

Safety  Health

2018



# Annual Report

Industrial Safety and Health Association of the R.O.C. (Taiwan)

CSR

Professional

Quality

Service

Innovation

# resident's Foreword

In compliance with government policy to promote occupational safety and health, to improve working environment and to reduce occupational accidents, ISHA was established in 1960 as a first non-profit OSH organization. Celebrated its 59th anniversary in 2018, ISHA has long been the oldest and largest OSH organization in Taiwan. The services provided in the early stages included training of OSH personnel, compilation of training materials, education and training sessions, seminars and workshops. In compliance with government policy to strengthen OSH and in response to SMEs' requesting ISHA to provide guidance on OSHMS establishment, and published more OSH teaching materials and strengthened internal IT management system and services. The OSH activities provided by ISHA are described as follows:

## **1. OSH education and training**

OSH education and training courses offered by ISHA include training sessions for OSH management personnel, specific machinery and equipment operators, management personnel of hazardous materials, OSH training for managers of various industries, on-the-job OSH training for laborers in various industries, first-aid personnel training, training of zero accident campaigner and assorted OSH training for specific industries.

## **2. ISHA newly established Virtual Reality OSH (Occupational Safety and Health) training Center in 2019**

It points to the possibility of using the applications and simulations of the workplaces and the processes for better understanding of potential danger and eventual prevention options. Such an application simulates the real workplace including the technological processes and provides the user with a motion in 3D environment of virtual scene observing and interacting in actual work zones.

## **3. Authorized inspection on specific equipment and machinery**

ISHA is one of the three organizations in Taiwan authorized by government to provide inspections on specific and/or dangerous equipment and machinery. With inspection jurisdiction in southern Taiwan, ISHA provides inspection services on boilers, high pressure vessels, cranes, gondolas and elevators, etc.

## **4. Working environment management and improvement guidance**

In accordance with the government OSH policies, ISHA accepts commissioned projects from businesses to conduct occupational health management on physical and chemical hazards, recommendations to improve poor working environments and implementation guidance on improvement measures.

## **5. Promotion of OSH management system**

In light of the ILO-OSH 2001, the "Taiwan Occupational Safety and Health Management System (TOSHMS)" was promulgated in 2007. ISHA was since commissioned to assist industries with establishment and implementation of TOSHMS.

## **6. Technical services on occupational safety and health**

Commissioned by the government, ISHA provided selected SMEs with improved and customized OSH measures, voluntary management and improvement guidance on OSH issues; guidance on energy saving and carbon reduction programs to some businesses; improvement guidance on ergonomic factors and to physical laborers on health promotion and fitness; technical guidance to petrochemical industry. ISHA also helped government promote workplace health programs in Taiwan.




## 7. International cooperation

Besides participating in the annual APOSHO meetings as a full member, ISHA seeks opportunities to exchange views and techniques with international OSH counterparts e.g. Japan, Korea, U.S.A. etc. and maintain close relationship with OSH organizations in China, Hong Kong, and Macau.

## 8. Promotional campaign and related activities on OSH

ISHA frequently holds seminars on a variety of issues e.g. zero accident campaign, home safety, health promotion, safety culture, subcontractor management, prevention of occupational diseases, etc; publishes an Industrial Safety and Health monthly journal; has published various titles of textbooks and regulations, handbooks, and other educational tools; strengthens OSH information and services, updates its website to provide latest OSH information.

Due to the concerted efforts among government agencies, academics, labor and employers, the per thousand fatality rate of occupational accidents in Taiwan had been declining during the last few years, i.e., death rate from 0.033 in 2011 dropped to 0.024 in 2018. However, the economic growth accelerated in the last decade, people became more concerned about the OSH issues generated directly from production-related matters. Both labor bureaus and OSH-related organizations in Taiwan are paying closer attention to issues, e.g. OSH management systems, OSH improvement for SMEs, preventive measures for high-risk chemical hazards, and health risks posed by new technologies etc. The Occupational Safety and Health Act was announced on July 3, 2013, which protecting labors increased to 10.67 million (from the current 6.7million) in Taiwan. This Act is enacted for the purpose of preventing occupational accidents and protecting labor safety and health. New mechanisms as follows: 1. implement on source management of machineries, equipments and chemicals; 2. improvement for occupational disease prevention system; 3. strengthen the maternal protection of female workers; 4. strengthen supervisions and inspections of the high-risk workplaces. All these will be the tasks that ISHA focuses on in the coming years to attain continual improvement in the fields of OSH.



*Fwu-Liang Lan*

Fwu-Liang Lan  
President of ISHA  
August 2019



# ISHA 2018 Annual Report

# Contents

	President's Foreword	1
<b>Part 1</b>	<b>Introduction to ISHA</b>	<b>4</b>
	Mission	5
	Organization of ISHA	5
	Locations of ISHA offices	6
<b>Part 2</b>	<b>Review of Activities in 2018</b>	<b>7</b>
	1. General Activities	8
	2. Technical Services	9
	3. Working Environment Management	11
	4. Education and Training	12
	5. Authorized Inspection (of Dangerous Machinery and Equipment)	12
	6. International Exchange Activities	12
<b>Part 3</b>	<b>Occupational Safety and Health Profile of Taiwan</b>	<b>15</b>
	Taiwan's OSH Policy and Trend	15
	Occupational Safety and Health Administration(OSHA)	16
	Taiwan's OSH collaboration scheme	17
	Occupational Safety and Health Programs	20
	Institute of Labor, Occupational Safety and Health(IOSH)	20
	OSHA Vision and Strategies	21
<b>Part 4</b>	<b>Appendices</b>	<b>23</b>
	Appendix-1 Statistics of Occupational Injuries in Taiwan from 2014 to 2018	23
	Appendix-2 List of ISHA training courses	26
	Appendix-3 Main OSH Laws and Key OSH-by Laws of Taiwan	29
	Appendix-4 Monthly Journals of Industrial Safety and Health published in 2018	30



Part

1

# Introduction to ISHA



The Industrial Safety and Health Association (ISHA) of the R.O.C. (Taiwan) was established in 1960 to dedicate to promotion of the industrial safety and health activities. Collaborating with the Ministry of Labor of the Executive Yuan, ISHA has become one of the leading OSH advocacies in Taiwan by conducting various safety and health activities, providing numerous educational training sessions, offering assorted technical services, and auditing authorized inspections, etc.

## Mission

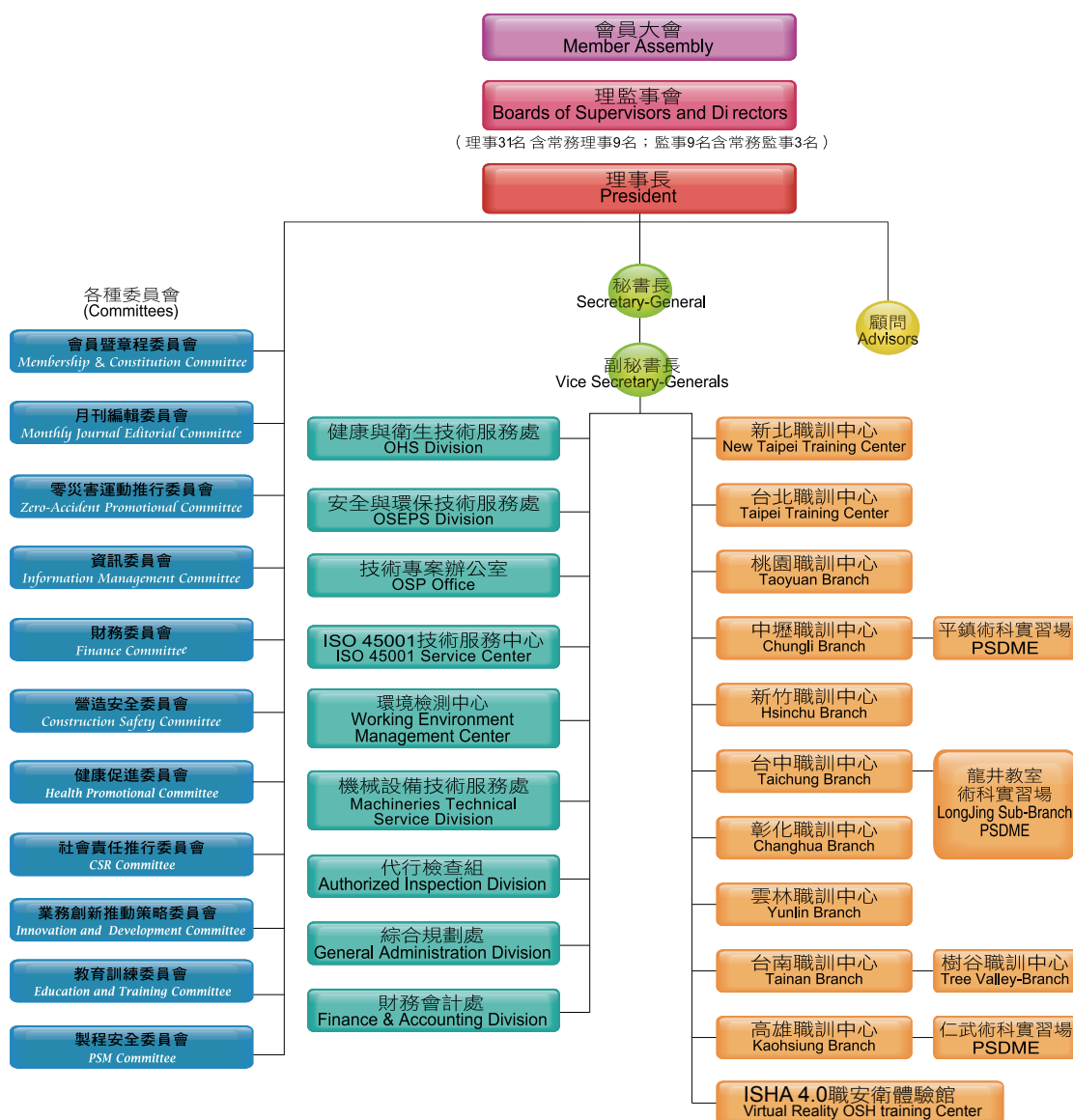
The mission of ISHA is to devote to research on industrial safety and health issues, to prevent industrial accidents, to comply with government policies, and to provide assistance of business entities to improve occupational safety and health.

