Safety and Health Association (Jun.8 – 9, 2015) * Five officials from Korea Occupational Safety and Health Agency (KOSHA) (Sep.10, 2015) * Twenty officials from Fújiàn Shěng, China, Safety Government (Sep. 25, 2015) * Four officials from Industrial Safety and Health Association of Taiwan visited National Convention (Oct. 25 – 31, 2015) * Study Mission from Hong Kong (Construction Safety) (20 officials, Dec. 7 – 11, 2015) * Fifty trainees from Kyungwoon University, Korea (Jan. 12, 2016)
4. Further development for activities to respond to globalization	<ul style="list-style-type: none"> • Held liaison meetings to exchange necessary information related to response to international conference and sending information concerned, etc. (Jan.14 and Mar. 25, 2016) • JICA Consideration of joint enterprise with China after capacity building project of China Occupational Health (Meeting with China, Jul. 29, Nov. 4, 2015 and Feb. 25, 2016) • Consideration of technical support project on site-oriented safety and health activities focusing on Asia

Support with Developing Countries and OSH Organization

- Provision via website
- JISHA Annual Report

JICA: Japan International Cooperation Agency

Project-type Technical Cooperation (ODA)



in Which JISHA Was/Has Been Involved



to Seminars Conducted by JISHA with



Total 904

JISHA English Publication List

1. Periodical

Annual Report

2. Photocopies of Books (¥108 per page)

(1) Manuals on Safety and Health

Safety Assessment

Explanation of Guide for Periodic Voluntary Inspection of Local Exhaust Ventilating Systems and Dust Collectors

How to Establish a Safety and Health Improvement Programme (for Special Guidance on Safety Control)

How to Establish a Safety and Health Improvement Programme (for Special Guidance on Industrial Health Preservation)

Safety Control Handbook

Case Studies of Industrial Injuries and Countermeasures

Fundamental Knowledge of Industrial Hygiene for Working Environmental Experts

Sampling of Harmful Substances

Industrial Hygienist Technical Course (1)–(4)

Practical Handling of Analyzing Instruments for Working Environment Measurement

Examples of Occupational Injury

Text for RST Trainers

Important Points in Drawing Up Guidance Sheets for RST Education

List of RST Sheets for Construction Work

Promoting Safety and Health Education within a Company

Text for Construction Engineers

Report Concerning the Construction Industry

Guidelines for Lining Work in Tunnels; Safety Work Standards Regarding Construction Machinery Used in Tunnels

Work Guidelines for Tunnel Excavation: Rock Tunnels

Work Guidelines for Tunnel Excavation: Shield Tunnels

Tunnel Excavation Safety Guide: Ground Excavation

Tunnel Excavation Safety Guide: Cut and Cover Tunnel

Tunnel Excavation Safety Guide: Earth Support System for Cutting

Information Regarding Work at MRT Construction Sites

Safety and Health Administrative Guidelines in the Shipbuilding Industry

The Ninth Industrial Accident Prevention Plan

(2) Safety and Health Textbooks (Educational Textbooks)

Safety and Health Training of Newcomers: Instructor's Manual

Gas Welding

Safety Manual for Arc Welding

Press Operator's Safety Handbook

Safety Manual for Grinders

Handling Electricity

Necessary Knowledge Regarding Industrial Robots

Health Administration Henceforward

(3) Zero-Accident Books

Identifying Occupational Safety Hazards
—A Compilation of Promotional Methods for Training in Prediction of Potential Hazards with Illustrated Situation Sheets [1]

Identifying Occupational Safety Hazards
—TBM-Hazard Prediction Procedure and Model Sheets Education [2]

Identifying Occupational Safety Hazards
—The Short-Term Hazard Prediction Method and Model Sheets [3]

What Work Instructions Would You Give?
—Work Instructions Training Procedures and Model Sheets [4]

Identifying Occupational Safety Hazards
—New Hazard Prediction Procedure and Model Sheets Edition [5]

The Story of New Hazard Prediction

Building Zero-Accident Campaign with Total Participation
—A Guide for Formulating Plans for Zero-Accidents

Are You Practicing Short-Time Danger Prediction Training?

Are You Practicing Finger Pointing and Call?

