

2018

Annual Report
Occupational Safety and Health Administration
Ministry of Labor, Taiwan, R.O.C.



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Occupational Accident Statistics

Preface by the Director General

Year 2018 was full of challenges for Taiwan Occupational Safety and Health Administration (OSHA) of Ministry of Labor (MOL). The release of ISO 45001 Occupational Safety & Health Management System, the risks resulting from the emerging offshore wind farms and collaborative robot operation were all challenging. In addition, declining birth rate combined with ageing workforce, and the rising of occupational stresses are gaining more momentum. Continuously protecting safety, health and dignity of workers to enhance the competitiveness of enterprises and country is emerging mission of OSHA.

We have launched significant programs in 2018. A “330” Occupational Accident Reduction Plan aimed at reducing Taiwan’s occupational accident rate by 30% on a sustained basis for the next 3 years. OSHA cooperated with Agency of Ministry of Economic Affairs integrating the ISO 45001 into the national standard CNS 45001, and has been promoting the Taiwan Occupational Safety and Health Management System (TOSHMS). Also, the Safety and Health Assessment

Report of Collaborative Robot Industry was released to equip organizations in assessing the safety of collaborative robot systems to prevent injuries and harm.

In addition, we formed an inter-agency collaboration scheme to prevent the hazards and risks of offshore wind farms. We enhanced the mental health and wellbeing in our workplace by implementing the prevention programs of overwork, night-shift work, maternity, workplace violence and musculoskeletal disorders. We also provided several tools for implementing chemical exposure assessment and risk control banding.

We have enhanced the Family Assistance Program (FAP) to help workers who have suffered from the occupational accidents and their families. By delivering a range of comprehensive health management practices including the tailored recovery and prevention programs, we have facilitated the injured workers returning to work. The recent push forward of Occupational Accident Insurance Act by MOL shall further empower OSHA to deliver a more comprehensive service.

Occupational safety and health are now, more than ever, facing significant changes related to the nature of work and diversity of labor as the digitalization and green energy are coming of age around the world. Consequently, new occupational hazards and risks may come along. We are developing a smart OSH enforcement system, by utilizing the technologies of big data analysis and artificial intelligence, to comprehensively and effectively help all workers.

For the past years, we have been making successful efforts to ensure the safety and health in workplace. In 2018, the average occupational accident rate per 1,000 workers fell to a historical low of 2.612. Despite this success, we will be carrying our commitment in providing every worker with a safe, healthy and dignified workplace through scientific and innovative approaches.

Thank you.

Tzu-Lien Tsou Director General
OSHA, MOL, Republic of China (Taiwan)



Organization and Services

Occupational Safety and Health Administration (OSHA) is affiliated to the Ministry of Labor (MOL). OSHA comprises of one director general (DG), two deputy DG, one chief secretary, and three division directors: Planning and Occupational Health, Occupational Safety, and Occupational Accident Labor Protection. OSHA has three directors of regional occupational safety and health centers: Northern, Central, and Southern Taiwan. There are five office managers: Secretariat Office, Accounting and Statistics Office;

Personnel Office, Civil Service Ethics Office, and Information Management Office. OSHA has civic servants up to 334 and the organization chart is shown in Figure 1.1.

The mission of OSHA is to plan and implement all matters concerning occupational safety and health (OSH), including formulation and execution of policies and regulations, on-site inspections, and comprehensive rehabilitation service system. OSHA is also responsible for enforcement of Labor Standards.



The vision of OSHA is Zero occupational accident

The services include:

- 1 Formulates and enforces OSH policies and regulations.
- 2 Formulates and enforces Labor Inspection policies and regulations.
- 3 Formulates and enforces Occupational Accident Labor Protection policies and regulations.
- 4 Establishes, promotes, and improves national OSH measures.
- 5 Promotes, implements, and supervises OSH and Labor Standards.
- 6 Identifies, investigates and prevents work-related injuries and diseases.
- 7 Helps injured workers to return to work.
- 8 Others related to OSH, Labor Inspection and Occupational Accident Labor Protection.

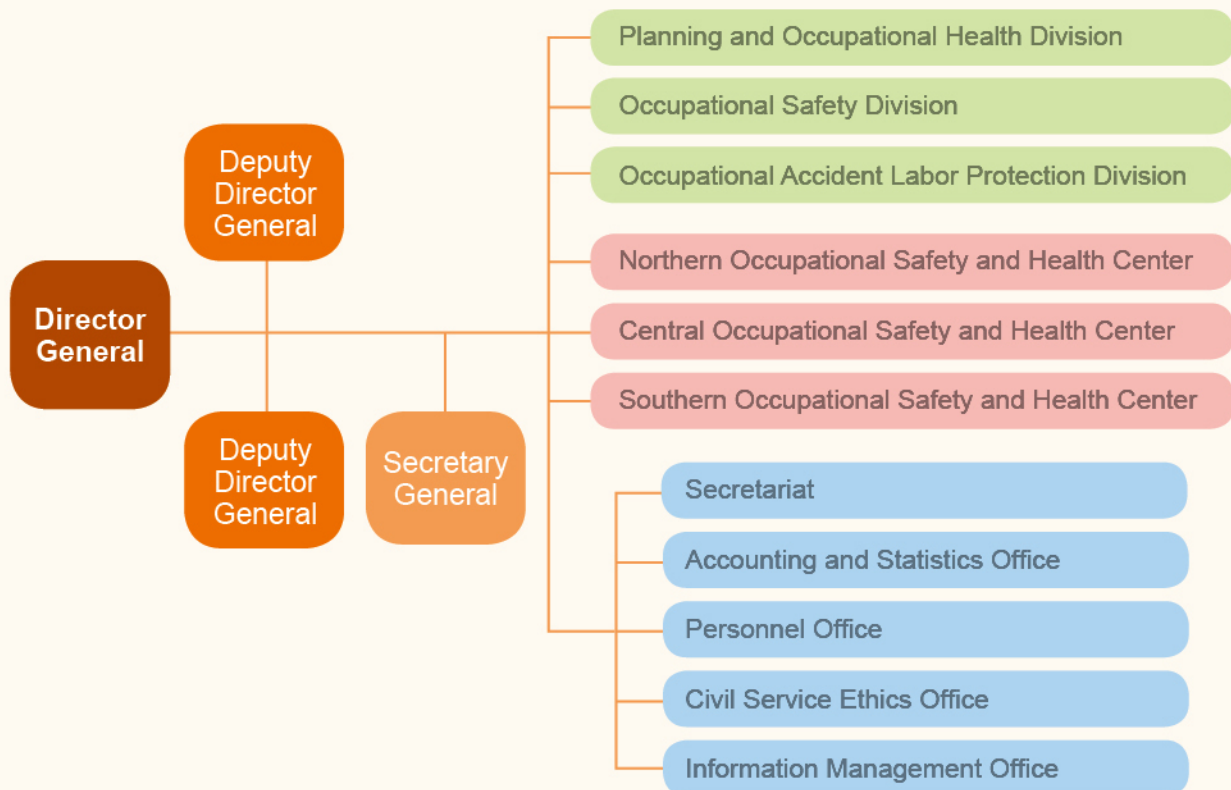


Figure 1.1 Organization chart

Vision and Mission

In order to be in line with the OSH Conventions of International Labor Organization (ILO), OSHA is committed (1) to provide every worker with a safe, healthy and decent workplace; (2) to integrate the competent services of the occupational disease diagnosis with occupational rehabilitation and compensation; (3) to ensure safe and healthy workforce, in order to enhance national competitiveness.

OSHA is dedicated to the MOL common

vision: safe work, safe workplace and safe labor. Since 2018, OSHA has actively promoted the occupational health services, hazardous chemical management scheme, safety management of machinery, equipment and appliance. OSHA also has strengthened inspection and supervision for high-risk industries. OSHA believes those measures will create win-win workplaces for employers and employees.



Strategies for Occupational Accident Prevention

The United Nations and ILO declare that safety and health at work are basic human rights (the International Bill of Human Rights and the International Labor Convention). Moreover, developed countries have considered occupational disease prevention to be a priority. OSHA believes the life of an individual is considered precious. Everyone has the right to work safely. OSHA has revised the annual occupational safety and health inspection guidelines in accordance with the Labor Inspection Act, the Labor Standards Act, and the Occupational Safety and Health Act. A hierarchical

management strategy is utilized according to the size and risk level of the enterprises as well as their current OSH performance. According to statistics from 2010 to 2018, the occupational accident rate has been decreasing year by year. In 2018, the average occupational accident rate per 1,000 workers fell to 2.612. OSHA has utilized scientific innovative approaches to continuously reduce occupational injuries and diseases to make Taiwan workplaces safer, healthier and more productive – for the benefits of businesses, employees and government.

■ “330” Occupational Accident Reduction Plan

According to statistics, the occupational accident rate has declined by more than 18.3% (equivalent to a reduction of 5,901 occupational accidents) over the past 3 years: from 2.953 in 2016 to 2.612 in 2018 (Figure 3.1). OSHA aims for the strategic outcome to reduce the rate to 2.239 by 2020.

The “330” Occupational Accident Reduction Plan mainly focuses OSHA’s efforts on safety and health of employees and self-employed workers in high-risk workplaces among industry sectors of construction, manufacturing, wholesale, retail, transportation and warehousing, accommodation, as well as catering. Six strategies are illustrated in Figure 3.2.

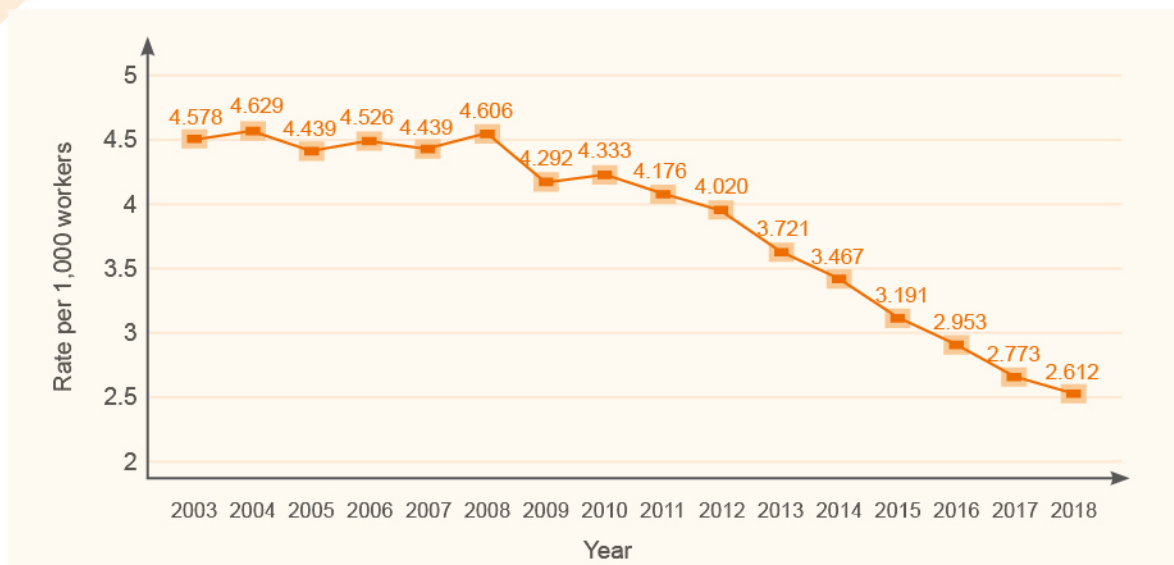


Figure 3.1 Occupational Accident Rate per 1,000 Workers under Labor Insurance Compensation

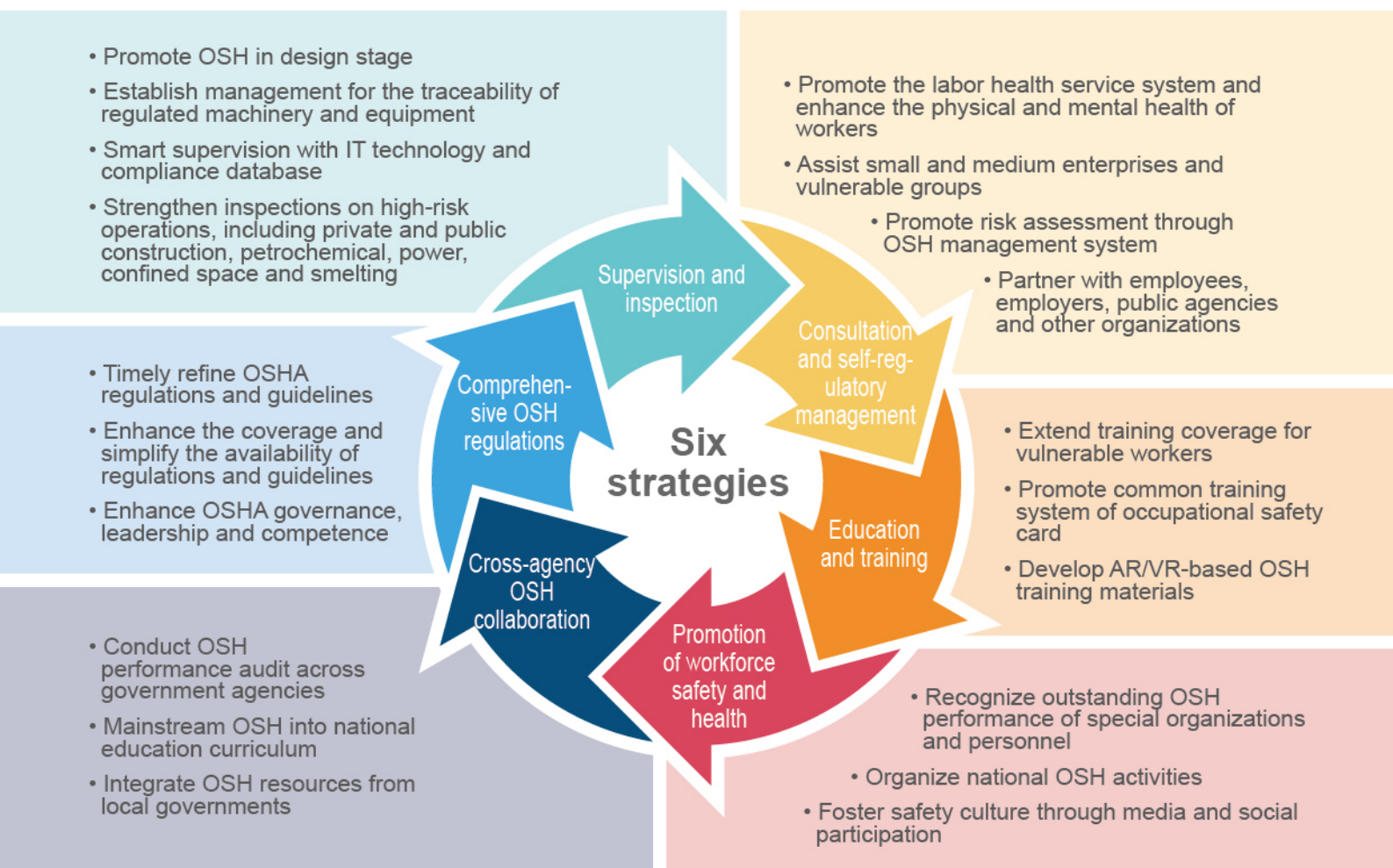


Figure 3.2 “330” Occupational Accident Reduction Plan

Intervention Strategies

The OSH Act covers all industries. OSHA has three Occupational Safety and Health Centers accounting for OSH inspections. MOL authorizes part of inspection power to the Municipalities, Export Processing Zone Administrations of the Ministry of Economic Affairs, and Science Park Bureau of the Ministry of Science and Technology.