## Core Values

Our core values are Social Responsibility, Professional, Quality, Service and Innovation.

To accomplish these core values, the ISHA works in partnership with government, employers, employees, professionals and academics through a wide range of quality services.

## Organization of ISHA



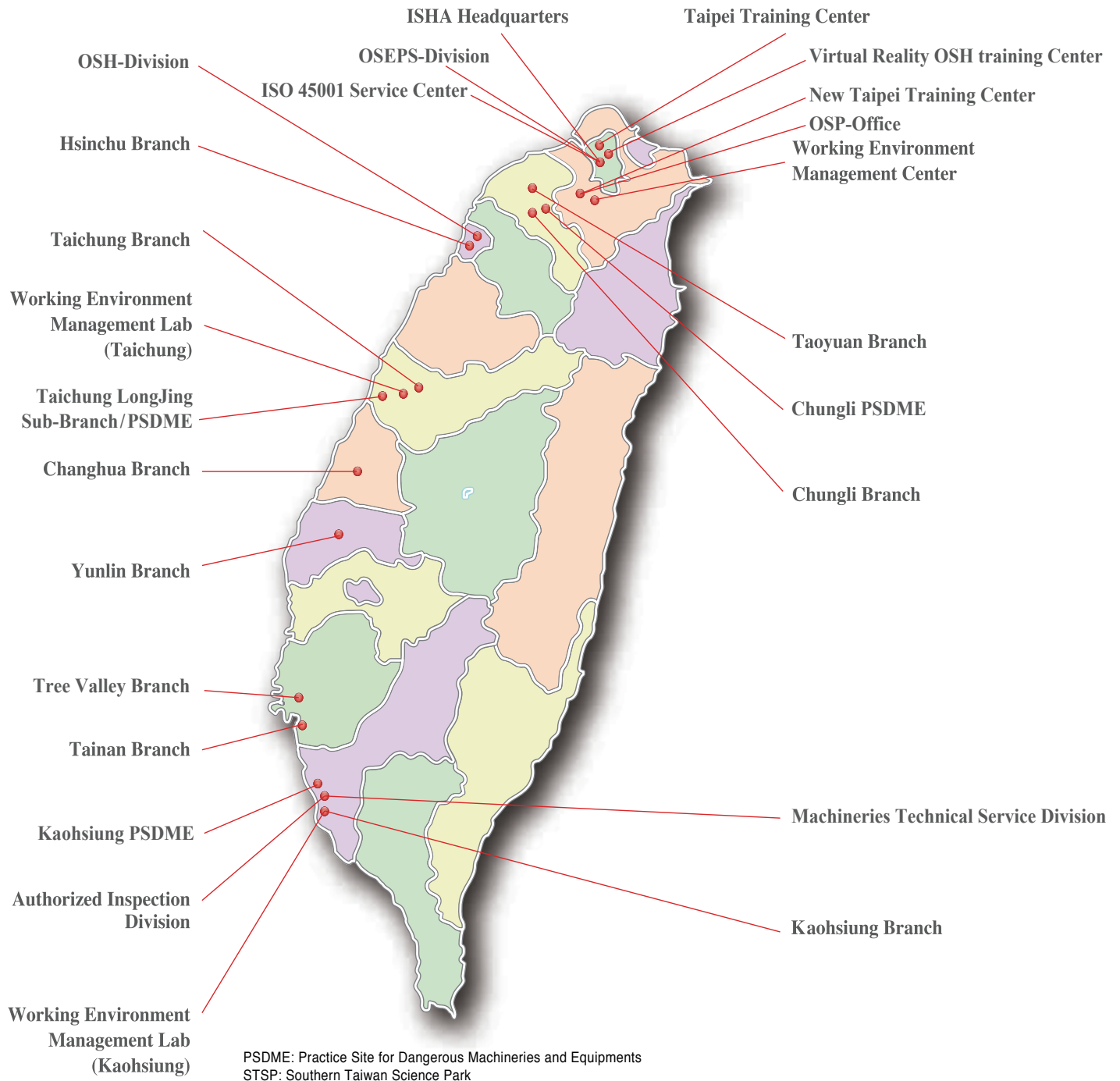
CSR: Corporate Social Responsibility  
PSM: Process Safety Management

OHS: Occupational Health Service  
OSEPS: Occupational Safety and Environment Protection Service  
OSP: Occupational Safety Project

PFDME: Practice Site for Dangerous Machineries and Equipments  
STSP: Southern Taiwan Science Park



## Locations of ISHA offices

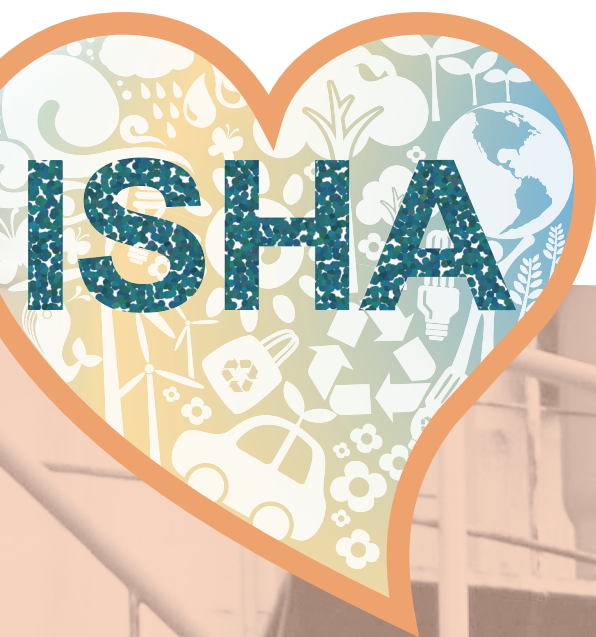


OHS: Occupational Health Service  
OSEPS: Occupational Safety and Environment Protection Service  
OSP: Occupational Safety Project

Part



# Review of Activities in 2018



Aiming for the goals of zero accident, improvements of working environments, health promotion and prevention of occupational injuries and diseases, ISHA continued to conduct these following activities in 2018:



## 1. General Activities

- The 16<sup>th</sup> 3rd annual General Assembly Meeting for members was held in Taipei on May 12<sup>th</sup>, 2018.
- As of the end of 2018, there were 182 corporate members and 681 individual members enrolled with ISHA.
- Three times of board meetings of supervisors and directors and three times of board meetings of supervisor generals and director generals were held in 2018.
- The ISHA monthly journal, Industrial Safety and Health, was published as scheduled in a timely manner. A total of 354 issues have been published up to the end of 2018. The journal was linked with the Chinese Electronic Periodical Services (<http://www.airitilibrary.com/>) and articles have been downloaded 8,829 times in 2018.
- ISHA was keeping the record of injury-free working hours for businesses who enrolled with the “extensive zero accident campaign” in the year of 2018. From its inception on May 1, 2006 to the end of 2018, a total of 1,749 businesses participated in this campaign.
- Finance Committee, Membership & Constitution Committee, Zero-Accident Promotional Committee and Property Management Committee, Construction Safety Committee, Health Promotional Committee, CSR Committee, Innovative and Development Committee, etc. held committee meetings respectively in 2018.
- ISHA published 2012-2016 sustainability report and certificated by LRQA Taiwan.