Zero-Accident Campaign: "We Are Glad We Did It!"
—Everyone Takes Part to Achieve Zero-Accidents

New Hazard Prediction: New Small Group Activities 5 Minute Zero-Accident Meeting

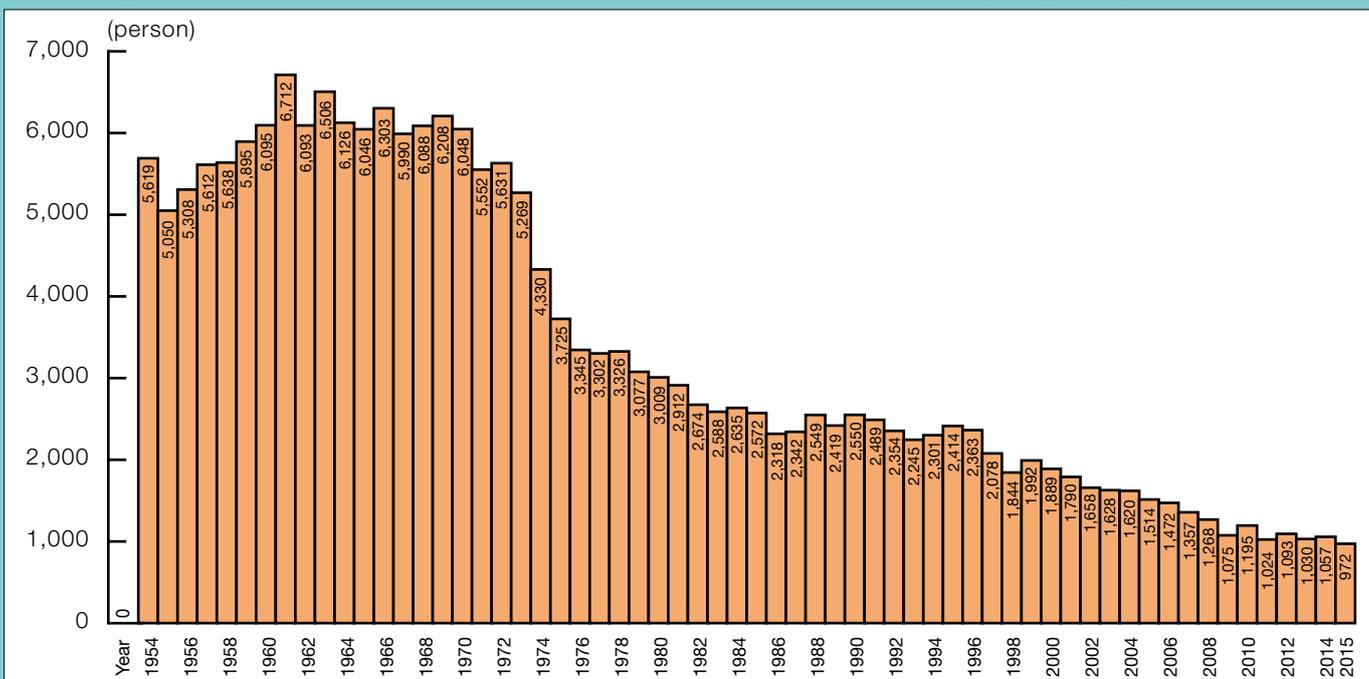
Websites

Japan Industrial Safety and Health Association (JISHA):
<http://www.jisha.or.jp/>