The local governments are responsible for the inspections of Labor Standards. Due to

the OSH Act covers various industries, Executive Yuan subsidized the local government to recruit additional 325 inspectors. Moreover, the traceability management and mental health protection were added, the Executive Yuan agreed to recruit additional 177 OSH inspectors that were designated to three Occupational Safety and Health Centers and the Municipalities, respectively. In 2018 there were approximately 1,000 inspectors in total on Labor Standards and OSH.

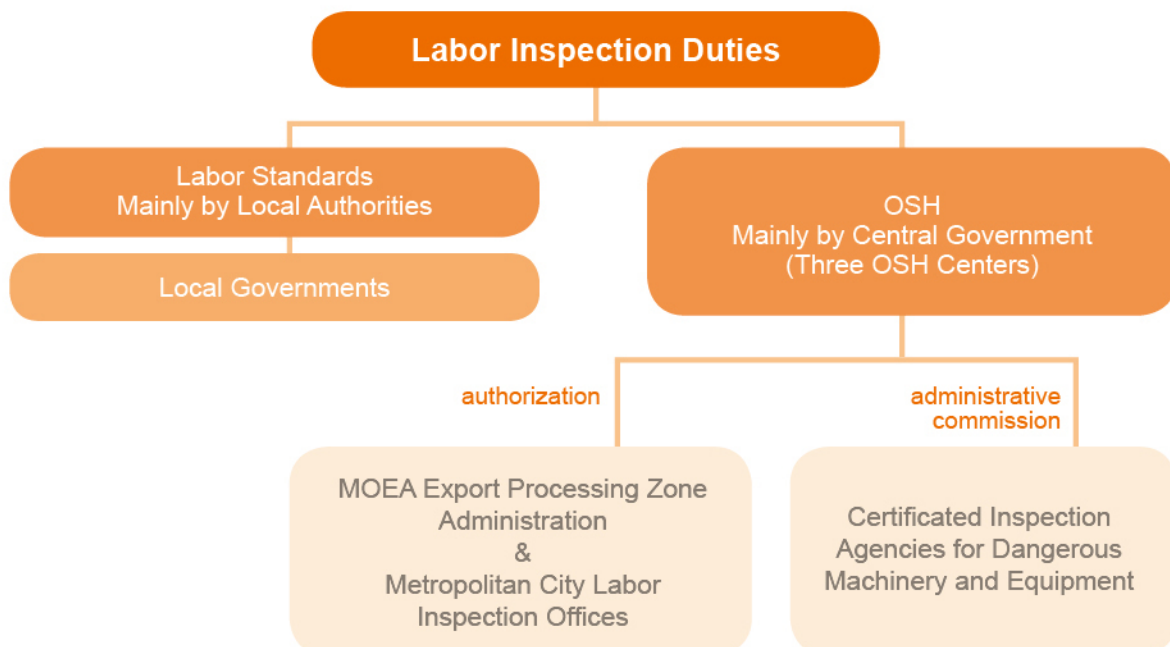


Figure 3.3 The labor inspection duties

Labor Standards Inspection and Decent Work Promotion

In 2018, OSHA focused on labor standards inspection, decent work promotion, and overworking prevention. OSHA provided small and medium enterprises (SMEs) compliance consultations. In addition, OSHA increased inspections in public construction sites and conducted inter-agency joint audits for the industries with poor labor standards. In 2018, OSHA conducted 67,005 on-site inspections, 770 promotions, 2,597 consultations and the rate of labor standards violation was 13.23%.



Inspection of Labor Standards

Hierarchical OSH Risk Management

The labor inspectorates implement a hierarchical OSH risk management strategy by applying suitable and effective measures of consultation, promotion and inspection (Figure 3.4). Based on the scale of enterprise size and the risk level, in 2018, OSHA conducted 121,613 on-site OSH inspections, 1,013 promotions, 6,162 consultations, and the rate violation was 7.91%.

For the enterprises with excellent OSH performance:

OSHA has encouraged enterprises with excellent OSH performance to establish a self-regulatory occupational safety and health management system (OSHMS). OSHA has measured their OSH performance fitting within the overall OSHMS. In addition, OSHA has assisted them with sharing knowledge of workplace safety and health through site visits.



Figure 3.4 Hierarchical management strategy based on the size and risk of enterprises

For the high-risk enterprises:

The labor inspectorates have increased OSH inspections frequency based on occupational accident statistics. The effectiveness of their corrective measures in accordance with OSH regulations have been verified and their OSH improvement have been monitored.

For small and medium-sized enterprises (SMEs):

OSHA has provided free training, consultation, and site visits at the enterprises with excellent OSH performance. Moreover, OSHA and local governments corporately have organized the OSH families among SMEs to exchange the best OSH practices leading to the enhancement of on-site OSH activities and seek solutions for challenges pertaining to workplace safety and health.



PART

1

Key Achievements in 2018

Improve Workplace Safety Management

■ Enhance Safety Management for High-Risk Enterprises

In 2018, OSHA conducted the Project of Process Safety Database and Process Safety Technology Establishment to assist enterprises that have highly hazardous chemicals onsite in implementing process safety management (PSM). It focused on development of PSM guideline and establishment of chemical reactivity database, as well as the list of incompatible chemicals. A total of 16 propagandas, training, and observation tours at process site with excellent PSM practice, and annual final presentation were provided to promote PSM. OSHA also offered a variety of consultation services on issues related to PSM. 78 consultations were carried out in the businesses with processes that involve handling, using, storing, moving, or manufacturing highly hazardous chemicals to prevent serious accidents and fatalities.

OSHA implemented the Process Safety Improvement Works Subsidy Scheme. In 2018, eight enterprises received the subsidy from Process Safety Improvement Works Subsidy Scheme, with a total amount of funding up to NTD 3.11 million, and with the total amount of industrial investment up to NTD 25.99 million.



Enhance Safety Management in Construction Industry

The construction sector involves high risks that was responsible for approximately 50% fatalities and injuries at work. OSHA has adopted various prevention management practices at the construction sites to effectively reduce accident rates. Results showed that the accident rate in construction industry has been consistently declining for the past years.

OSHA has issued the of Technical Guidelines of Risk Assessment in Construction Industry to help the construction operators

identify hazards, evaluate the associated risks and control the risks at a tolerable level prior to commencement of work.

All construction sites are required to conduct site safety assessment that is approved by labor inspectorates. In 2018, labor inspectorates reviewed 188 construction site safety assessment, and conducted 4,629 site safety inspections. In addition, the patrol activities in accordance with the Hazardous Workplace Review and Inspection Rules for safety and





health of medium-sized construction sites were intensified by labor inspectorates.

To provide industry and technical specialists the best practical advices on how to work safely in the progress of design, planning and construction, 31 construction technical books have been published, including building, bridge, tunnel, road, pipeline, water conservancy and geotechnical construction.

ISO 45001 is well suited to the large and small-and-medium-sized construction sites where multiple contractors, subcontractors, as well as the self-employees are on sites. To assist the businesses in achieving conformity according to ISO

45001, OSHA set up a mechanism for OSHMS information to be used throughout all sectors of the construction industry.

In order to enhance people's understanding regarding to public construction affairs, OSHA has created a website made available to the public for recognition of the construction project with excellent OSH practices and the reports on occupational fatalities. On the other hand, it encourages enterprises and relevant groups to reinforce their on-site accident prevention plans.

The Intensive Management of Accident Prevention at Public Construction Sites Project was designed to reduce the

accident rate through risk-reduction tactics. It focuses on sites inspection, supervision, and consultation in major projects. Moreover, the Public Construction Commission, Executive Yuan and MOL award the companies and individuals for

their outstanding OSH performance. In 2018, an estimated 28 people lost their lives at public construction sites – a 51% decline from 2009 (49 deaths). Figure 4.1 shows the number of fatalities between 2009 and 2018.

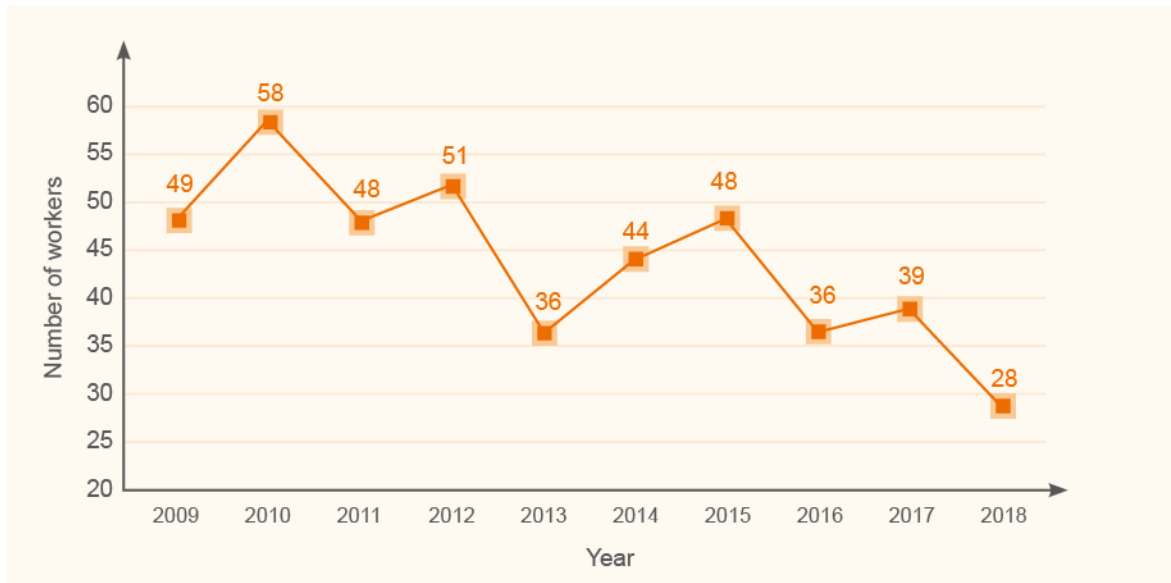


Figure 4.1 The number of fatalities at public construction sites



Thickness confirming by designated inspector

Strengthen Safety Management of Dangerous Machinery and Equipment

In order to protect the workers against machine-related injuries, the machinery or equipment specified as dangerous by the MOL are required to be certified prior to usage. When such usage exceeds the stipulated period, the machinery and equipment are required to pass a

re-certification in accordance with the OSH Act. In 2018, there were 111,241 dangerous machinery and equipment (Figure 4.2), and 106,669 in-use granted by the certificated inspection agencies (Figure 4.3).

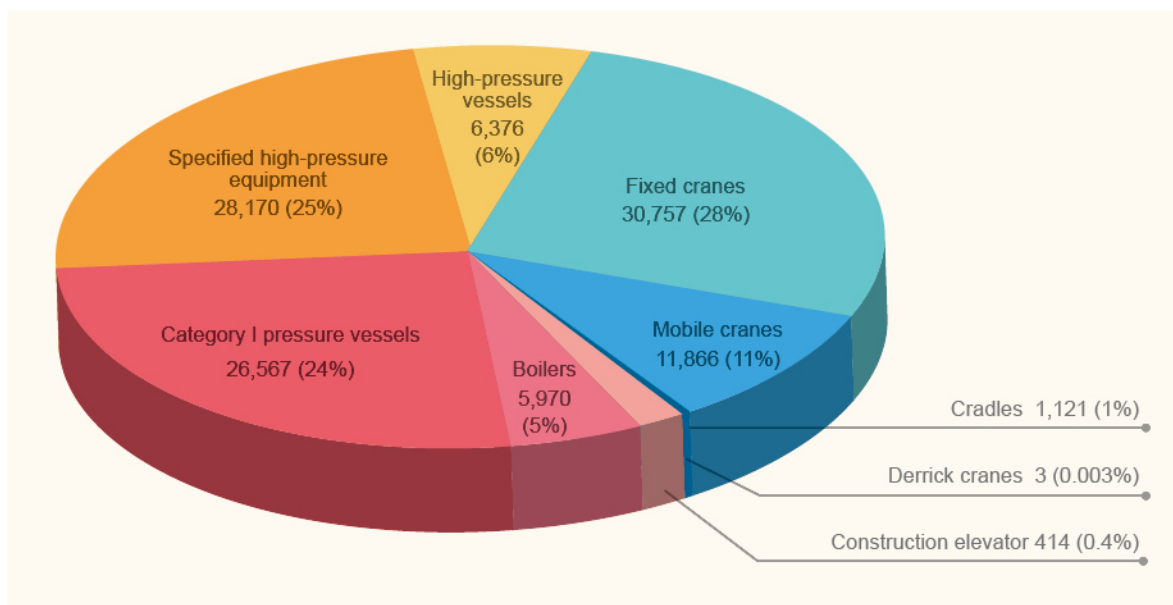


Figure 4.2 The statistics of dangerous machinery and equipment

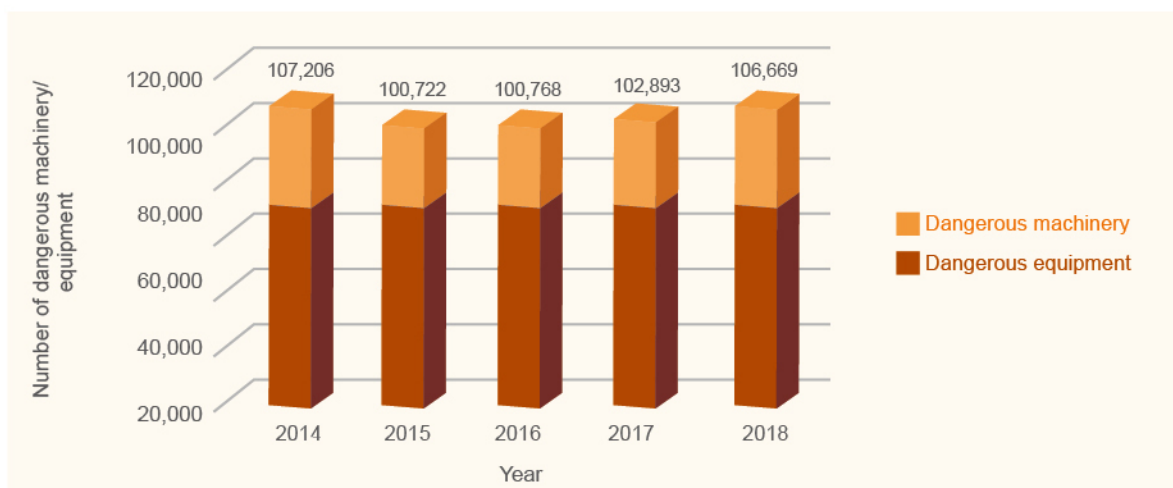


Figure 4.3 The statistics of dangerous machinery and equipment granted by the certificated inspection agencies