Annual General Assembly Meeting of ISHA was held on May 12th 2018 in Taipei.





## 2. Technical Services

The Technical Services Division provides OSH services on assessment, survey, design, improvement planning, systematic management procedures, and instructions to various industries throughout Taiwan. The Division also edited and compiled textbooks, pamphlets, guidelines, manuals, handbooks, CD-ROMs and other OSH-related teaching materials for OSH professionals and businesses. In addition to these routine activities, the Division accomplished the following projects in 2018, commissioned by:

### ◆ The Industrial Development Bureau and Central Office of the Ministry of Economic Affairs, Executive Yuan on:

1. Project on Industrial working Environment Improvement. This project aims to help industries improve safety and health by providing technical guidance in the areas of working environment improvement, risk management, research on safety and health regulations, and related promotions and campaigns etc..
2. An improvement project on prevention of petroleum industrial disasters.

3. Safety audit & control project on petroleum factories.
4. Standardization planning on industry-specific operation process.

### ◆ Occupational Safety and Health Administration, Ministry of Labor on:

1. The improvement of the workplace for printing, dyeing and finishing (including surface treatment) facilities on OSH management systems . There are five items, including interview investigation, on-site counseling, subsidies, environmental monitoring ,exposure assessment, and advocacy training/promotion. Finished a final execution report with all project closing-related matters.
2. Safety audit & control project on the used dangerous mechanical products.
3. The prevention of occupational accidents and publicity project on mechanical hazard(ex. breaking, splitting or winding) .
4. The completion of the 2018 occupational safety and health experience and seminar for enrolled college students .
5. The completion of the awards on 2018 excellent safety and health of public

.....  
 ISHA 's president Lan and distinguished guests at the Assembly opening ceremony.





construction businesses and held three seminars.

6. OSHMS-performance audit & quality assurance project on the enrolled businesses.
7. Project on promotion for occupational health hazardous exposure monitoring and management system.
8. Prevention occupational injuries on temporary or short-term workers in the construction industry. Completion 3,712 on-site workshops inspected and improved.
9. Advanced research project on occupational safety and health management system in the construction industry.
10. Safety and health promotion on neighboring water workshop.

◆ **Institute of Labor, Occupational Safety and Health, Ministry of Labor on:**

1. Survey on labor conditions , safety and health and hazards in elderly long-term care institutions.
2. Survey on trial operation and effectiveness evaluation of safety guidance mechanism for temporary structures in construction projects.

◆ **The Management Office of the Science Park Administration, the National Science Council, Executive Yuan on:**

"Project on improvement of safety and health for high-risk of medium and small enterprises". Including auditing for 25 higher risk factories. Completed with review of all project phases and a final report.

◆ **Health Promotion Administration, Ministry of Health and Welfare, Executive Yuan on:**

1. Occupational health promotion for workplaces in Central Taiwan .Assisted 628 workplaces to complete applications of voluntary accreditations, held a recognition convention for signed-up workplaces with achievements, completed a final report and closed the project successfully.

◆ **Environmental Protection Bureau of Changhua City Government on:**

1. The indoor Air Quality Audit & Control Project on Changhua County. We completed the patrol inspection and survey as well as guidance toward 82 public or non public sites and

.....  
2018 Achievement exhibition on industrial working environment improvement.



arranged periodical inspection and tests on such sites which are in higher concentration of carbon dioxide or methanol.

◆ **Institute of Labor, Occupational Safety and Health, Ministry of Labor on:**

1. The study of ISO 45001 and evaluation of performance of which on national guidance to occupational safety and health management system.

◆ **The Management Office of the Science Park Administration, the National Science Council, Executive Yuan on:**

1. Planning on improvement of safety and health for high-risk of medium and small enterprises. Including auditing for 25 higher risk factories. Completed with review of all project phases and a final report.

◆ **Elevator and below 3 tons crane inspection**

ISHA was designated by the Interior Ministry ,to inspect elevator and below 3 tons crane in Taiwan. A total of 4,628 inspection services carried out in 2018.

### 3. Working Environment Management

Founded in 1999, the Working Environment Management Center of ISHA provided services

to various factories and enterprises among its occupational health lab and three branch offices, located in Taipei, Taichung, and Kaohsiung, in 2018:

1. 281 factories for physical factors, 424 factories for chemical factors performed in Taipei.
2. 410 factories for physical factors, 539 factories for chemical factors performed in Taichung.
3. 366 factories for physical factors, 508 factories for chemical factors performed in Kaohsiung.
4. Commissioned by enterprises and other working environment measurement organizations, the Center performed a total of 4 cases of working environment analyses in 2018.
5. Commissioned by enterprises to complied quality planning on workplace environmental monitoring for compliance EHS requirements, the Center performed a total of 1,128 plants in 2018.
6. Coordinated with Occupational Safety and Environmental Protection Service Division at the "promotion for working environment of printing, dyeing, and finishing industries " and the " promotion for surface treatment industries project ", the Center performed a total of 31 plants .
7. Coordinated with Occupational Health and Hygiene Service Division at the "promotion for occupational hazard exposure monitoring management system", the Center performed a total of 50 plants .

Certification Ceremony of 2012-2016 Sustainability report of ISHA.

# 永續報告書授證典禮





8. Performed a total 6 cases of periodical test of indoor air-quality.
9. Occupational Health Laboratory was accredited by OSHA, Taiwan, for extension certification and additions.
10. ISHA's Working Environment Management Center received an Award for Excellence in 2018 by Ministry of Labor .

#### 4. Education and Training

In compliance with government policy for occupational safety and health in Taiwan, the Education and Training Division of ISHA actively holds a series of seminars, campaigns, and demonstrations for training of voluntary inspections of punch and press machines, chemical equipment, and introduction of new advanced OSH technologies. The various training courses conducted by the Education and Training Division in 2018 were as follows:

1. Training courses for Occupational Safety and Health Supervisors
2. Training courses for Occupational Safety and Health Managers
3. Training courses for Occupational Safety and Health Specialists
4. Training courses for Operational Supervisors of High Pressure Gases and Construction Industries
5. Training courses for Operators of Dangerous Machinery and Equipment
6. Training courses for Supervisors of Hazardous Work Operations
7. Training courses for Operators of Specific Hazardous Tasks
8. Training courses for First Aid personnel
9. Training courses for Zero Accident Campaign
10. Training courses for Fire Protection Specialists
11. Training courses for Drivers and Carriers of Hazardous Materials
12. Training courses for Operators in All Industries A total of 3,534 training courses were offered by the Division to 109,376 trainees in 2018.

#### 5. Authorized Inspection (of Dangerous Machinery and Equipment)

Designated by the Ministry of the Interior as an inspection institution in Southern Taiwan to inspect boilers and pressure vessels, the Authorized Inspection Division was established in Kaohsiung in 1985. In 1988, designated by the Council of Labor Affairs, Executive Yuan, the services of the Division were extended to include authorized inspection on dangerous equipment in Southern Taiwan. The jurisdiction of the Division covers cities and counties of Chiayi, Tainan, Kaohsiung, and counties of Pingtung, Taitung, Penhu and Kinmen etc. A total of 37,843 inspection services were carried out in 2018 (included welding, inspection, structural inspection, completion inspection, alteration inspection, renewal inspection, inspection on pre-existing dangerous machinery or equipment and periodic inspection).

#### 6. International Exchange Activities

1. The 16th 3rd ISHA annual General Assembly Meeting was held on May 12, 2018 in Taipei. The meeting was honored to have presences of the guests from the following Japanese OSH organizations and a corporation with a long prestigious history:
  - (1) Japan Industrial Safety & Health Association (JISHA): Mr. Yamaki Nobuyuki (八牧 暢行), President , Mr. Anai Motohisa (穴井 元尚 ), Director of International Affairs Center , Technical Department and Mr. Sumi Kyoshi(住 潔), Manager ,International Affairs Center.

Items	boilers	pressure vessels	high pressure gas equipments	high pressure gas containers	over 3 tons fixed crane	over 3 tons mobile crane	construction elevator	gondola
Sub-totals	1,961	9,024	12,942	2,473	8,606	2,438	176	143

- Dangerous machinery or equipment placed or installed before the Labor Safety and Health Law was enacted.