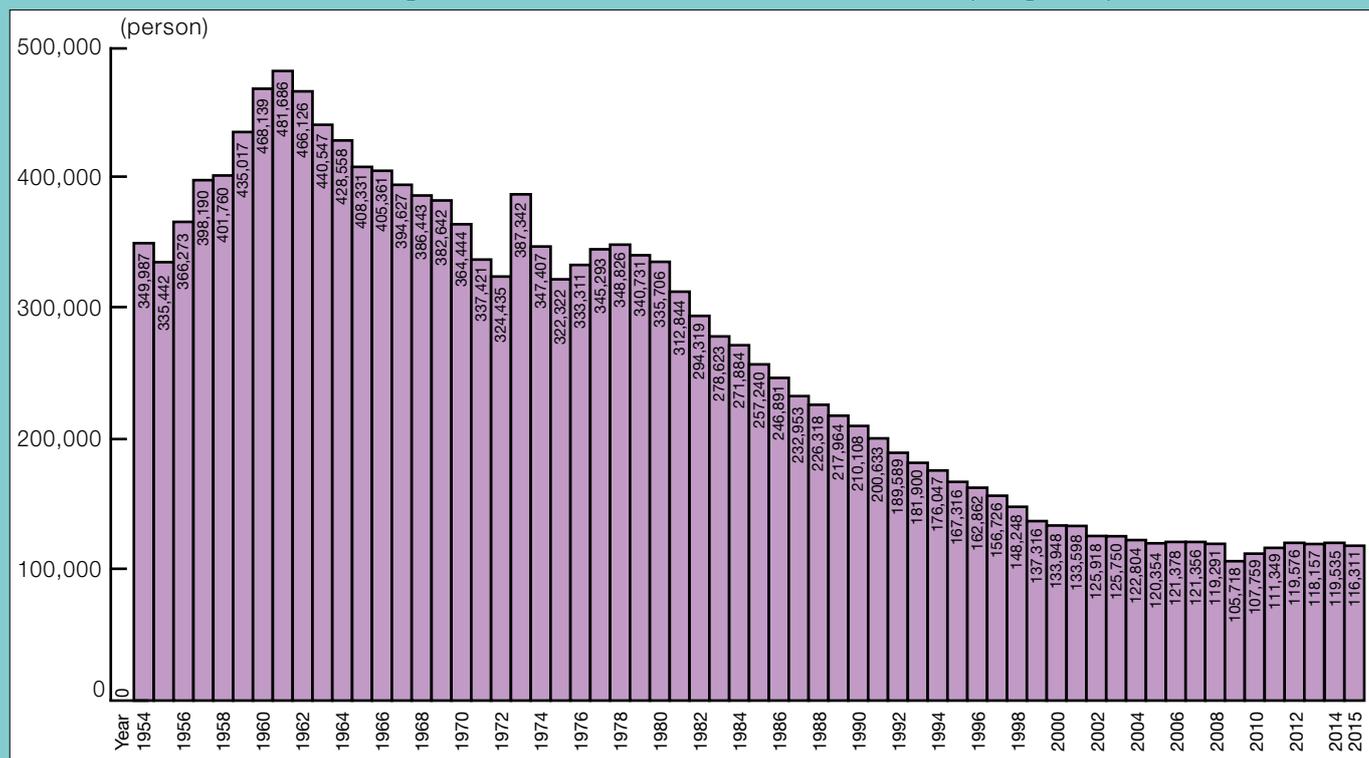


Statistics

Change in Number of fatalities in All Industries (Japan)



Change in Number of fatalities and Injuries Requiring an Absence of 4 Days or More in All Industries (Japan)



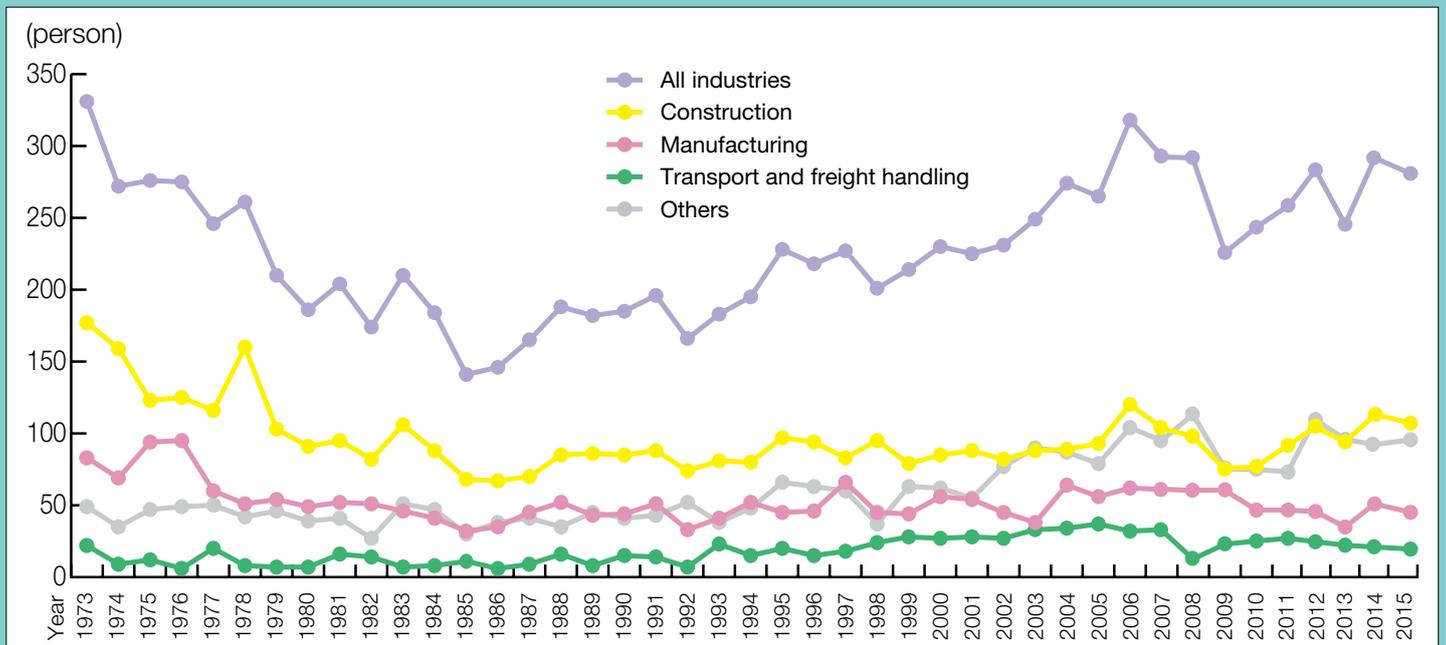
Note: The figures for 1972 and before indicate the number of deaths and injuries requiring an absence of 8 days or more.