Establish Management for the Traceability of Regulated Machinery and Equipment

To reduce or eliminate the OSH risks for workers using machinery and equipment. OSHA has promoted the Registration System of Safety Information for Machinery, Equipment and Tools in accordance with the OSH Act since 2015. Manufacturers or importers are required to register the safety information of the regulated machinery, equipment and tools after granted as safe usage by the MOL at the Information Reporting Website. The TS Safety Labels and Certification Marks are applied in a prominent place on the body

of the machinery equipment, and tools for identification.



Since July 2018, Type Certification of Machinery, Equipment and Tool has been introduced and emphasized. Voltage reducing devices for AC arc welding equipment will not be manufactured and shipped from the factory if their Qualification Label or Type Certification are not issued by the MOL.

In 2018, OSHA carried out 6,133 reviews applied by 581 enterprises (Table 4.1) and 1,121 random inspections among 320 enterprises. OSHA also delivered 300 on-site consultations and partly subsidized four high-risks manufacturing enterprises with a total amount up to NTD 6.13 million to set up a safe automated production line. Also, the concept of inherently safer process was introduced. OSHA has subsidized NTD 21.1 million in the machinery, equipment and tools with inherently safer design to permanently eliminate or reduce mechanical hazards that may lead to severe consequences.



Type Certification of power punching-shearing machinery

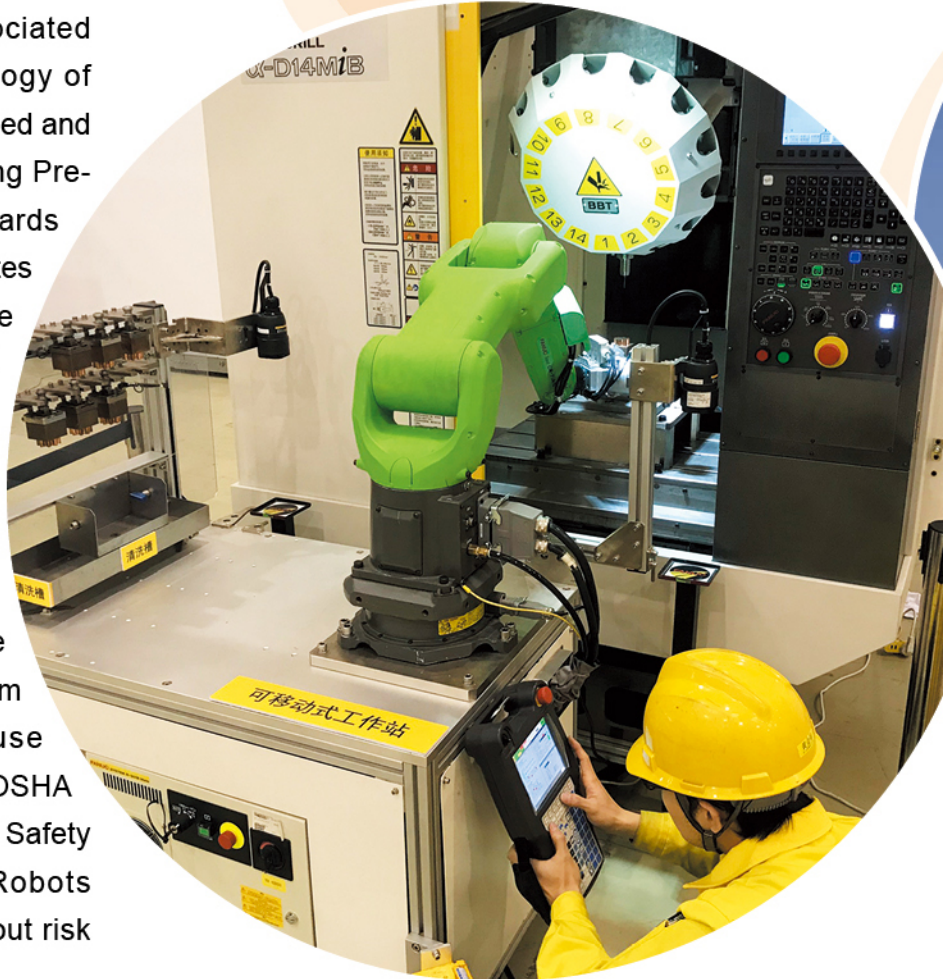
Table 4.1 The statistics of machinery, equipment, and tools that were registered/certified in 2018

The type of machinery, equipment or tools	Registration/ Certification		Number of first release	Number of exempted from registration/ certification	Note
	Number of enterprises	Number of machinery, equipment, or tools			
Power-driven punching-shearing machinery	67	73	43	11	registration of safety information and Safety Labels  TD000000
Hand-feed planers	6	8	1	6	
Woodworking circular sawing machinery	18	12	2	38	
Power-driven forklift truck	124	5,179	—	—	
Grinding machinery	97	75	38	39	
Abrasive wheels	46	46	19	25	
Explosion-proof electrical equipment	212	721	11	25	
Photoelectric type device for power-driven punching-shearing machinery	3	8	—	—	Type Certification and Certification Marks  TD000000-XXX
Voltage reducing device for AC electric welding equipment	8	11	Type Certification and Certification Marks		
Total	581	6,133	114	144	

■ Promote Safety of Industrial Automation and Robotics

To avoid potential hazards associated with implementing new technology of collaborative robots, OSHA amended and released the Standards Governing Prevention of Industrial Robots Hazards on February 14, 2018. This stipulates that employers must meet the National Standards CNS 14490 and the International Standard ISO 10218. Relevant enterprises are required to conduct and document the safety assessment.

In order to provide workers safe and healthy workplaces free from potential hazards likely to cause death or serious physical harm, OSHA published the Guidelines on Work Safety Assessment of Collaboration Robots to assist enterprises in carrying out risk assessment.



Adjustment of collaborative robot

■ Support the Overall OSH Performance for Offshore Wind Farm Project

The Offshore Wind Farm Project is regarded as the key to transform Taiwan's industries. Health and safety must undeniably be the essential focus. The management and operators are called on to implement OSH management from

the design through construction, commissioning, operation, maintenance, and decommissioning.

To ensure worker's health and safety on offshore wind farms, MOL OSHA



The offshore wind turbine generator

collaborated with the Ministry of Economic Affairs, the Ministry of Transportation and Communications, the Ocean Affairs Council, the offshore wind farm developers and the experts to establish the Cross-Functional Safety and Health Technology Sharing Platform. Three meetings and one international conference were held in 2018. Furthermore, OSHA published the Worker Safety and Health on Offshore Wind Farms Guidelines in accordance with the national regulations, international standards, and developers' best available practices. They allow all interested parties to reassure themselves safe in this industry.

Promote Occupational Safety and Health Management System

OSHA has encouraged organizations to integrate occupational risk assessment into their best practices of business operation. Since the TOSHMS certification scheme was first launched in June 2008, there were 981 business entities that obtained the valid TOSHMS certificate in 2018 (Figure 4.4). There were approximately 983,000 workers who were taken care by their employers. In response

to the ISO 45001, OSHA collaborated with the Ministry of Economic Affairs to develop the National Standard, CNS 45001:2018 Occupational Health and Safety Management Systems-Requirements with Guidance for Use, as a new standard that provides a framework for organizations to improve workplace safety and health. Figure 4.5 demonstrates TOSHMS Certification Scheme.

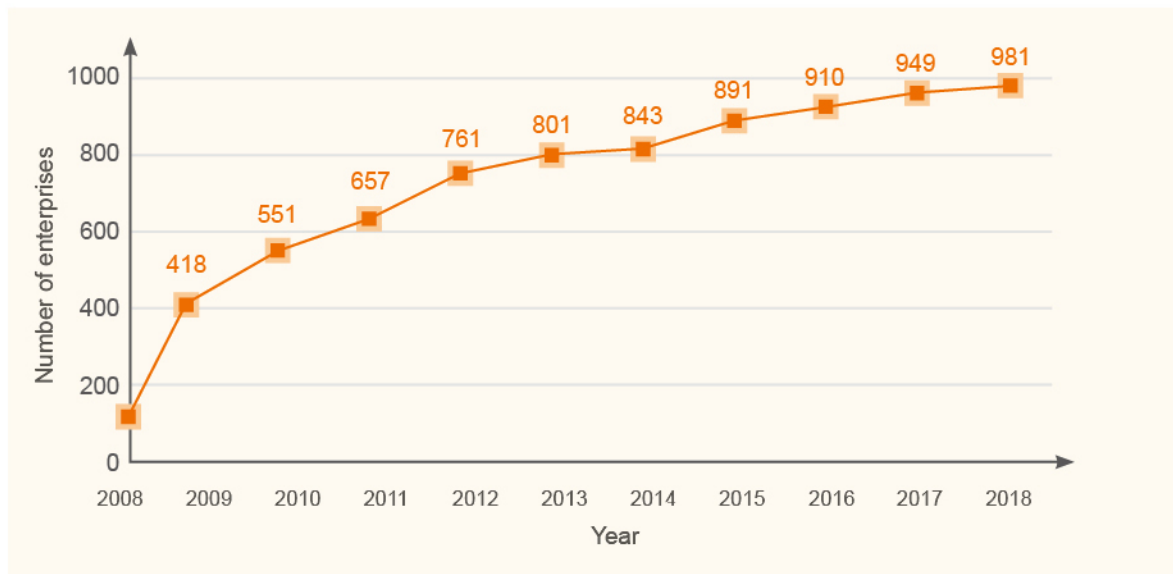


Figure 4.4 The total number of enterprises obtained TOSHMS certificate

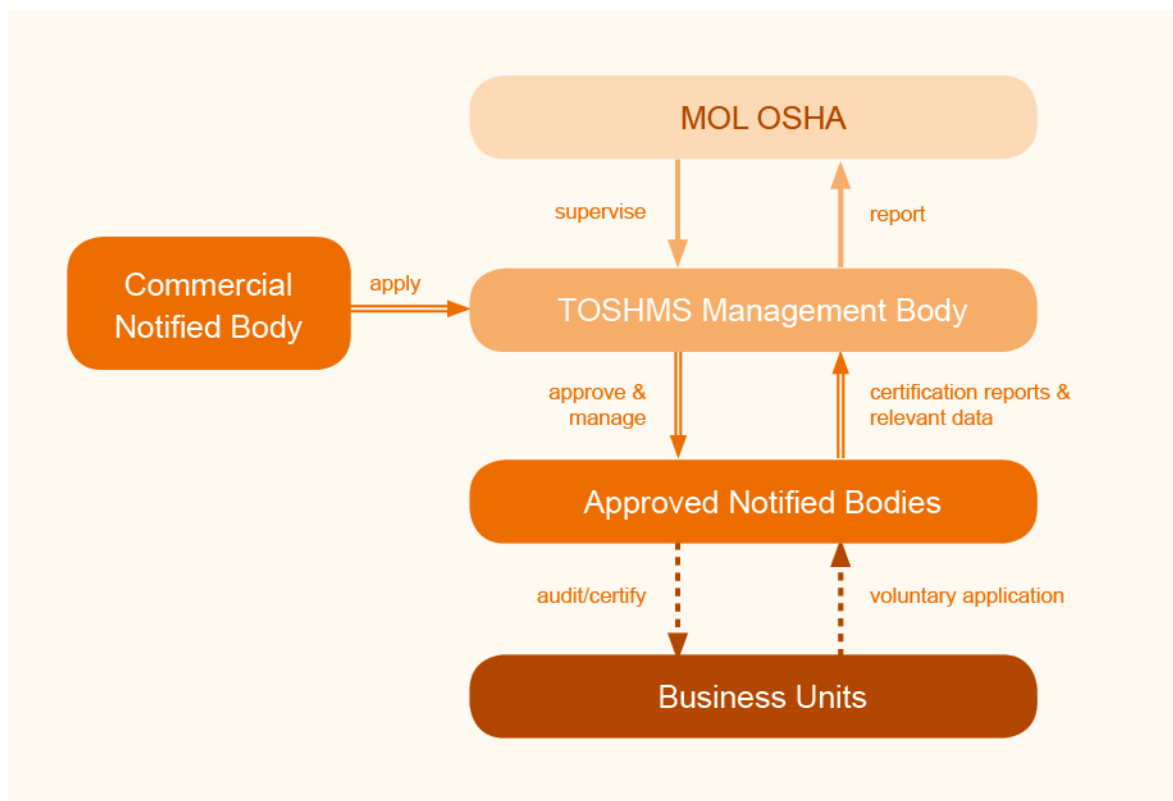


Figure 4.5 TOSHMS Certification Scheme

To enhance the effectiveness of TOSHMS, OSHA has established TOSHMS Family since 2010. Enterprises with TOSHMS certificate are invited to join the regional Families in north, central and south of Taiwan. They frequently hold conferences

on OSH issues, compile OSH manuals and conduct training to share knowledge and experience. Furthermore, in 2018, a voluntary consulting service team was organized to assist 16 family members in enhancing safety and health performance. In 2018, the average comprehensive injury index of all TOSHMS enterprises was 45%, lower than the index of all industries.