- (2) The High Pressure Gas Safety Institute of Japan (KHK): Mr. Ichikawa Yusan (市川 祐三), President, Mr. Sugyura Houshi (杉浦 好之), Director, and Ms. Hara Noriko (原 典子), Senior Staff of the International Dept., Information Service Division.
- (3) Japan Construction Occupational Safety and Health Association (JCOSHA): Mr. Tanaka Masaharu (田中 正晴), Executive Director and Mr. Ichihashi Oichiro (市橋 雄一郎), Manager of Education Material Management Section Project Dept.
2. JISHA-ISHA Partnership Training Program : KYT (Hazard Prediction Training ) implemented at ISHA's HQ ,Taipei from Nov. 26 to 27, 2018.
3. The 33th annual conference of the Asia Pacific Occupational Safety and Health Organization

- (APOSHO-33) was hosted by Institution of Occupational Safety and Health (IOSH), from Dec. 4 to 5, 2018 in Hong Kong. On behalf of ISHA, Mr. Shuh-Woei Yu (于樹偉), General Director of the Board and Mr. Ching-Long Chou (周慶隆) Deputy Manager of Occupational Safety and Environment Protection Service Division, ISHA, attended the conference.
4. On behalf of ISHA, Mr. Yu-Chun Wu (吳郁君), Deputy Manager and Chi-Yang Lee (李圻陽), Engineer of Occupational Safety and Environment Protection Service Division , attended 6th CCPS China Conference on Process Safety in Qingdao, China from Sep. 25 to Aug. 27, 2018.
5. On behalf of ISHA, Mr. Tse-Chiang Yao (姚自強), General Director of the Board , Yu-Xiang Lin (林鈺享) , Vice- Manager of Tainan Branch and

Dr. Yu, Shu-Woei (right), director-general and Mr. Zhou, Ching-Long (left), deputy-manager of ISHA attended the APOSHO33 conference in Hong-Kong.





Chi-Ya Wang(王琪雅), Specialist of Kaohsiung Branch, attended the annual conferences of Japan Construction Occupational Safety & Health Association (JCOSHA) in Sapporo, Japan from Sep.20th to 21th, 2018.

6. On behalf of ISHA, Mr. Tse-Chiang Yao(姚自強), General Director of the Board and Ms. Tseng-Chi Chu(朱增琪), Section Manager, WEMC, and Ms. Fang-Ping Liu(劉鳳萍), Specialist, attended the annual conferences of Japan Industrial Safety & Health Association (JISHA) in Yokohama, Japan from Oct. 17th to 19th, 2018.

7. On behalf of ISHA, Mr. Tse-Chiang Yao(姚自強), General Director of the Board, attended the annual conferences of High Pressure Gas Safety Institute of Japan (KHK) in Tokyo, Japan on Oct. 26, 2018.

8. The 26th Cross-Strait, Hong Kong and Macao Occupational Safety and Health Symposium was hosted by Hong Kong Occupational Safety and Health Association (HKSHA) in Hong Kong, China from Sep. 3 to 5, 2018, ISHA delegation headed by Mr. Fwu-Liang Lan, President.

ISHA group attended the 26th Cross-Strait, Hong-Kong and Macao Occupational Safety and Health Symposium in Hong-Kong.



Part

3

# Occupational Safety and Health Profile of Taiwan

ISHA



## ⊕ Taiwan's OSH Policy and Trend

The setting of Taiwan's occupational safety and health policy is based on the domestic trend of social economic development and occupational accident, international development trend, ILO conventions and guidelines as well as the practices of global advanced countries.

To ensure everyone a safe, healthy and decent work environment, the main focuses of Taiwan's OSH policies are:



1. to protect the safety, health and wellbeing of all workers at work, including employed workers in all industries, the self-employed and all others whose labor is directed or supervised by a workplace responsible person.
2. to making clear the OSH responsibilities of the employers, designers, manufacturers, importers, suppliers and other related parties.
3. to enhance social dialogue and collaboration among government, employers and workers, and to facilitate social participation of business entities and relevant organizations.
4. to enhance OSH source management of machinery, equipment, appliances and chemicals.
5. to build a complete occupational disease prevention and occupational health service system, especially strengthening the protection of physical and psychosocial health of workers.
6. to enhance the health protection of maternity, youth and ageing workers.
7. to enhance the capacity of labor inspection, increase the inspection of high-risk business entities, and impose penalties consistent with the severity of violation.
8. to enhance occupational safety and health research so as to response emerging risks.
9. to implement systematic OSH risk management and trainings, and to foster OSH culture of all citizens and the development of commercial OSH consultation service sector.
10. to assist vulnerable small and medium-sized enterprises improving work environment.
11. to facilitate the assistance and return-to-work rehabilitation of occupational accident workers.

#### ◆ Occupational Safety and Health Administration(OSHA)

The organization chart of OSHA is as Fig.1 It comprises of three divisions- Planning and Occupational Health Division, Occupational Safety Division, and Occupational Accident Labor Protection Division, and three regional centers–

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KYT Workshop on the 2018 JISHA-ISHA Partnership Training Program.





Northern, Central, and Southern Occupational Safety and Health Centers. The primary functions of OSHA are:

1. Plan occupational safety and health policy; formulate, amend, repeal, and interpret related regulations.
2. Plan labor inspection policy; formulate, amend, repeal, and interpret related regulations.
3. Plan occupational accident worker protection policy; formulate, amend, repeal, and interpret related regulations.
4. Plan, implement, and manage occupational safety and health system.
5. Promote, implement, and oversee inspections of occupational safety and health and labor conditions.
6. Advance and manage the promotion of worker health, the investigation and evaluation of occupational diseases, and the prevention and treatment of occupational injuries and diseases.
7. Advance oversee, and manage occupational management prevention; assist and rehabilitate workers affected by occupational accidents.
8. Other matters related to occupational safety and health, labor inspections, and the protection of workers involved in occupational accidents.

#### ◆ Taiwan's OSH collaboration scheme

The Taiwan's OSH collaboration scheme of employees, employers, public agencies and

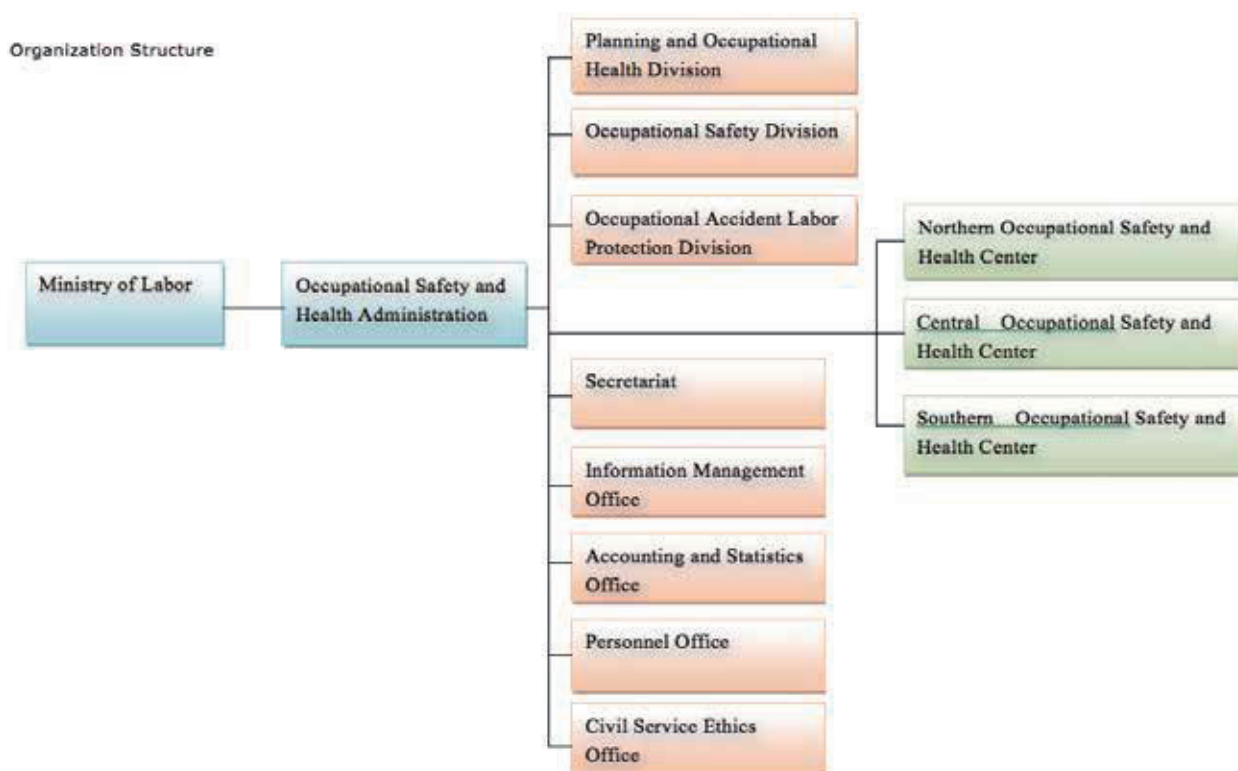


Figure 1 Organization Structure of OSHA

relevant organizations is shown on Figure 2.