Change in Serious Industrial Accidents by Industry (Japan)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
All industries	331	272	276	275	246	261	210	186	204	174	210	184	141	146	165	188	182	185	196	166	183	195
Construction	177	159	123	125	116	160	103	91	95	82	106	88	68	67	70	85	86	85	88	74	81	80
Manufacturing	83	69	94	95	60	51	54	49	52	51	46	41	32	35	45	52	43	44	51	33	41	52
Transport and freight handling	22	9	12	6	20	8	7	7	16	14	7	8	11	6	9	16	8	15	14	7	23	15
Others	49	35	47	49	50	42	46	39	41	27	51	47	30	38	41	35	45	41	43	52	38	48

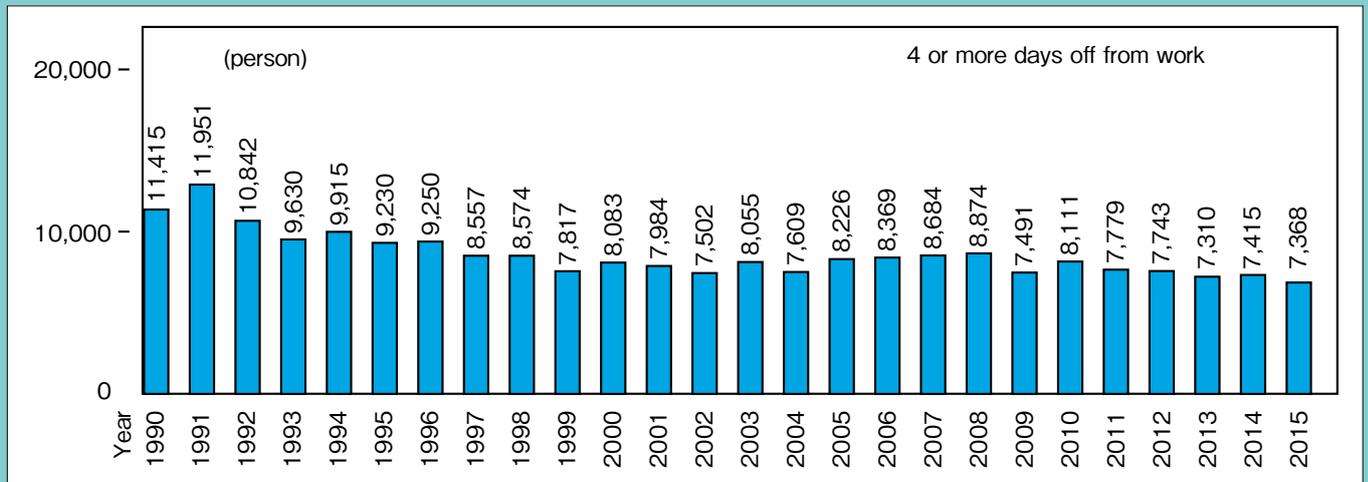
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
All industries	228	218	227	201	214	230	225	231	249	274	265	318	293	281	228	245	255	284	244	292	278
Construction	97	94	83	95	79	85	88	82	88	89	93	120	104	93	75	87	105	95	93	130	111
Manufacturing	45	46	66	45	44	56	54	45	38	64	56	62	61	58	55	49	49	45	34	59	50
Transport and freight handling	20	15	18	24	28	27	28	27	33	34	37	32	33	13	21	24	27	24	21	19	18
Others	66	63	60	37	63	62	55	77	90	87	79	104	95	117	77	85	110	84	96	84	99