OSHA recognizes and honors the companies that have achieved superior OSH performance with exemption from OSHA regular inspections in certain years. In 2018, the average comprehensive injury index of 218 recognized enterprises was lower than the average of all enterprises.



TOSHMS family members visited the site with excellent OSH performance

Improve OSH Performance of Small and Medium Enterprises

SMEs are very dynamic and locally rooted. They employ a large part of workforce and make a considerable contribution to social stability. Due to lack of OSH capacity, the SMEs usually have higher occupational accident rate comparing

to medium and large-scale businesses. Thus, OSHA has collaborated with all local governments on organizing SME Family and OSH consulting service teams. OSHA also has provided various OSH training courses and placards. The

targeted SMEs are mainly in manufacturing and construction industries. 17,650 workers attended the training. OSHA also delivered regular e-letter and a Facebook Fan Page attracting plenty regular followers.

A SME Family consists of approximately 19 SMEs and one core enterprise that has good OSH performance records, sharing safe and healthy practices. In 2018, 140 SMEs Families were actively operated. 450 service team personnel and voluntary professionals conducted on-site visit at approximately 10,120 SMEs. Among them 50% was less than 10 workers, and 90% was less than 50. Around 56,670 pieces of recommendation were delivered, and 85% of them was implemented in 2018. The statistics under Labor Insurance Compensation indicated that the accident rate of the receiving-assistance SMEs was reduced by 17% after 2~3 years of receiving assistance. More than 50% of manufacturing and construction SMEs has received on-site assistance and the monthly e-letter since 2008.

OSHA trained 17 aboriginal professionals to conduct 20 seminars and 135 on-site visits, most were micro sites, in indigenous communities to improve their work safety awareness and practices. Around 7,700 peoples were served, and the satisfaction rate was 92%.

OSHA has promoted self-regulatory OSH activities through partial financial assistance for the costs required to improve machinery, equipment and tools with hazards, thus, prevent potential accidents. In 2018, 205 SMEs received the subsidies, with a total amount of funding up to NTD 7.2 million.



Forklift technical operation test

Implement Occupational Safety and Health Training

Due to hazards are pervasive in all types of workplaces, OSH training is essential for improving workers' safety practice. By 2018, there were 650 OSH training organizations, including 147 nonprofit competent training organizations. Figure 4.6 shows that 6,470 mandatory training courses were conducted and training participants were around 19,600.

A computer exam system with random questions has developed for trainees, for example, the exam for operators of forklift with capacity of one ton or more. When the operators pass the test, the license will be instantly granted. In 2018, there were 50 test centers, 152,299 candidates and 128,285 passed the tests (the passing rate was 80%).



Crane technical operation test

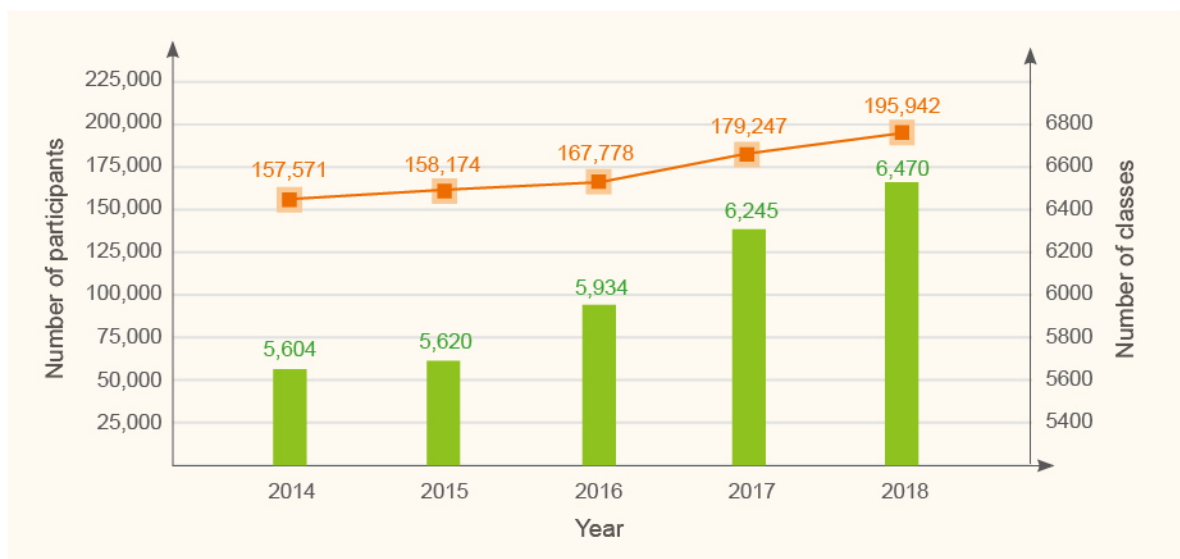


Figure 4.6 The number of mandatory training courses conducted and training participants



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All workplaces need to be healthy and safe for all workers. OSHA has improved occupational hygiene and prevented physical and psychological illness through regulatory amendments, consultancy services, supervision and inspection.

For chemicals OSH management, the manufacturers and importers of the chemicals are responsible for providing necessary safety information. Moreover, OSHA has promoted the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) since 2008. For workplace hazard and exposure assessments, a broad range of industrials are supported with certified workplace monitoring services.

For reducing the risks associated with working in confined spaces and in hot weather, OSHA has enforced the laws such as performing confined space inspections across industries. OSHA also has produced the safety videos that are sure to raise awareness of the importance

of safe workplace and share best safety practices. In addition, OSHA has assisted 3D-operation companies (Dangerous, Dirty and Difficult) to improve working environment and optimize safety performance.

OSHA has implemented the Health Surveillance Program that aims to detect and eliminate the potential illnesses induced by noise, respiratory and, dermal exposure, and ergonomics. Also, OSHA has promoted on-site health services to positively improve the quality of labor life.



Establish Chemical Management Scheme

OSHA introduced Chemicals Source Management and the Chemicals Hierarchy Management in line with the internationally agreed-upon standards. They are to enhance effectiveness of managing chemicals and consequently to protect operators from chemical hazards, to prevent the illnesses and injuries that maybe induced by the chemicals at work, and to protect the general public and the environment.

For the Chemicals Source Management, when the chemical substances are identified as new ones, the manufacturers

and importers are required to submit the chemical substance safety assessment report for approval prior to manufacturing or importing.

The Chemicals Hierarchy Management is a risk-based approach that prioritizing and managing the risks of hazardous chemicals according to their nature of hazards, quantity and manner of usage. Moreover, OSHA has established the Permit to Use the Substance of Carcinogenic, Mutagenic or for Reproductive toxicity (CMR) which are designated.

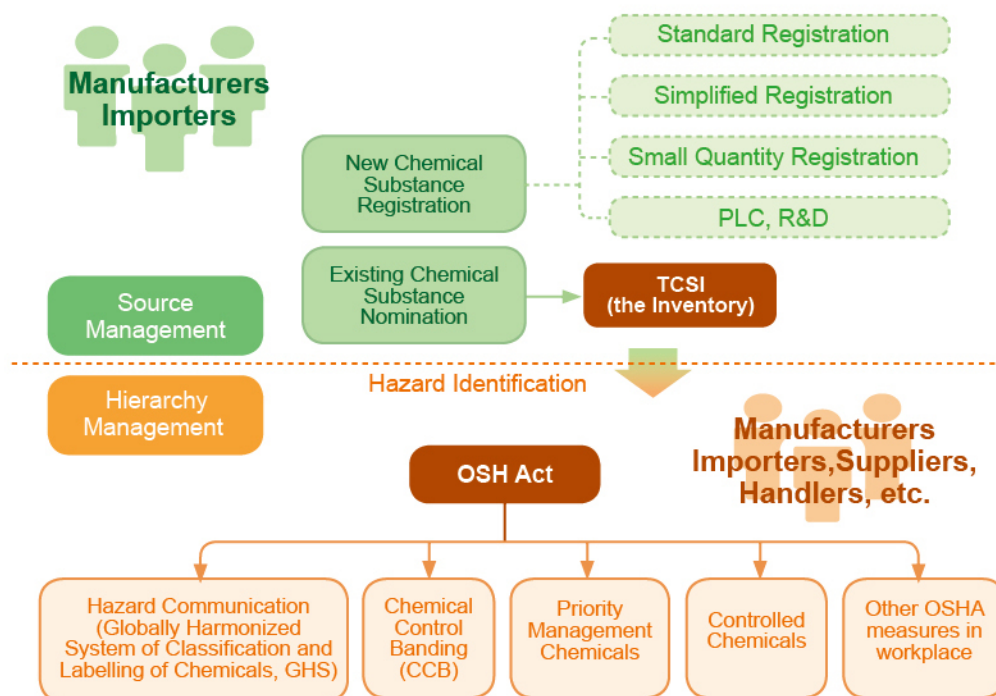


Figure 4.7 The Chemical Management Scheme



In 2018, 572 chemicals were added in the information of Chemical Management System within 1,173 priority management chemicals and 23 controlled chemicals. OSHA also has managed 110,000+ chemicals in the MOL list, including 20,000 CMR information submissions from approximately 3,000 workplaces that use the Priority Management and Controlled Chemicals.

OSHA collaborated with the Taiwan Environmental Protection Agency to manage the Registration and Evaluation of New Chemical Substances. In 2018, 771 new

chemical substances were registered and evaluated with the professional suggestions.

OSHA has referred to several international organizations establishing the tool of Chemical Control Banding (CCB) and the ECETOC Targeted Risk Assessment (TRA) to assist businesses in hazardous chemicals grouping, exposure assessment and hierarchy of controls. In 2018, OSHA has conducted assistance for 2,051 enterprises, and provided around 12,000 on-line advising services.

■ Prevent Occupational Diseases and Related Health Problems

In accordance with the OSH Act, the focus on OSH inspection are hazardous chemical management, exhaust ventilation, workplace monitoring, specific health examination and hierarchical health management, to prevent occupational diseases or injuries caused by exposure to chemical hazards such as organic solvents, dusts and lead from work. Based on the Bureau of Labor Insurance of the MOL, hearing loss is the most common compensation item in workplaces. Therefore, noise is included in the priority inspection list of hazardous operations.



Ear protection in noisy workplace



Local exhaust ventilation for soldering work

In 2018, a total of 5,281 inspections were carried out.

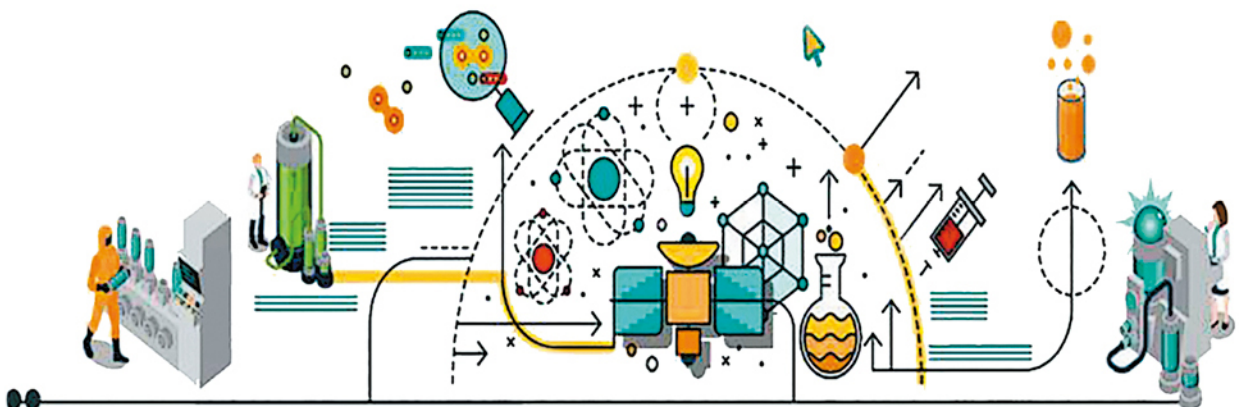
OSHA has set the Permissible Exposure Limits (PELs) for noise, heat stress and 492 chemical substances. Employers are legally obliged to regularly monitor and keep workers exposure under the permissible levels. To ensure the quality of services, OSHA evaluated the workplace monitoring and assessment plans of 16 certified bodies in 2018.

OSHA has strengthened the implementation of confined space hazard prevention. 7,627 on-site inspections and 118 seminars were carried out in 2018. Moreover, confined spaces can be found across industries, OSHA has expanded confined space awareness through producing a micro movie, promotional maps, social media and television broadcasting.

Climate change has been increasing the risk to workers' health and safety. Workers, especially those who work outdoors, such as construction, road maintenance, pipe line technician and agricultural workers, are at increased risk of heat-related disorders. In 2018, 4,854 inspections were conducted. Guidelines to Prevention of Heat Stress at Work were revised referring to the International and National Heat Index, and a micro movie as well as promotional maps were produced.



Confined space rescue training



Mandatory Medical Examination and Workers' Physical and Mental Health Protection

The Occupational Safety and Health Act obliges employers to provide general, special or specific-item health examinations to employees at the time of employment. These examinations are used to assess the fitness of workers, to evaluate the potential health risks of workers and manage their health. Workers shall go to the medical institutions approved by the central competent authority for health examination regularly, and the results of special health examination should be

collected and managed for the National Health Checkup Database of Labor (HCD) to serve as a reference for future protection policy. In 2018, there were 373,107 workers who took the special health examinations. (Figure 4.8).