Ministry of Labor is the central competent authority of Occupational safety and health.

As a subsidiary agency of the MOL, OSHA is obligated to the formulation and execution of occupational safety and health policies. The tasks of OSHA include planning and executing occupational safety and health, occupational accidents labor protection, labor inspection and supervision, and something their related. Its visions are to provide every workers with safety, health, and decent workplaces, to improve the access to competent services of the diagnosis of occupational diseases, occupational compensation and rehabilitation, and to ensure safe and healthy workforce to enhance national competitiveness.

OSHA vertically integrates planning of

the occupational health and safety policies and executions, which strengthens the function and efficiency of occupational accident prevention, speeds up the reduction of occupational accident rates, increases the occupational health and care rates, and ensures workers' health and safety. Also, by means of further horizontal integration of "Prevention, Compensation, and Rehabilitation", to bring into the diagnosis of occupational ailments, investigation of occupational diseases, workers' compensation for occupational accidents and rehabilitation, to strengthen the rights and interests of the victims and to fulfill the goal of Occupational safety and health policies.

Some parts of regional labor inspection are empowered to special agencies of some ministries (such as the Science Park Bureau of

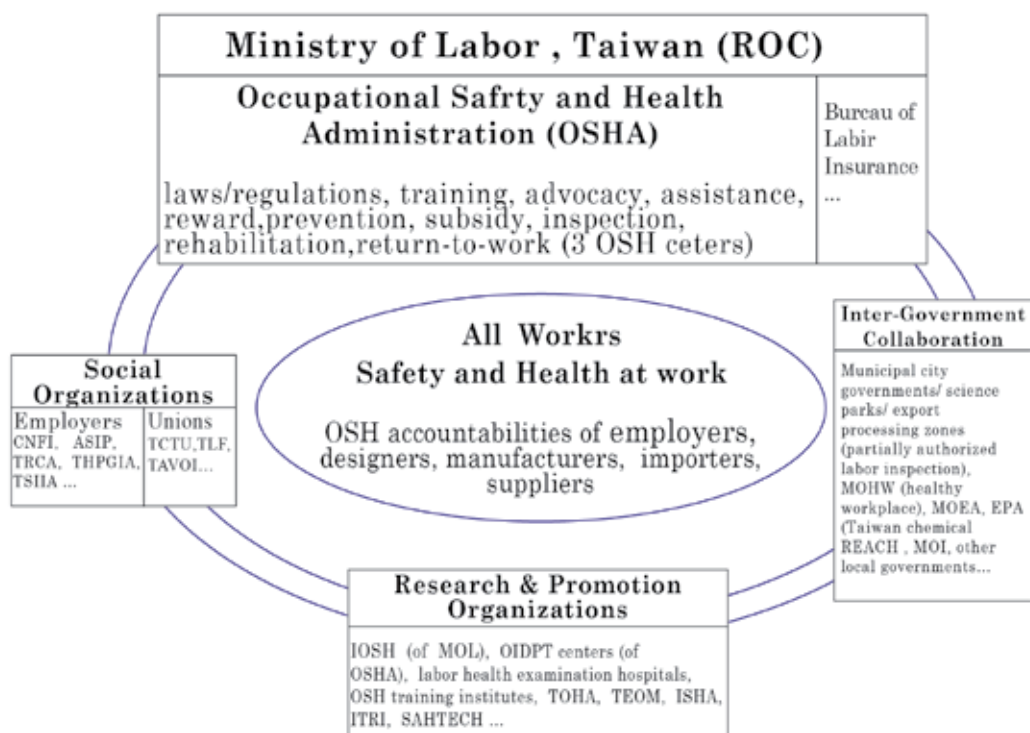


Figure 2 Taiwan's OSH collaboration scheme



Ministry of Science & Technology and the Export Processing Zone Administration of MOEA) and some municipal city governments. MOL also sets up Institute of Labor and Occupational Safety & Health, Bureau of Labor Insurance and Workforce Development Agency to facilitate OSH related affairs, such as research, assistance, training, and the insurance, compensation and statistics of worker general and occupational accidents.

The intervention strategies of OSHA fostering business entities to take OSH fully responsibility include advocacy, compliance assistance and inspection. Except empowered agencies, OSHA accounts for national labor inspection. The types of inspection include labor conditions inspection, OSH special inspection, cross inspection, labor complaint inspection, occupational accident inspection and general inspection. OSHA also increases presence in

the workplace. Except the necessary inspection candidates, 20% of year list must be the entities either new or not been inspected within 5 years. The trend of occupational accident rate has continuously decreased in recent 10 years due to the effectiveness of numerous national accident prevention programs. By means of advocacy and training, OSHA educates front-line workers and SME to enhance accident prevention knowledge. OSHA also promotes Safety Partnership to collaborate with business entities, organizations and other government agencies for leveraging limited resources to prevent occupational risks, injuries and diseases.

The MOL minister and deputy ministers frequently lead occasional site-visits with relevant agencies and/or local governments to emphasize OSH and to foster the safety culture of business entities.



Figure 3 Taiwan's OSH major programs

### ◆ Occupational Safety and Health Programs

Taiwan's OSH major programs are as follow(Figure 3):

- (1) OSH Self Management
- (2) Chemical Registration, Labeling, Communication and Management
- (3) Exposure Assessment and Control
- (4) Occupational Health Service and Diseases Prevention
- (5) OSH Training
- (6) Machinery and Equipment Safety
- (7) Construction Safety
- (8) Process Safety Management
- (9) Occupational Accident Notification, Investigation, Insurance and Compensation
- (10) Occupational Accident Workers Rehabilitation and Return-to-Work
- (11) SME OSH Assistance

### ◆ Institute of Labor, Occupational Safety and Health(IOSH)

IOSH involves in the following OSH related researches: safety management, mechanical safety, electrical safety, chemical safety, safety system integration and risk control, construction safety, workplace monitoring, labor exposure surveys, biological monitoring, musculoskeletal disorder prevention, slips/trips/falls prevention, high temperature hazard prevention, noise exposure assessment, non-ionizing radiation evaluation, biological hazards prevention, industrial ventilation, particles and nano-material hazard prevention, health promotion, health protection for female workers, vocational rehabilitation, vocational mental health, occupational disease surveillance, occupational epidemiology, occupational cancer, prevention of vulnerable population and emerging hazards, etc.

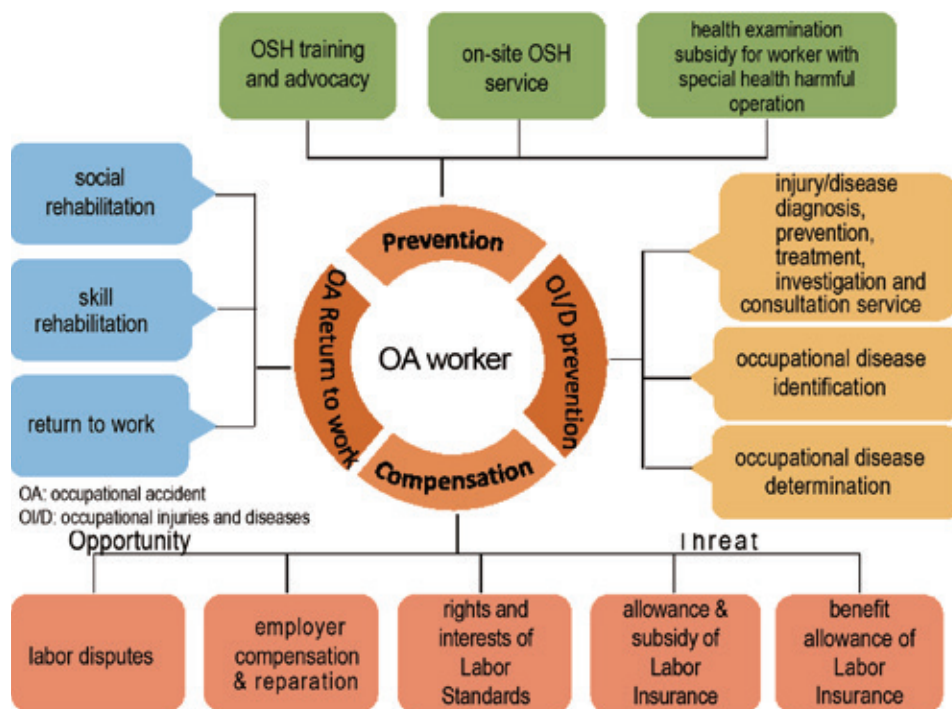


Figure 4 Protection and resource map for occupational accident workers.