(person)

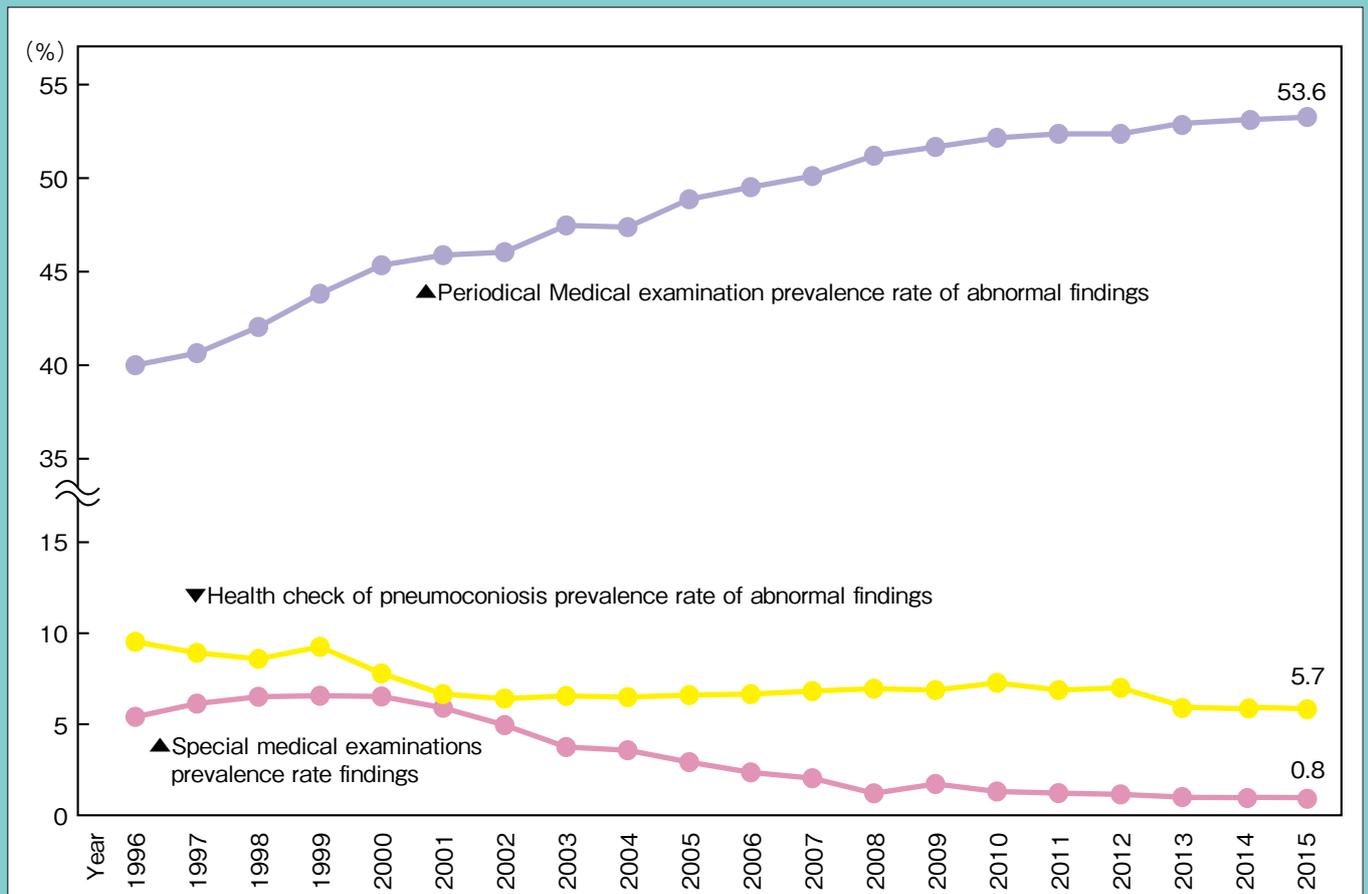


Note: "Serious industrial accident" signifies an accident resulting in 3 more deaths and/or injuries at a time.