In order to improve the quality of medical institutions approved by the central competent authority for workers' health examination, in 2018, OSHA conducted the Project of Approved Medical Institution

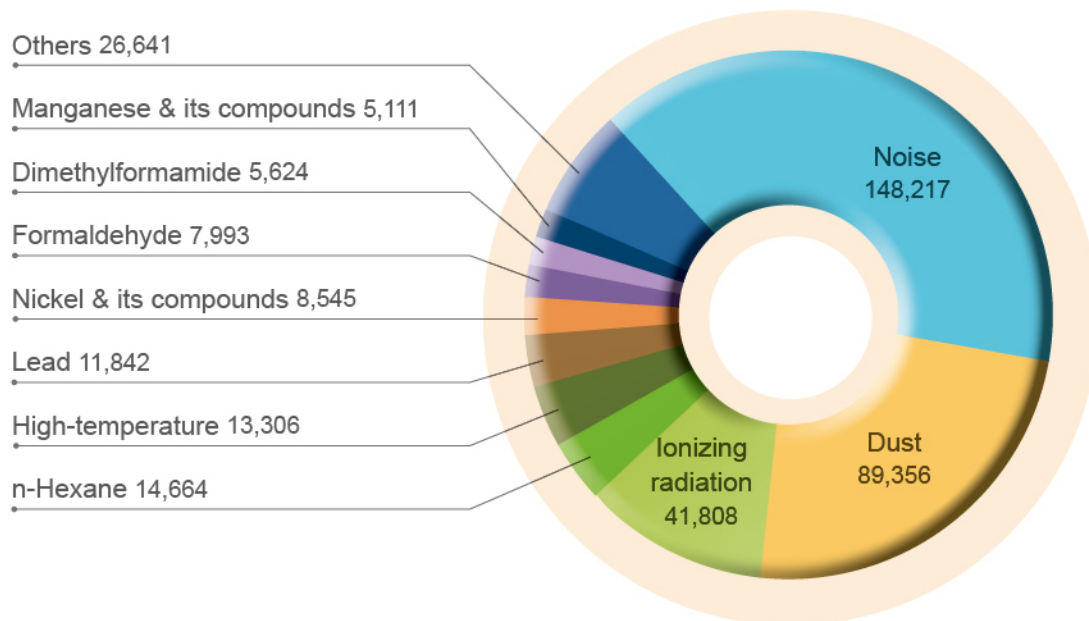


Figure 4.8 The distribution of special health examinations in 2018

Quality Audit. 30 medical institution audits were carried out, and seven institutions for specific-item health examinations were audited. Furthermore, to ensure enterprises preventing ergonomic hazard,

fatigue induced by exceptional workload and workplace violence, OSHA implemented the Workers' Physical and Mental Health Protection Project, with total of 953 inspections and re-inspections in 2018.

Expand Worker Health Services

On 13th of November 2017, OSHA revised the Regulations of Labor Health Protection. Enterprises with 50 or more workers are obligated to deliver onsite health services by occupational medical professionals or contracting with public

and private medical institutions that handle onsite service and workers' health protection matters. Figure 4.9 shows the timeline when each stage of the onsite health services is to be accomplished.

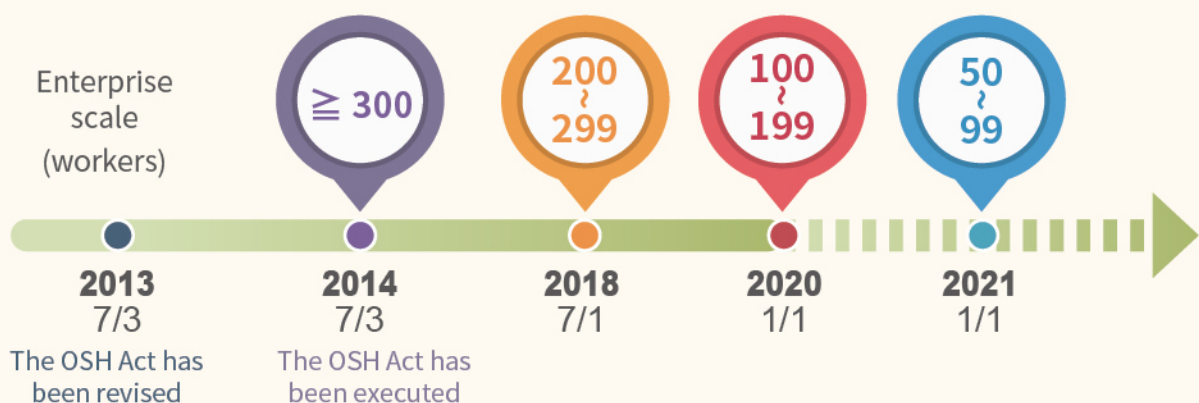


Figure 4.9 The timeline when each stage of the onsite health services is to be accomplished

To assist SMEs in promoting occupational health, OSHA has commissioned to run northern, central and southern worker health service center. They provide personal health consultation, health guidance, recommendations for fit-to-work assessment and other services to individual workers. According to the characteristics and needs of enterprises, OSHA has provided workplace hazard assessment,

prevention from unlawful physical or mental impairments, work-related diseases, and musculoskeletal disorders, maternal protection and appropriate guidance of middle and old aged workers. In 2018, 640 SMEs on-site health services were delivered, with a total of 46,205 participants. The national health service coverage has increased from 19.67% in 2016 to 30.1% in 2018.



Cervical spine pressure assessment

Health Service Personnel Training and Development of Health Service Tools

To foster the practical skills and efficiency of health service personnel, OSHA has conducted professional trainings. Up to 2017, 1,464 qualified physicians and 10,519 nurses for worker health services were trained. Moreover, to enhance the professional knowledge of health service personnel and their performance, 120 on-the-job trainings were conducted in 2018, including maternal health protection and guidelines on worker health service e-tools, with a total of 4,415 participants.

To assist health service professionals in assessing workers' health, OSHA has developed the software of weCare, Occupational Health Management System and the mobile APP of iCare, Personal Health Management System. Furthermore, OSHA is glad to obtain the authorization from Germany BAuA to develop the Risk Assessment with Key Indicator Method (KIM) in a Chinese-language version for enterprises.



Work conditioning training



iCare App

■ Remodel “3D” Industry

There are approximately 58,000 enterprises in “3D” (Dangerous, Dirty, Difficult) industry, and most of them are SMEs. Hot, humid, noisy, and chemical smell are common features, and most of workers are unwilling to work in such workplaces. As a result, the industry faces a long-term shortage of workforce, as well as an ageing worker population.

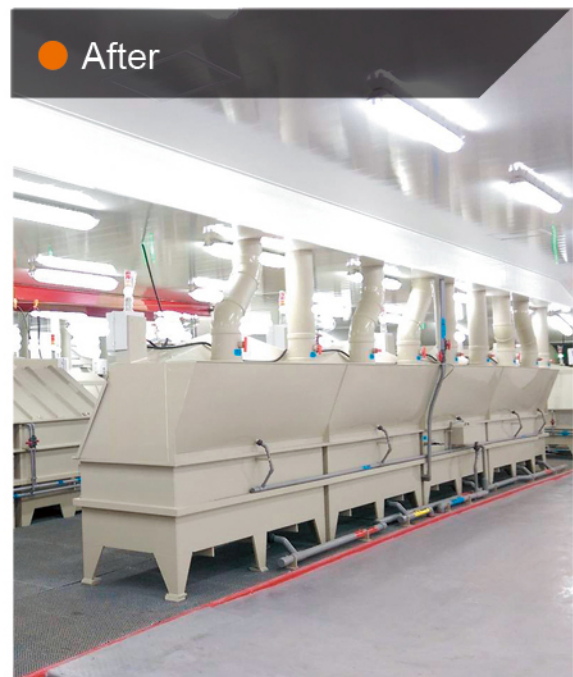
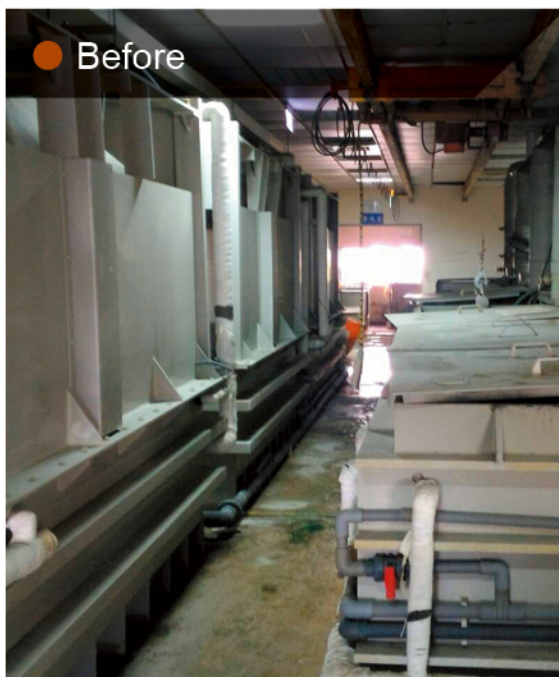
Since 2014, OSHA has launched a “3C” Program, aims to transform the “3D” workplace, including foundry, surface

treatment, textile printing, dyeing & finishing, into Clean, Career and Competitive workplace. OSHA has increased subsidy for supporting safe machinery and equipment and also integrated inter-ministerial resources, advices of university professionals and external expertises in order to improve “3D” workplaces. In 2018, 177 enterprises were provided with expert advices, 138 received subsidies, with a total amount of subsidies up to NTD 120 million, and of industrial investment to NTD 2.3 billion.





Improvement of planting tank and local exhaust ventilation



Improvement of planting tank and local exhaust ventilation



PART

3

Key Achievements in 2018

Worker Rights Protection after Occupational Accidents

OSHA has committed to promoting the integrated disease and injury prevention services in accordance with the Act of Protection Worker of Occupational Accidents (APWOA), to help the injured workers return to work (Figure 4.11).

Pursuant to the APWOA, workers who have suffered from occupational accidents may apply for financial subsidies regardless of whether they are enrolled in Labor Insurance.

Since 2008, OSHA has implemented the Family Assistance Program (FAP) and set up 47 case managers nationwide. Through individual case management and integral resources, FAP provides financial support, appropriate medical treatment, and return to work services to people who are injured at work.



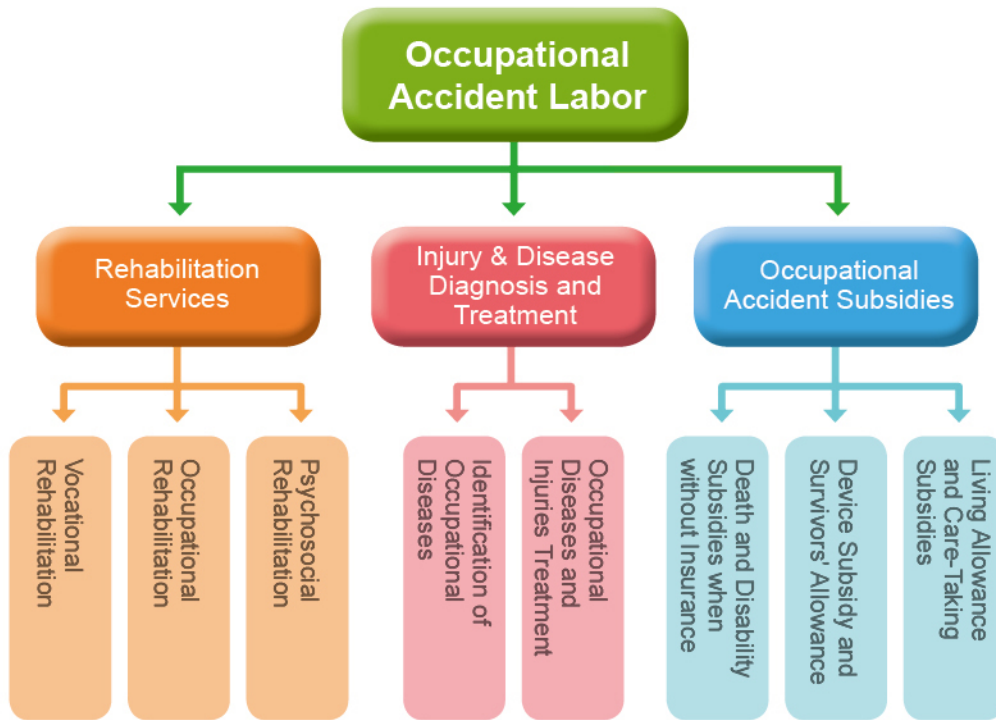


Figure 4.11 A comprehensive service for workers who have suffered from occupational accidents

Expand Occupational Diseases and Injuries Reporting Network

Ten Occupational Diseases and Injuries Service Centers nationwide assist OSHA in occupational diseases and injuries diagnosis and identification. They also collaborate with regional medical institutions, thus, workers could possibly access the occupational health services. In addition, OSHA monitors/improves the quality of services in the cases of occupational diseases and injuries.

The Occupational Diseases and Injuries Service Centers provide:

1 Prevention, diagnosis and referral of occupational diseases and injuries

Professional medical team provides evaluation of occupational diseases and injuries, prevention of occupational diseases, workplace maternity counseling and overwork assessment. In addition, case management, return-to-work evaluation, and consultation of medical referrals are also provided upon the needs.

2 Investigation of occupational diseases and hazards exposure

Through information provided by individual cases, the Occupational Diseases and Injuries Service Centers conduct occupational diseases investigation and provide on-site consultation services, as well as exposure assessment.

3 Occupational diseases and injuries counselling and consultation services

Occupational Diseases and Injuries Service Centers provide recognition of occupational diseases and injuries, consultations regarding to labor insurance compensation, related laws and prevention of occupational safety and health.

4 Occupational diseases and injuries case study

Occupational Diseases and Injuries Service Centers carry out epidemiologic studies and deliver advanced training sessions related to work-related diseases.