### ◆ OSHA Vision and Strategies

Based on the comprehensive consideration of safeguarding the basic labor rights, preparing safe and healthy workforce, improving OSH of workplace, promoting employment, facilitating occupational accident workers return-to-work, being in line with international advanced trends, and the resources of OSHA, the Taiwan's OSH vision and goal are as follow.

#### **Vision:**

1. Ensure the health, safety and dignity of everyone at work.
2. Provide comprehensive services for prevention, compensation and rehabilitation of occupational injuries and diseases.
3. Secure workforce safe and healthy so as to facilitate national competitiveness.

#### **Goal:**

1. Continuously reduce occupational accident rates so as to safeguard workers' basic human rights.
2. Establish occupational health service network and maintain decent working environment to safeguard workers' physical and mental health so as to ensure national competitive workforce.
3. Establish mechanisms for industrial self-OSH management, and assist industry managing occupational hazards and risks so as to facilitate economic development and increase employment.
4. Strengthen compensation, prevention and rehabilitation systems for the occupational accident workers, provide care for the less privileged workers, and protect workers' rights.

5. Develop infrastructure for occupational safety and health and occupational accident worker rehabilitation, and be in line with international standards.

#### **Strategies:**

##### 1. to achieve Goal 1 include:

- a. Timely refine OSH related laws and regulations.
- b. Adjust OSH inspection strategies to enhance enforcement effectiveness.
- c. Partner with employees, employers and other public agencies to promote safety culture of all stakeholders.

##### 2. to achieve Goal 2 include:

- a. Enhance labor conditions inspection effectiveness of local government to protect workers' rights and dignity, and to enhance physical and mental health.
- b. Establish Occupational health service network to provide approachable OH services.
- c. Upgrade the assessment and control effectiveness of occupational hygiene hazards.
- d. Actively participate in national health promotion and work-related diseases prevention programs.
- e. Enhance effectiveness of labor health examination.
- f. Promote health risk assessment programs for maternity workers protection.

##### 3. to achieve Goal 3 include:

- a. Develop source safety certification schemes for machinery, equipment and personal protective equipment.
- b. Develop chemical management scheme.

##### 4. to achieve Goal 4 include:

- a. Facilitate the implementation of OSH self-management system.

- b. Promote industrial OSH collaboration to upgrade risk management performance.
  - c. Promote broad-base OSH training, education and advocacy, and provide necessary consultancy & technical assistance.
  - d. Facilitate high risk industries implementing hazardous workplace safety management.
  - e. Refine OSH performance incentives to encourage employers, industrial competent authority agencies and local governments to pursuit high-quality OSH performance.
5. to achieve Goal 5 include:
- a. Amend Occupational Accident Labor Protection Act.
  - b. Establish more effective national notification mechanism of occupational injuries and diseases.
  - c. Integrate diagnosis, rehabilitation, compensation, and prevention schemes of OAW.
  - d. Establish rehabilitation programs for occupational accident workers.
  - e. Develop core technologies of OAW rehabilitation.
- f. Train the professionals of occupational medicine/ nursery, OAW rehabilitation and occupational hygiene.
  - g. Establish national data bases of workplace monitoring, labor health examination, and occupational injuries and diseases.
  - h. Enhance international exchange and collaboration of OAW rehabilitation.
  - i. Establish an arm's length public body from the MOL to execute relevant affairs of OA prevention and OAW rehabilitation by contracts.
6. to achieve Goal 6 include:
- a. Establish occupational safety and health assistance network, with focus on small and medium-sized enterprises.
  - b. Assist industry improving and transforming work environment, and participate in national employment facilitation programs.
  - c. Establish occupational health service network to facilitate the employment rate of elder workers.

Source: <http://www.osha.gov.tw>



2018 ISHA's Family trip(left) and Staff outside meeting(right) in Miaoli County.



# Part 4 Appendices



## Appendix-1

### Statistics of Occupational Injuries in Taiwan from 2014 to 2018

#### 1. The per thousand rate of occupational injuries in all industries

Year	Total	Injury or Illness	Disability	Death
2014	3,467	3,211	0.229	0.027
2015	3,191	2,951	0.214	0.026
2016	2,953	2,748	0.177	0.027
2017	2,773	2,576	0.171	0.025
2018	2,612	2,422	0.165	0.024

## 2. The per thousand rate of occupational injuries by industry

### Agriculture, forestry, fishing & animal husbandry

Year	Total	Injury or Illness	Disability	Death
2014	1.310	1.124	0.137	0.049
2015	1.160	0.993	0.093	0.074
2016	1.088	0.944	0.080	0.063
2017	1.104	0.921	0.098	0.084
2018	1.355	1.142	0.103	0.109

### Mining & quarrying

Year	Total	Injury or Illness	Disability	Death
2014	6.129	4.597	0.766	0.766
2015	6.193	5.419	0.774	-
2016	3.720	2.657	0.531	0.531
2017	4.374	4.101	0.273	-
2018	6.971	6.435	0.536	-

### Manufacturing

Year	Total	Injury or Illness	Disability	Death
2014	3.885	3.494	0.368	0.023
2015	3.550	3.168	0.362	0.020
2016	3.209	2.873	0.306	0.051
2017	2.904	2.594	0.290	0.021
2018	2.718	2.420	0.277	0.020

### Electricity & gas supply

Year	Total	Injury or Illness	Disability	Death
2014	1.386	1.019	0.326	0.041
2015	1.060	0.897	0.163	-
2016	0.915	0.813	0.122	0.041
2017	1.015	0.852	0.122	0.041
2018	1.412	1.090	0.282	0.040

### Construction

Year	Total	Injury or Illness	Disability	Death
2014	12.015	11.315	0.565	0.136
2015	11.107	10.522	0.468	0.117
2016	10.570	10.033	0.442	0.096
2017	10.036	9.051	0.427	0.108
2018	9.385	8.851	0.415	0.113

### Trades (wholesale & Retail)

Year	Total	Injury or Illness	Disability	Death
2014	2.844	2.666	0.167	0.012
2015	2.605	2.420	0.169	0.016
2016	2.375	2.230	0.129	0.015
2017	2.284	2.142	0.131	0.011
2018	2.124	1.991	0.116	0.016

### Accommodation & food services

Year	Total	Injury or Illness	Disability	Death
2014	4.175	4.077	0.093	0.004
2015	3.934	3.838	0.091	0.006
2016	3.864	3.793	0.069	0.002
2017	3.787	3.746	0.035	0.006
2018	3.837	3.775	0.053	0.009

### Transportation & storage

Year	Total	Injury or Illness	Disability	Death
2014	4.726	4.437	0.230	0.058
2015	4.615	4.362	0.218	0.035
2016	4.364	4.150	0.156	0.057
2017	4.424	4.201	0.169	0.053
2018	4.017	3.805	0.170	0.042

### Information & Communication

Year	Total	Injury or Illness	Disability	Death
2014	0.490	0.441	0.041	0.008
2015	0.340	0.313	0.019	0.008
2016	0.434	0.412	0.022	-
2017	0.465	0.433	0.014	0.018
2018	0.383	0.356	0.023	0.003

### Finance & insurance

Year	Total	Injury or Illness	Disability	Death
2014	0.215	0.204	0.011	-
2015	0.229	0.223	0.005	-
2016	0.204	0.201	0.003	-
2017	0.253	0.238	0.015	-
2018	0.200	0.187	0.010	0.003



### Real estate, rental & leasing

Year	Total	Injury or Illness	Disability	Death
2014	1.333	1.255	0.063	0.014
2015	1.138	1.062	0.062	0.014
2016	1.208	1.152	0.035	0.021
2017	1.093	1.058	0.021	0.014
2018	1.060	1.039	0.021	-