Change in Number of Occupational Diseases (Japan)



Prevalence rate of abnormal findings of periodical medical examination (Japan)



Note: Sources of above statistics come from those of the MHLW

Commissioned Studies Conducted by Japan Bioassay Research Center

Commissioned studies

- Toxicity studies using rats and mice (inhalation study is available)
 - Single dose toxicity studies (acute toxicity studies)
 - Repeated dose (28-day, 2-week, and 13-week) toxicity studies
 - Chronic toxicity studies
 - Carcinogenicity studies
 - Combined chronic toxicity/carcinogenicity studies
 - Medium-Term Liver (arcinogenesis is Bioassay (ItoTest))
 - Reproductive and development toxicity studies
 - Combined repeated dose toxicity/reproductive and development toxicity studies
 - Single generation reproduction studies
 - Uterotrophic bioassays in rodents
 - Hershberger bioassays in rats
 - Others
- Mutagenicity assays (the technological level applicable for commission for gaseous substances and volatile substances)
 - in vitro* studies
 - Mutagenicity assays using microorganisms / reverse mutation assays using bacteria / Ames test
 - Chromosomal aberration assays using cell cultures
 - Cytotoxicity assays using cell cultures
 - Mouse lymphoma TK assays
 - Micronucleus assays using cell cultures
 - Transformation assays
 - Others
 - in vivo* studies
 - Bone-marrow micronucleus assays using rodents
 - Liver micronucleus assays using rodents
 - Testis micronucleus assays using rodents
 - Transgenic rodent mutation assay

Japan Bioassay Research Center

JISHA was responsible for managing Japan Bioassay Research Center. Japan Organization of Occupational Health and Safety was established on April 1, 2016 by the integration of Japan Organization of Occupational Health and Welfare and Safety, and National Institute of Occupational Safety and Health. The administration of Japan Bioassay Research Center has been entrusted to the new organization from then on.

Japan Bioassay Research Center, founded in 1982, conducts animal studies (with rats and mice) to investigate the single dose toxicity (acute toxicity), short-term (28-day, 2-week, and 13-week) repeated-dose toxicity, chronic toxicity, reproductive and developmental toxicity, and carcinogenicity of chemical substances administered via inhalation and orally.

The center features technologies to conduct inhalation exposure studies on chemical substances that appear in the form of a gas, mist, or particles as well as short-term and long-term inhalation devices (see photos in the appendix), which make it a large-scale testing facility without parallel anywhere in the world. It is important to understand inhalation toxicity of chemical substances because there are many opportunities for exposure to chemical substances through inhalation from ambient air in the general environment and in workplace environments. Given the urgent need to confirm the safety of nanoparticles and asbestos substitutes, the center develops exposure technologies for these materials and has started the contract service of “Medium-term Liver

Carcinogenesis Bioassay (Ito Test) with rat which is effective to search the carcinogenesis of chemical substances rapidly. Thus far, the center has conducted carcinogenicity tests (including 2-week and 13-week repeated-dose preliminary tests) on more than 50 56 chemical substances, whose results have been published in scientific papers and other forms * , and have been rated highly worldwide.

The center also conducts mutagenicity studies using microorganisms, chromosome aberration studies using mammalian cell cultures, micronucleus studies using rodents, and other studies to screen for carcinogenicity. It has developed effective mutagenicity testing technologies for gaseous substances and volatile substances to which its animal inhalation exposure technologies are applied (see photos in the appendix). These technologies have been used in the center's genetic toxicity studies, which have produced numerous study achievements.

All studies conducted by the center are performed in compliance with Good Laboratory Practice (GLP) standards.

Appendix 11 shows the commissioned studies, and pictures of the equipment.

* See the JISHA website (<http://www.jisha.or.jp>) for information on test results. One of many published papers: K. Nagano, T. Sasaki, Y. Umeda, T. Nishizawa, N. Ikawa, H. Ohbayashi, H. Arito, S. Yamamoto and S. Fukushima. "Inhalation carcinogenicity and chronic toxicity of carbon tetrachloride in rats and mice," *Inhalation Toxicology* 19: pp. 1089-1103, 2007.



Japan Bioassay Research Center



Bioassay operation



Inhalation Exposure Chamber (Short-term Study)



Inhalation Exposure Chamber (Long-term Study)



Gas Exposure System (Ames-test)^{a)}



Gas Exposure System (chromosomal aberration assay)^{b)}

a) A. Araki, T. Noguchi, F. Kato and T. Matsushima. 1994. "Improved method for mutagenicity testing of gaseous compounds by using a gas sampling bag." *Mutation Research* 307: 35-344.

b) M. Asakura, T. Sasaki, T. Sugiyama, H. Arito, S. Fukushima and T. Matsushima. 2008. "An improved system for exposure of cultured mammalian cells to gaseous compounds in the chromosomal aberration assay." *Mutation Research* 652: 122-130.



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