Occupational diseases and injuries counselling and consultation services



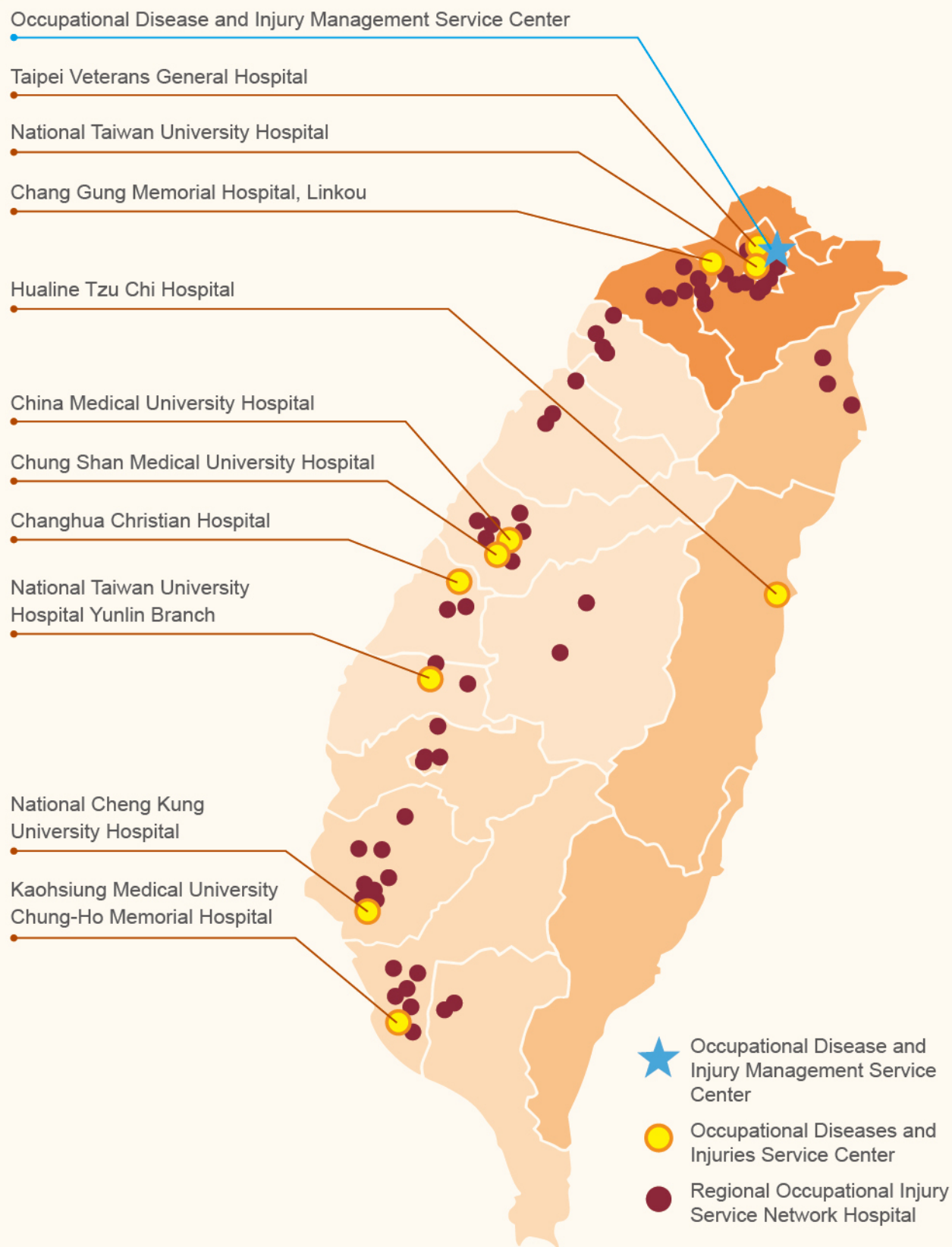


Figure 4.12 The network of occupational diseases and injuries services

In recent years, various OSH issues are addressed in the international and national communities, such as prevention and treatment of asbestosis. Therefore, Occupational Diseases and Injuries Service Centers cooperate with enterprises, government agencies and occupational unions to promote the occupational diseases and injuries prevention and establish multiple referral services for improving the efficiency of the health services.

In 2018, these ten centers provided

252 clinics per week for diagnosis and treatment of occupational diseases and injuries for workers. The number of treatment service recipients reached 22,464 cases. The number of managed cases for occupational diseases and injuries was 2,864, occupational diseases and injuries consultations were provided for 9,608 cases and 1,051 referral services were provided (the total number of recipients was 10,659). 1,487 recipients were assisted in returning to work.

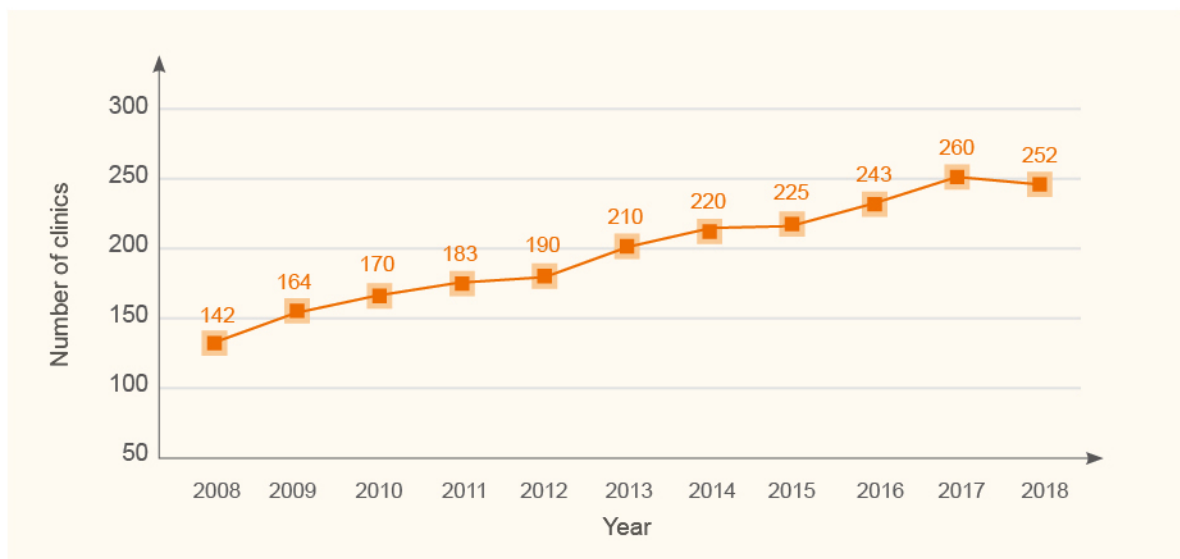


Figure 4.13 The number of clinics for diagnosis and treatment of occupational diseases and injuries

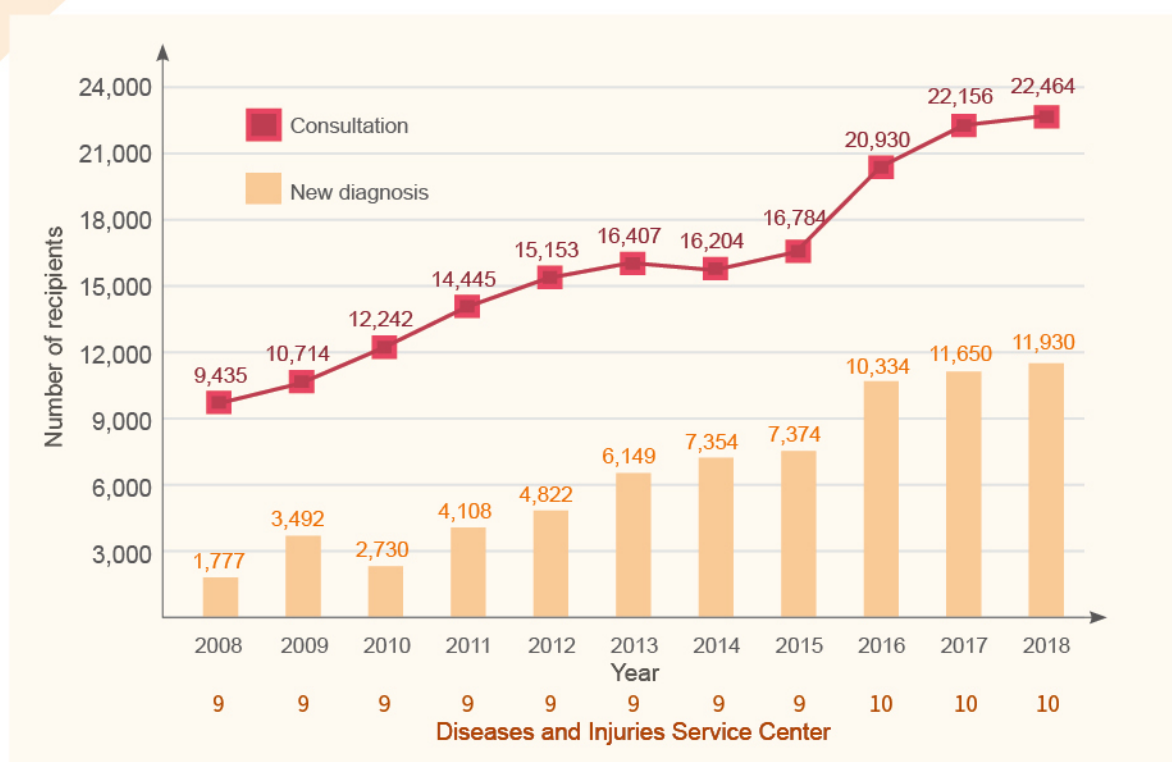


Figure 4.14 The number of recipients who received the treatment services

Since OSHA has established the Occupational Diseases and Injuries Reporting System, the reporting number has increased steadily from approximately 1,600 in 2008 to an average of 2,500 in the recent past three years. According to results of the past occupational accident insurance payment, about 50% of

approved payments was provided to the Regional Occupational Injury Service Network Hospitals. OSHA has worked towards the objectives of updating the reporting system, expanding the scope, increasing the willingness of reporting, and increasing the labor insurance premium.

Key Achievements of Occupational Disease Diagnosis and Treatment over the Last 10 years

OSHA organized the International Symposium on Diagnosis and Reporting of Occupational Diseases and Injuries in 2018. The experts, including Vice-President of the International Commission

on Occupational Health attended the Symposium to exchange knowledge and information on diagnosis and reporting mechanism of occupational diseases and injuries.



The International Symposium on Diagnosis and Reporting of Occupational Diseases and Injuries 2018

Compensate the Workers who have Suffered from the Occupational Accidents

The APWOA was enforced on 28 April 2002. Workers who are participating Labor Insurance Program and have suffered from occupational accidents can claim the Labor Insurance Benefits. They can also claim various types of Occupational Accident Labor Subsidies, including occupational diseases living allowance, disability living allowance, vocational training living allowance, device subsidy, care-taking subsidy, survivors' allowance. The workers without Labor Insurance can also claim the Occupational Accident Labor Subsidies. When the diseases were caused during policy period, the disable workers withdrawing from the Labor

Insurance Program and did not claim the labor insurance permanent disability benefits could still receive the living allowance for occupational diseases.

For those workers without Labor Insurance and did not receive an appropriate amount of compensation from their employers died or are disable by the occupational accidents, they are entitled to claim the Death or Disability Subsidy Benefits (Figure 4.15). In 2018, 2,680 workers who with or without Labor Insurance received the occupational accident labor protection subsidies, and the amount of the subsidies was approximately NTD 250 million.

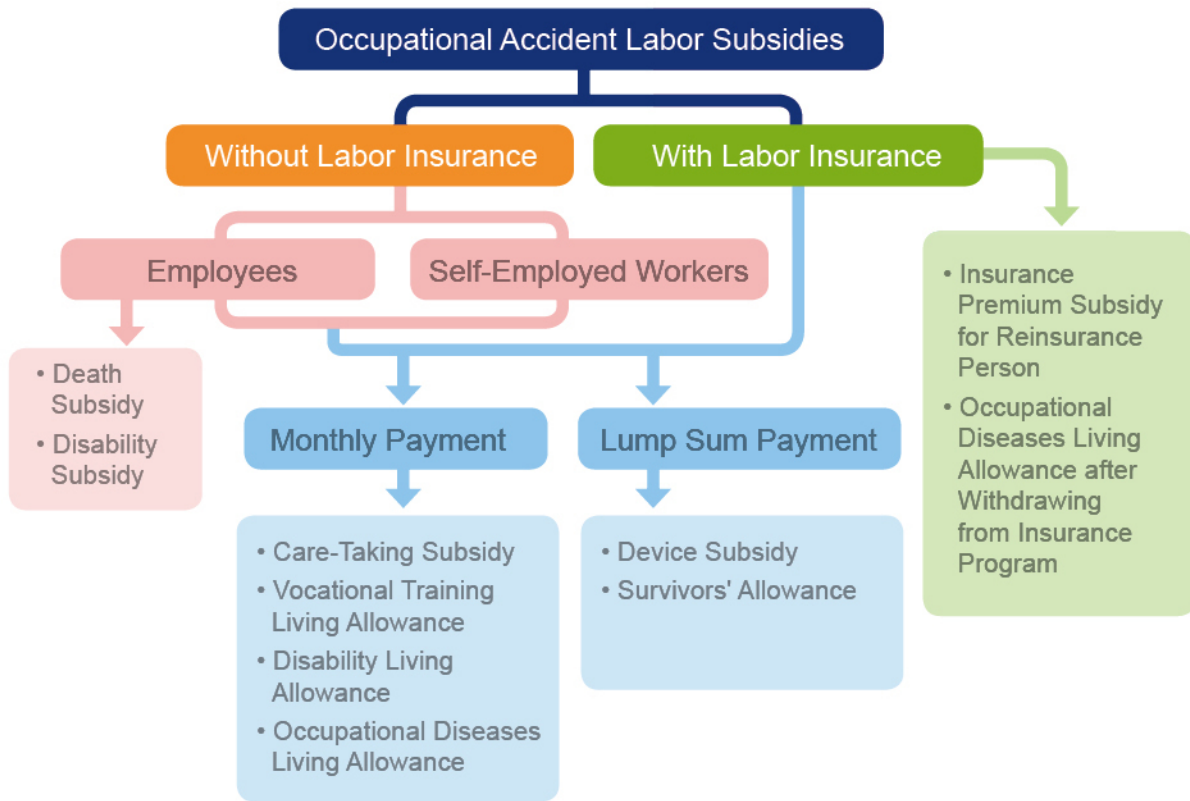


Figure 4.15 The Occupational Accident Labor Subsidies

Assist Injured Workers in Returning to Work

OSHA has helped to reintegrate injured workers into the workplace through collaboration of business entities, vocational training institutions and relevant groups. In 2018, 27 occupational rehabilitation service centers received the subsidies from OSHA to provide psychological



Functional capacity evaluation

counseling and social adjustment, working ability evaluation and strengthening, job evaluation and accommodation for the injured workers to return to work safely. 619 injured workers received services, with the subsidies of NTD 26.77 million, and the rate of return to work was 80%.



Work simulation training
for returning to work



Functional
capacity
evaluations for
returning to work



Occupational
assessments for
returning to the
original work

Enhance the Quality of Workplace Rehabilitation Services

To ensure the consistency of the occupational rehabilitation services, OSHA has initiated the Workplace Rehabilitation Providers Audit Project. It included promoting the compelling benefits of a return to work program, establishing consistent procedures of services and individual case management, as well as providing consultation and training. In 2018, OSHA included another three allied workplace rehabilitation providers to increase accessibility for the injured workers.