### Educational services

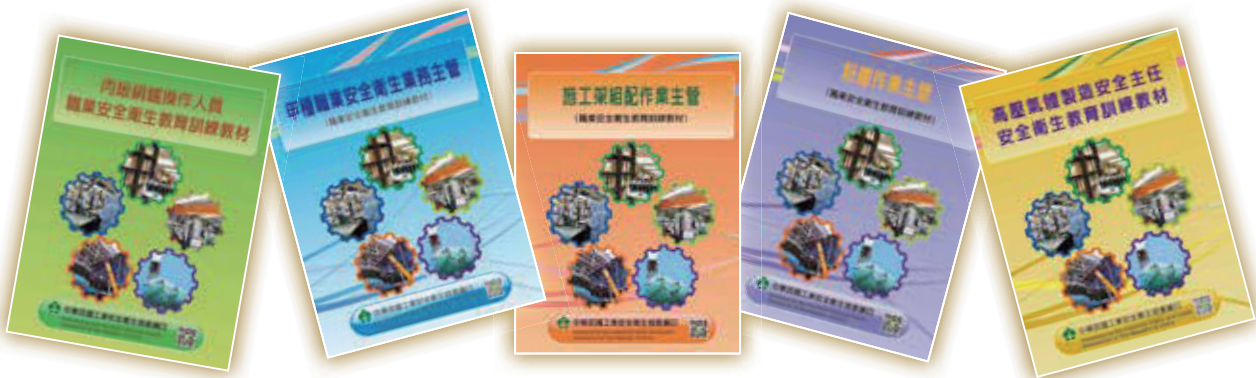
Year	Total	Injury or Illness	Disability	Death
2014	0.508	0.479	0.022	0.007
2015	0.634	0.597	0.030	0.007
2016	0.463	0.437	0.019	0.006
2017	0.496	0.468	0.025	0.003
2018	0.479	0.467	0.012	-

### Professional, scientific & technical services

Year	Total	Injury or Illness	Disability	Death
2014	1.269	1.182	0.070	0.017
2015	1.030	0.962	0.052	0.016
2016	1.163	1.081	0.061	0.021
2017	1.028	0.982	0.036	0.010
2018	0.933	0.868	0.050	0.015

### Healthcare & social welfare services

Year	Total	Injury or Illness	Disability	Death
2014	0.767	0.745	0.020	0.002
2015	0.754	0.735	0.019	-
2016	0.687	0.682	0.002	0.002
2017	0.681	0.666	0.015	-
2018	0.810	0.791	0.017	0.002



Opening ceremony of VR OSH training Center.



ISHA 2012-2016 sustainability report's cover.

### Cultural, Sporting & Recreational Services

Year	Total	Injury or Illness	Disability	Death
2014	2.385	2.342	0.032	0.011
2015	2.389	2.285	0.083	0.021
2016	2.350	2.309	0.030	0.010
2017	2.001	1.932	0.059	0.010
2018	1.899	1.822	0.067	0.010

### Support Services

Year	Total	Injury or Illness	Disability	Death
2014	2.559	2.444	0.092	0.022
2015	2.500	2.388	0.082	0.030
2016	2.580	2.442	0.098	0.040
2017	2.567	2.414	0.107	0.046
2018	2.499	2.373	0.103	0.022

### Water Supply & Remediation Services

Year	Total	Injury or Illness	Disability	Death
2014	5.661	5.118	0.487	0.056
2015	5.443	4.886	0.442	0.115
2016	4.717	4.411	0.286	0.020
2017	4.676	4.429	0.227	0.021
2018	5.190	4.742	0.407	0.041

### Public Administration & Defense; Compulsory Social Security

Year	Total	Injury or Illness	Disability	Death
2014	0.882	0.706	0.154	0.022
2015	0.769	0.658	0.089	0.022
2016	0.779	0.638	0.119	0.022
2017	0.630	0.535	0.088	0.007
2018	0.753	0.577	0.166	0.029

### Other services

Year	Total	Injury or Illness	Disability	Death
2014	2.523	2.375	0.136	0.012
2015	2.372	2.215	0.134	0.022
2016	2.117	2.027	0.083	0.007
2017	2.029	1.894	0.121	0.014
2018	2.002	1.882	0.112	0.009

Please Note: Occupational injury incidence rate = Occupational injuries insurance benefit receipts / Insured workers under labor insurance program \* 1,000.

Source: Bureau of Labor Insurance, Institute of Labor, Occupational Safety and Health, MOL. (<http://www.mol.gov.tw>)

## Appendix-2

### List of ISHA training courses

1	甲種職業安全衛生業務主管教育訓練班	Training for occupational safety and health managers (I)
2	乙種職業安全衛生業務主管教育訓練班	Training for occupational safety and health managers (II)
3	丙種職業安全衛生業務主管教育訓練班	Training for occupational safety and health managers (III)
4	營造業甲種職業安全衛生業務主管教育訓練班	Training for occupational safety and health managers (I)-construction sector
5	營造業乙種職業安全衛生業務主管教育訓練班	Training for occupational safety and health managers (II)-construction sector
6	營造業丙種職業安全衛生業務主管教育訓練班	Training for occupational safety and health managers (III)-construction sector



7	職業安全管理師教育訓練班	Training for occupational safety supervisors
8	職業衛生管理師教育訓練班	Training for occupational health supervisors
9	職業安全衛生管理員教育訓練班	Training for occupational safety and health specialists
10	高壓氣體製造安全主任安全衛生教育訓練班	OSH training for production safety directors of compressed gases
11	擋土支撐作業主管安全衛生教育訓練班	OSH training for supervisors of retaining and bracing operations
12	露天開挖作業主管安全衛生教育訓練班	OSH training for supervisors of open excavation operations
13	模板支撐作業主管安全衛生教育訓練班	OSH training for supervisors of frame modeling and bracing operations
14	隧道等挖掘作業主管安全衛生教育訓練班	OSH training for supervisors of digging operations in tunnels
15	隧道等襯砌作業主管安全衛生教育訓練班	OSH training for supervisors of lining operations in tunnels
16	施工架組配作業主管安全衛生教育訓練班	OSH training for supervisors of assembly operations with scaffold
17	鋼構組配作業主管安全衛生教育訓練班	OSH training for supervisors of assembly operations with steel structure
18	有機溶劑作業主管安全衛生教育訓練班	OSH training for supervisors of operations with organic solvents
19	鉛作業主管安全衛生教育訓練班	OSH training for supervisors of operations with lead
20	缺氧作業主管安全衛生教育訓練班	OSH training for supervisors of operations associated with the risk of anoxia
21	特定化學物質作業主管安全衛生教育訓練班	OSH training for supervisors of operations with specific chemical substances
22	粉塵作業主管安全衛生教育訓練班	OSH training for supervisors of operations associated with dusts
23	高壓室內作業主管安全衛生教育訓練班	OSH training for supervisors of interior compressed operations
24	吊升荷重在三公噸以上固定式起重機操作人員安全衛生教育訓練班	OSH training for operators of fixed cranes with over 3 tons of load
25	吊升荷重在三公噸以上移動式起重機操作人員安全衛生教育訓練班	OSH training for operators of mobile cranes with over 3 tons of load
26	吊籠操作人員安全衛生教育訓練班	OSH training for gondola operators
27	甲級鍋爐（傳熱面積在500平方公尺以上者）操作人員安全衛生教育訓練班	OSH training (I) for boiler operators with over 500 sq M of heating surface area
28	乙級鍋爐（傳熱面積在50平方公尺以上未滿500平方公尺者）操作人員安全衛生教育訓練班	OSH training (II) for boiler operators with between 50 and 500 sq M of heating surface area
29	丙級鍋爐（傳熱面積未滿50平方公尺者）操作人員安全衛生教育訓練班	OSH training (III) for boiler operators with less than 50 sq M of heating surface area
30	第一種壓力容器操作人員安全衛生教育訓練班	OSH training for operators of class (I) pressure vessels
31	高壓氣體特定設備操作人員安全衛生教育訓練班	OSH training for operators of specific equipments with compressed gases