Family Assistance Program (FAP)

OSHA has set up case management service helpdesks and 47 case managers across country. They are the points of contact in FAP for the injured workers and support them throughout their recovery. The effective and holistic FAP is based on communication and trust between case managers and injured workers as well as their families. By collaborating with social welfare organizations and occupational rehabilitations, employees are enabled to resume working in an appropriate and timely manner.

The FAP services include:

Service 1

Protect the rights of workers who have suffered from the occupational accidents

Provide consultation services regarding to occupational accident compensation schemes to reduce the financial and emotional impact on injured workers and their families.

Service 2

Support injured workers' families

OSHA has established a partnership of comprehensive service network with central and local governments for enhancing the efficiency of individual case management and supporting the injured workers and their families.

Service 3

Help injured workers return to their normal jobs as quickly and safely as possible after accidents

Work with all parties, including the medical treatment providers, employers, allied health service providers and workers to monitor the process of injured workers' recovery. Also, help to identify suitable duties and possible workplace adjustments to return to work safely.



One-on-one consultation service



Individual case management service

Most of the case managers have well experiences relating to social work, social welfare, psychological counseling or employment services. They can effectively provide appropriate services for individual case through actively integrating regional service resources for injured workers and their families. Figure 4.16 shows the Family Assistance Program service flow chart.

From 2008 to 2018, 26,113 cases with a total of 930,220 participants received FAP

services, including consultations of compensation schemes, resolving any issues or disputes between employers and employees, financial support, mental health counseling, occupational rehabilitation, and vocational and worksite assessments.

In addition, OSHA offered condolences with solatium payment of approximately NTD 100,000 to the families of the workers who died as a result of occupational accidents.

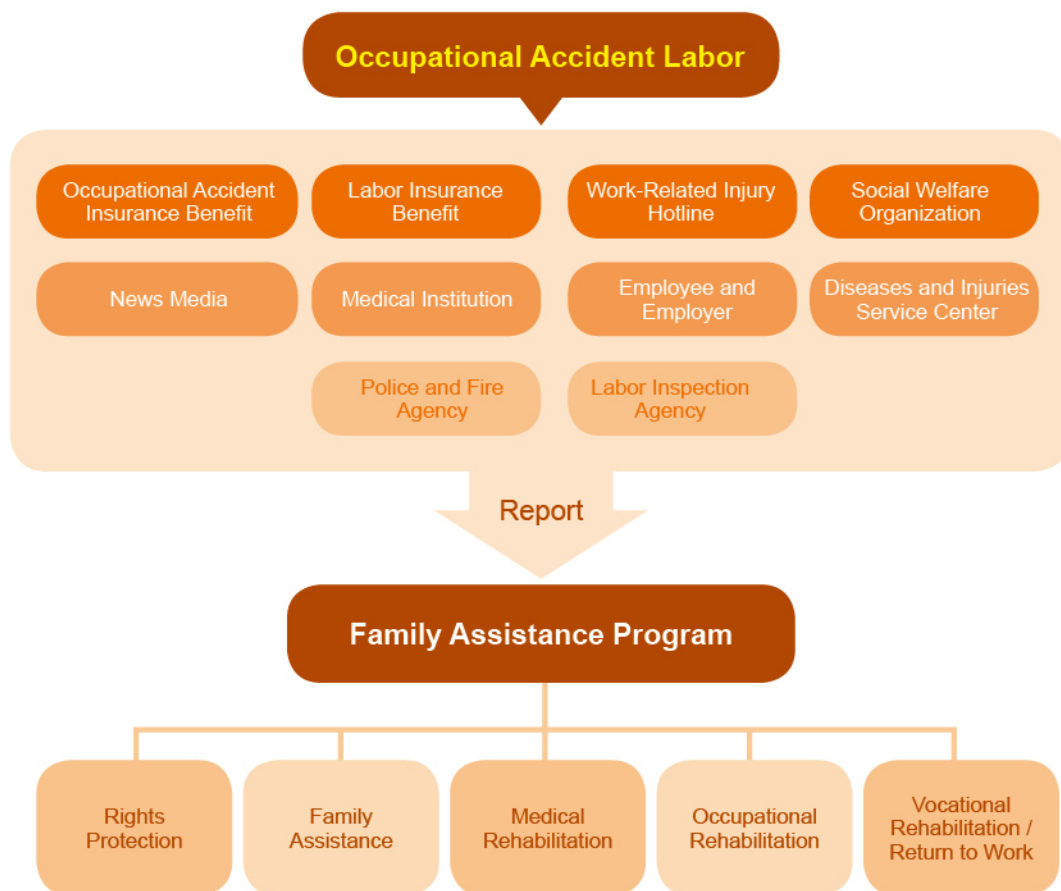


Figure 4.16 Family Assistance Program service flow chart



PART

4

Key Achievements in 2018

Develop Proactive Safety Culture

■ Incentives and Awards for Safety and Health

OSHA acknowledges National OSH Award to outstanding enterprises and individuals. In 2018, seven enterprises and one individual won the National OSH Awards. Two medical institutions were recognized for their contributions to the advancement of OSH in the workplaces, communities and industries.

An Advanced OSH Award is designed for honoring organizations without spared from major occupational accident for past three years. Also, during the three consecutive years, the disablement injury frequency rate and severity rate were well below the average of peer industries. Five Star Award is recognized to the organizations with OSHMS that had won two sequential Advanced OSH Award. In 2018, 42 organizations and 22 individuals won the Advanced OSH Award, eight enterprises won the Five Star Award.

For building safety culture in high-risk construction industry, the Excellent Public Construction OSH Award recognizes exemplary efforts and success in improving workplace safety and health. In 2018, 11

construction sites were acknowledged as Merit Award and 15 as Honorable Mention for their outstanding safety performance.

■ World Day for Safety and Health at Work 2018

To promote World Day for Safety and Health at Work 2018, National Occupational Safety and Health Week was held during the week of April. It aimed at raising public awareness of occupational safety and health. OSHA partnered with the government departments, public/private enterprises, industrial labor unions, as well as academic units to develop and implement activities throughout the week.



■ Young Worker Safety and Health

OSHA has a long-standing commitment to provide decent work, safe and healthy workplaces for all workers. It also stresses the importance of improving OSH for young workers because they have significantly higher rates of job-related injury than adult workers. Therefore, in September 2018, OSHA organized the Safe Youth at Work Forum. It brought together 36 university students to create a national

network of young OSH champions. Young people were invited to share their opinions about the obstacles to safety and health that young workers face and to visit construction sites and manufacturing plants and to learn the use of personal protective equipment. These efforts were intended to support young people by providing them with resources and opportunities to be actively engaged in OSH.



Participants tried out VR experience
at construction site



Young workers participated in learning personal protective equipment

International Cooperation

Working with OSH professionals and international organizations, representing Taiwan at relevant forums to share experience learnings, new findings and good practices, as well as improving the visibility and good country reputation are strategic objectives of OSHA. In 2018, OSHA

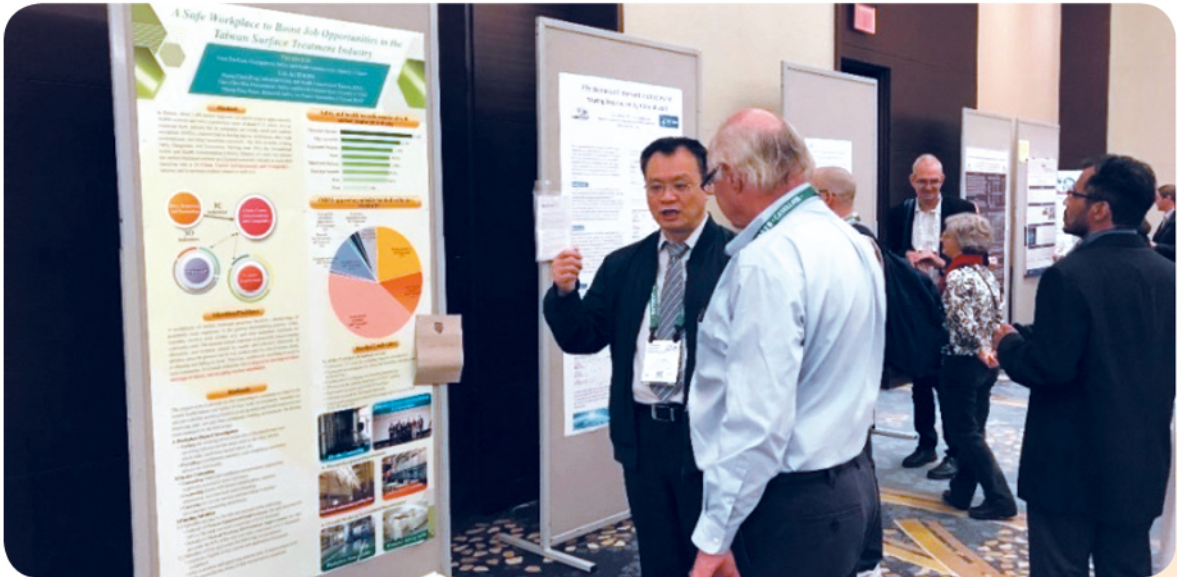
successfully hosted several international conferences on OSH and was invited to attend numerous international meetings. Thus, OSHA gained insights to the future direction of national OSH and envisioned the next chapter of OSH in Taiwan.



OSHA hosted the 2018 International Conference on Occupational Hygiene and Health from March 7 to 9, inviting professionals from the USA, Japan, Korea, and Singapore, for sharing the innovative practices and successful experiences on the topics of effectiveness of exposure assessment and risk management, as well as psychophysiological wellbeing and burnout management at work.



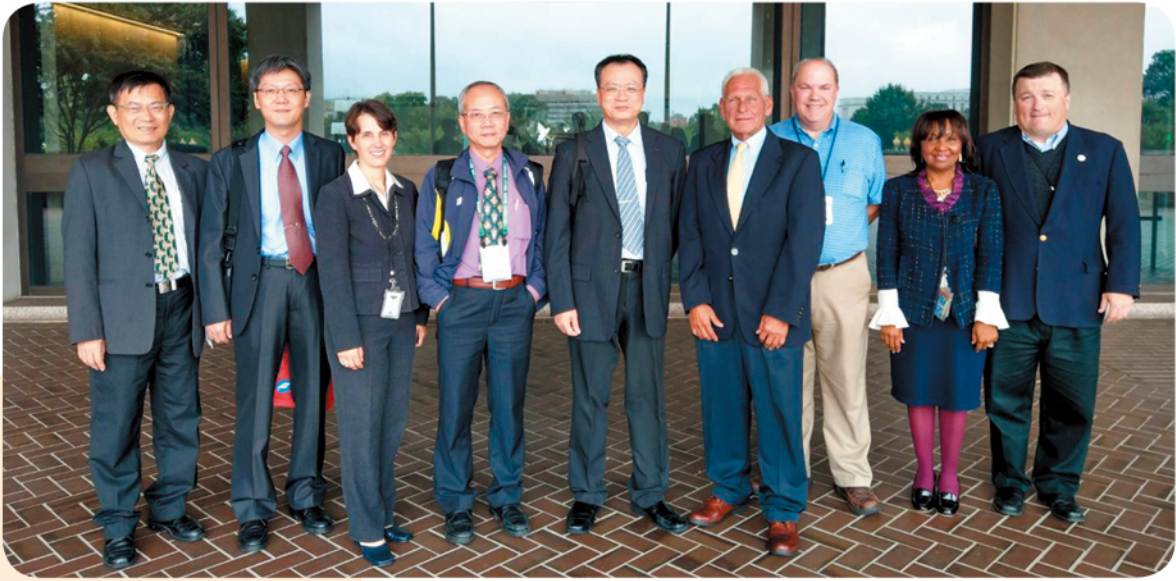
OSHA held the International Conference on Occupational Health Service on July 9th and 10th, aiming to bring together international and domestic experts to exchange experiences and share good practice solutions.



OSHA Director General, Tzou attended the 11th International Symposium held by the International Occupational Hygiene Association on 25th of September 2018 in Washington, DC, the U.S. He demonstrated the strategies with new initiative and action utilized for improving the workplace health and safety in the surface treatment industry.



OSHA co-sponsored the Taiwan Occupational Hygiene Association to host the Annual Conference of the Asian Network of Occupational Hygiene, from November 4th to 6th. The conference focused on promoting quality research and discovering solutions to enrich country's occupational hygiene and health by bringing together world-class renowned industry experts, government officials, academicians, and researchers. The Vice President of Taiwan (Republic of China) and the Chairwoman of Supreme Control Board also attended to show their leadership and commitment for the occupational safety and health.



OSHA Director General, Tzou visited the US Occupational Safety and Health Administration and National Institute for Occupational Safety and Health, sharing commonly concerned topics of OSH, including the ratio of labor inspectors to labors, accident prevention on construction sites, the occupational diseases and Injuries reporting system, industrial use of drone, and the correlation between the result of workplace sampling enrichment monitoring and type of industry.



On November 27th, 2018, the US National Labor Relations Board and the chief labor officials from state or territory visited OSHA for exchange of information and opinion about OSH regulatory system.

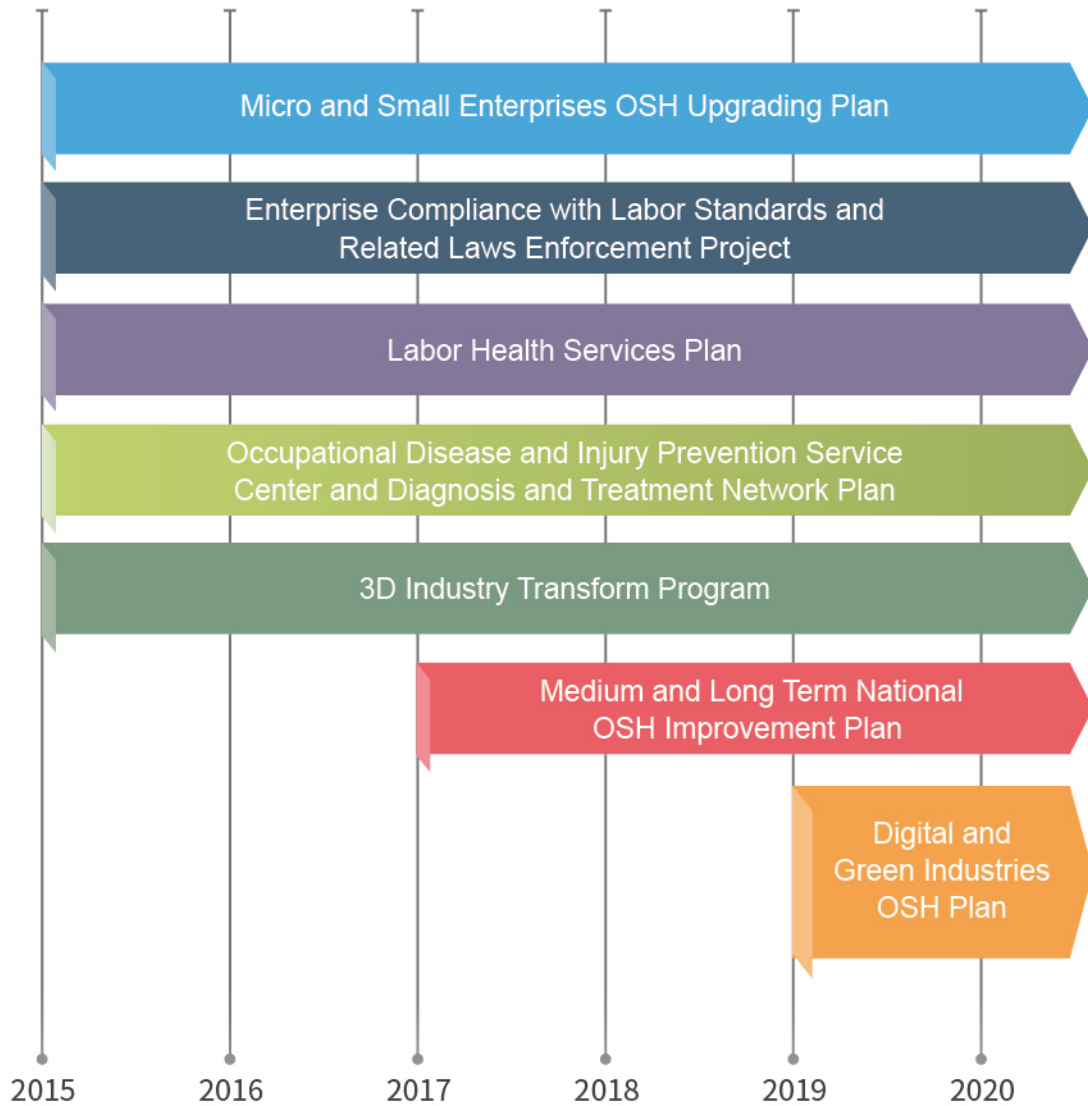
Future Strategies

In recent years, OSHA actively contributed to the improvement of occupational safety and health. As a result, the occupational accident rate per 1,000 workers has declined to 2.612 in 2018 – the lowest level recorded in history. In the meantime, OSHA is fully aware of the fact that the world of work is undergoing rapid and fundamental change, such as the technology of automation and robotics, Industry 4.0 and green energy. All of these has an impact on people at work by new harmful and risk factors. In order to meet the challenges along with time changes, OSHA has been developing an Occupational Injury and Illness Prevention Through Artificial Intelligence Technology Program. The

recommended practices use proactive approaches, including proposing reasonable adjustment of inspection program based on risk and occupational accident statistics. OSHA will continually foster the OSH competence of all workers and their involvement in safety culture. OSHA will also demonstrate leadership and strength collaboration with government agencies and interested bodies to make workplace safer and healthier.

In conclusion, OSHA will make utmost effort to lead to Zero occupational accident, and to ensure that all workforce is decent, healthy and safe at work.





Appendix

Occupational Accident Statistics

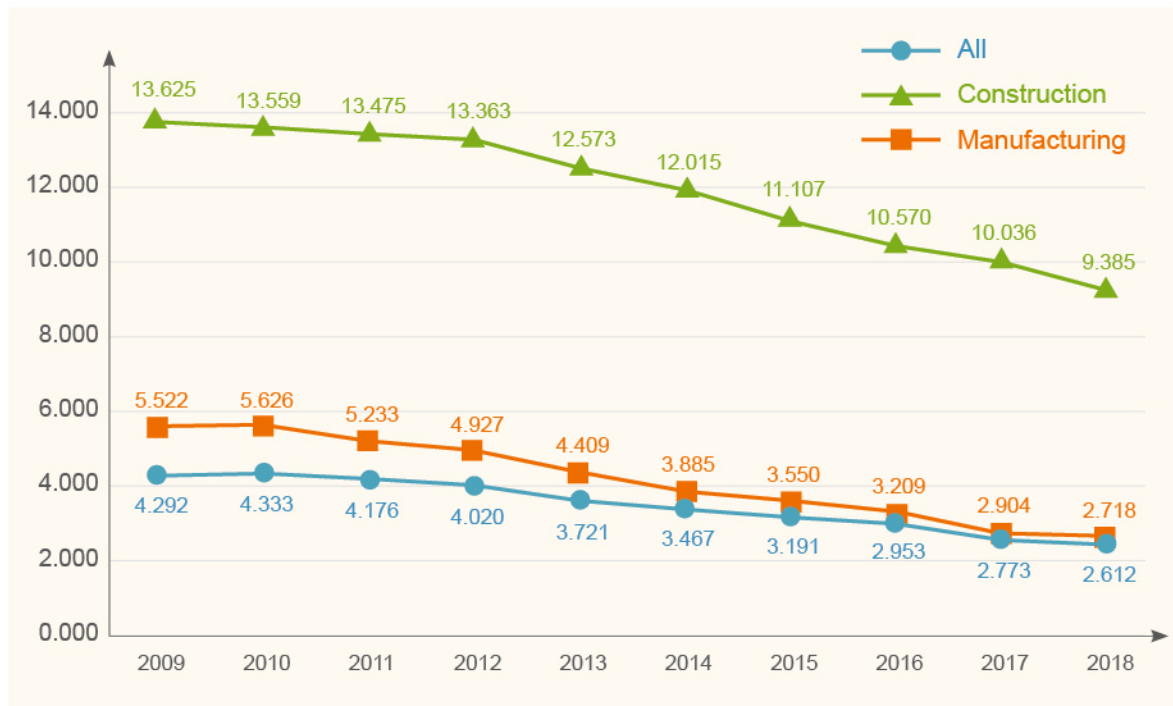


Fig. 1 Occupational Accident Rate per 1,000 Workers under Labor Insurance Compensation

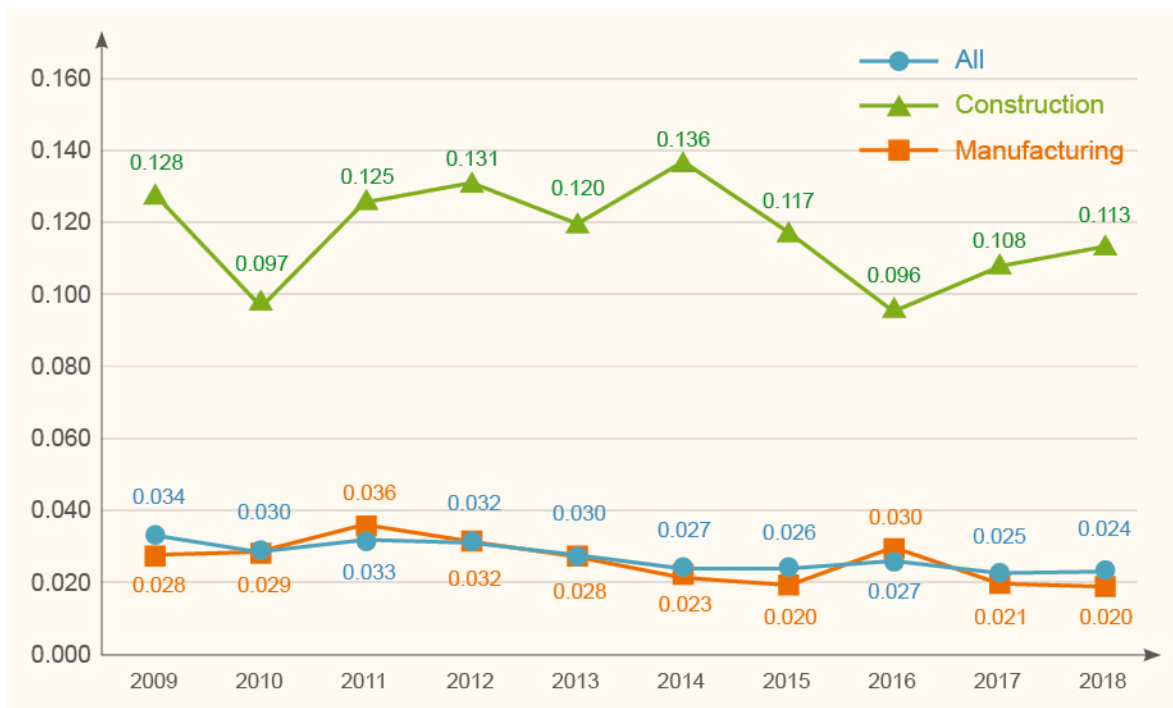


Fig. 2 Occupational Fatality Rate per 1,000 Workers under Labor Insurance Compensation

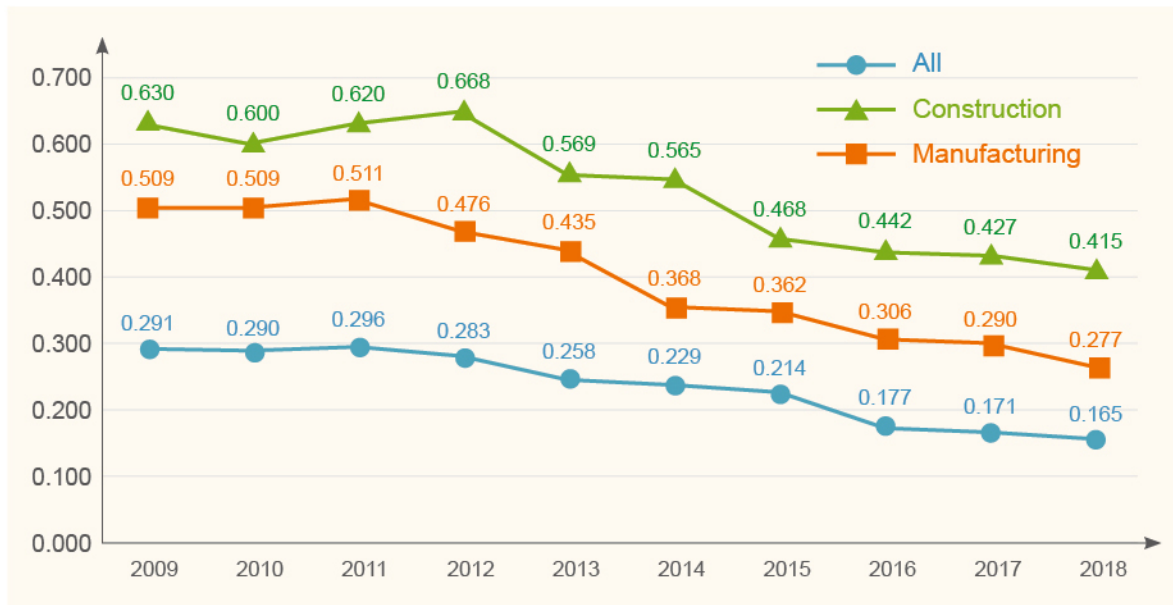


Fig. 3 Occupational Disability Rate per 1,000 Workers under Labor Insurance Compensation

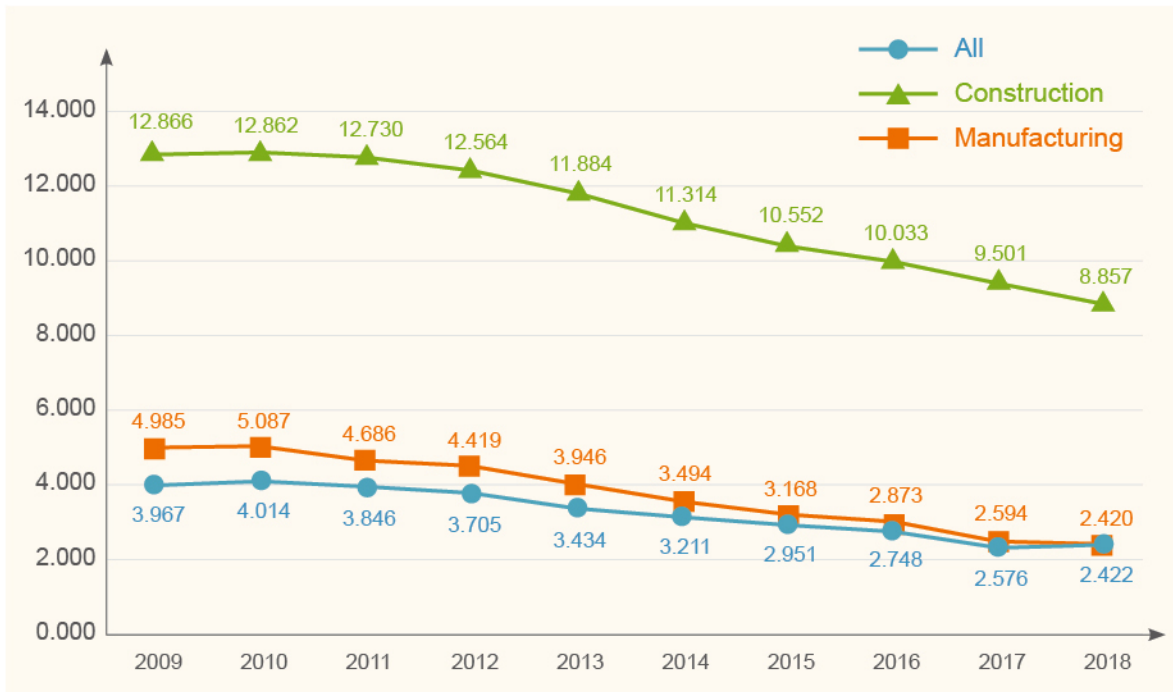


Fig. 4 Occupational Injury and Disease Rate per 1,000 Workers under Labor Insurance Compensation

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