32	高壓氣體容器操作人員安全衛生教育訓練班	OSH training for operators of compressed gas vessels
33	小型鍋爐操作人員特殊安全衛生訓練班	Special OSH training for operators of small boilers
34	荷重在一公噸以上之堆高機操作人員特殊安全衛生訓練	Special OSH training for operators of forklifts with over 1 ton of load
35	吊升荷重未滿三公噸之固定式起重機移動式起重機等 操作人員特殊安全衛生教育訓練	Special OSH training for operators of fixed crane, mobile crane, and derrick with less than 3 tons of load
36	使用起重機具從事吊掛作業特殊安全衛生教育訓練	Special OSH training for rigging and hoist with cranes
37	以乙炔熔接裝置或氣體集合裝置（簡稱乙炔熔接等作 業）從事金屬之熔接切斷或加熱作業人員特殊安全衛 生訓練	Special OSH training for welding, cutting, and heating with Acetylene welding tools or gas operated tools
38	火藥爆破作業人員特殊安全衛生教育訓練	Special OSH training for operators of jobs with dynamite and/or other explosives
39	高壓室內作業人員特殊安全衛生訓練	Special OSH training for indoor operators working under compressed air
40	職業健康服務護理人員安全衛生教育訓練	OSH training for registered nurses of occupational health care service
41	急救人員安全衛生教育訓練	OSH training for first aid personnel
42	一般安全衛生教育訓練	General safety and health training
43	製程安全評估人員安全衛生教育訓練	OSH training for safety process assessors
44	危險物品運送人員專業訓練班	Training for drivers and carriers of hazardous materials
45	防火管理人訓練班（初訓）	Training for fire protection management personnel (initial training)
46	防火管理人訓練班（複訓）	Training for fire protection management personnel (advanced training)
47	一般行業職業安全衛生在職教育訓練	On-the-job occupational safety and health training for general occupationals
48	營造業職業安全衛生在職教育訓練	On-the-job occupational safety and health training for general occupationals of construction industry
49	職業安全衛生管理人員職業安全衛生在職教育訓練	On-the-job occupational safety and health training for specialists
50	高壓氣體作業主管,營造作業主管,及有害作業主管職業 安全衛生在職教育訓練	On-the-job occupational safety and health training for supervisors of compressed gases, construction, and harmful operations
51	具有危險性之機械或設備操作人員職業安全衛生在職 教育訓練	On-the-job occupational safety and health training for operators of dangerous machineries and equipments
52	特殊作業人員職業安全衛生在職教育訓練	On-the-job occupational safety and health training for operators of special operations
53	急救人員安全衛生在職教育訓練	On-the-job safety and health training for first aid personnel



## Appendix-3

### Main OSH Laws and Key OSH-by Laws of Taiwan

#### 🕒 Main Laws on OSH

Category	Key Phrases of Acts
1. Occupational Safety and Health Act	The Act covers general responsibility of employers, machinery safety, chemical hazard communication & exposure assessment, occupational health protection, maternity and youth worker protection, OSH management, contractor and subcontractor management, severe occupational accident notification, monthly occupational accident statistics, supervision & inspection, penalty, etc.
2. Labor Inspection Act	The Act is enacted to implement labor inspection, enforce labor laws and regulations, protect the rights and interests of employees and employers. The scope of labor inspection includes the enforcement of this Act, Labor Standards Act, Occupational Safety and Health Act and other labor laws & regulations, including process safety management, dangerous machinery /equipment inspection, management of designated inspection agency, inspection procedures, etc.
3. Occupational Accident Labor Protection Act	MOL prepares and allocates (1) the surplus of the incomes and expenditures of the occupational accident insurance program of the Labor Insurance Fund, (2) special budget fund and (3) administrative fines for the expenses of this Act.
4. Labor Insurance Act	The coverage of Labor Insurance is categorized as 1.General insurance (including maternity, injury or diseases, disability, old-age and death benefits) and 2.Occupational accident insurance (including injury or disease, medical-care, disability and death benefits).
5. Labor Standards Act	The Act is enacted to provide minimum standards for working conditions. Employer shall take precautions for the safety and benefit of employees against occupational hazards, create proper working conditions and provide welfare facilities. Original business entity shall supervise the contractor or subcontractor to provide their workers with such labor conditions as prescribed in the Act.

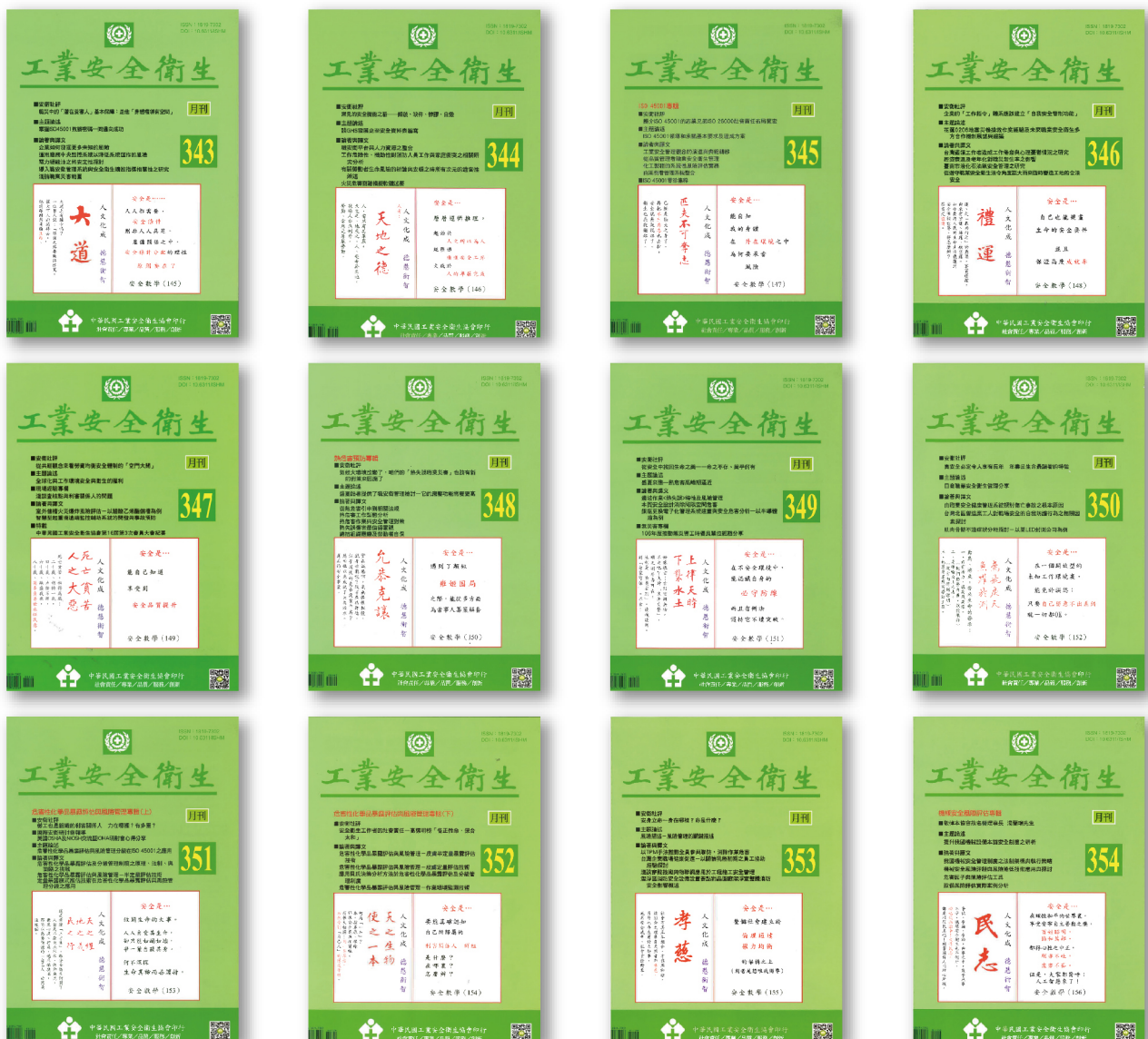
#### 🕒 Key OSH by-laws

Category	Key Phrases of Regulations, Rules and Standards
1. General occupational safety and health	OSH enforcement, safety and health installations, OSH management, risk assessment, self inspection, pregnancy workers, female workers after giving birth less than a year, youth workers, female worker working in night shift, incentives and awards for promoting OSH, etc.
2. General workplace management	process safety management, workplace monitoring, oxygen deficiency prevention, OSH labelling, etc.
3. High pressure gas	worker safety for handling high pressure gases.
4. Health management	health examination body management, worker health protection, occupational disease prevention, etc.
5. Education and trainings	worker OSH education and trainings
6. Chemical substances	hazard labelling and communication, permissible exposure levels, intoxication prevention, specific chemical substances, organic solvents, lead, tetra alkyl lead, dusts, etc.
7. Mechanical safety	general safety protection of machine and equipment, type inspection and verification, dangerous machinery and equipment inspection, designated inspection agency, crane, lift, boiler, pressure vessel, industrial robot, etc.

Category	Key Phrases of Regulations, Rules and Standards
8. Specific operations	abnormal atmosphere pressure, work at height, work at high temperature, precision vision work, etc.
9. Targeted industrial sectors	construction, harbor loading and unloading, ship tanker cleaning and dismantling, forestry, mining, etc.
10. Occupational accident protection	occupational accident labor protection enforcement, subsidy and granting, labor insurance during medical care, occupational accident prevention, worker rehabilitation, return to work, etc.
11. Others	labor inspection enforcement, factory act enforcement, imminent dangers, work related injuries and diseases, etc.

## Appendix-4

### Monthly Journals of Industrial Safety and Health published in 2018







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