

RELIEF
FAIRNESS
INNOVATION



A Partner of
VISION ZERO
Safety, Health, Wellbeing.





Korea where all workers are entitled to
the right to be safe and healthy anytime anywhere

Contents

President's Message	08
----------------------------	-----------

Introduction	10
---------------------	-----------

System Structure of Management Goals
KOSHA's Focal Projects for Occupational Accident Prevention

Key Achievements in 2020 & Focal Activities in 2021	16
--	-----------

Safety Culture & Promotion
Safety & Health Technical Support
- Accident Prevention for Manufacturing Industry [Occupational Safety Projects]
- Accident Prevention for Manufacturing Industry [Occupational Health Projects]
- Accident Prevention for Construction Industry
- Accident Prevention for Service Industry
Professional Engineering-related Projects
Accident Investigation
ICT, Statistical Analysis and Big Data-based Projects
Education/Innovative Contents Projects
International Cooperation
Public Institution Assessment Bureau
Occupational Safety and Health Research Projects
Occupational Safety and Health Training Projects
Occupational Safety and Health Certification Projects
Occupational Safety and Health Future Technology Projects

Appendix	54
-----------------	-----------

Status of Occupational Accidents in 2020
Organization & Staff
Financial Report
History of KOSHA
Contact Address



Korea Occupational Safety and Health Agency

Founded in 1987, the Korea Occupational Safety and Health Agency has grown to be a professional organization in occupational accident prevention through its pioneering and innovative work. With a single-minded devotion to make every workplace safe and every worker healthy, KOSHA's focus has always been on workers.

President's Message



The KOSHA is determined to continue ensuring all industrial sites to be a place where all workers can enjoy their rights to be safe and healthy at all times

Today's society undoubtedly goes through changes almost on a daily basis.

Accordingly, risks are being aggravated in the modern society where everything is becoming larger, more complicated, intensified and advanced, and harmful factors threatening health are also on the rise.

Industrial sites are no exception and they face risks of which scales are further expanding due to increasing aging equipment, outsourced risks, issues from new employment types and the escalating number of new chemicals.

At the same time, the situation surrounding the worldwide COVID-19 pandemic accelerated the changes in the entire society as well as employment types and working environments.

These changes demand a whole new approach to the safety and health, leading to a paradigm shift in occupational accident prevention to focus on the prevention of fatal accidents.

In response to such changes in working environments, the KOSHA reorganized its business operations and engages in various programs supporting technology and finances for industrial sites, training, research and development (R&D) and international cooperation projects.

In particular, in order to thoroughly fulfill the "Measures to Reduce Occupational Fatalities by Half," a core national policy objective of the government, the KOSHA heavily invests its resources in accident prevention plans to mitigate fatal accidents at worksites. In addition, the KOSHA aggressively seeks to build the future safety and health environment by fully counting on the big data, AI and IoT.

The KOSHA is determined to continue ensuring all industrial sites to be a place where all workers can enjoy their rights to be safe and healthy at all times.

With this in mind, the KOSHA has prepared this yearbook describing all the projects and programs we have implemented as well as our performances to prevent industrial accidents for the past year. I sincerely hope that this yearbook can serve as essential data reconfirming status of occupational accident prevention and guiding the direction for enhanced safety and health contributing to constructing workplaces allowing all workers to work safely free from any incidents.

President **Doo Yong Park** 

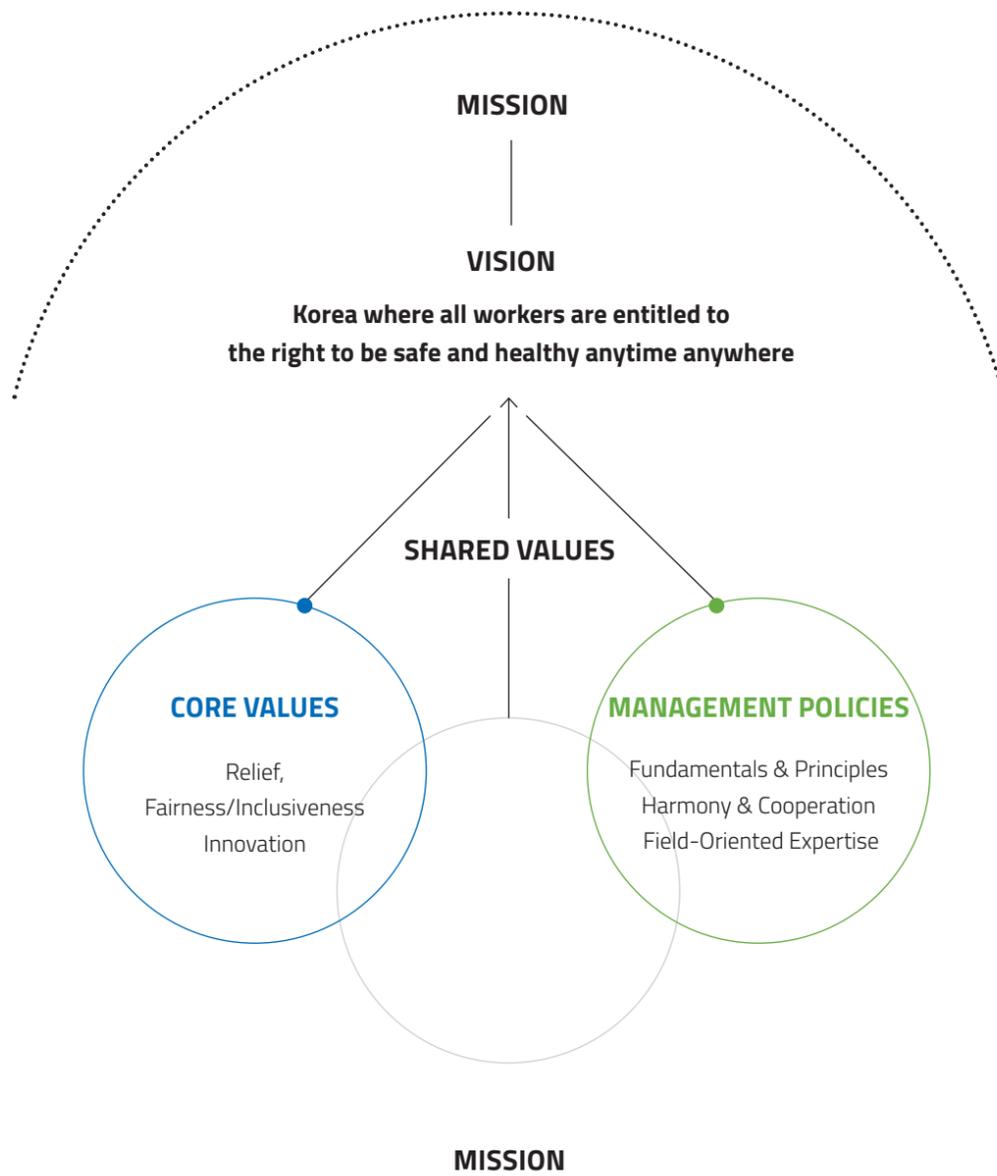
STAY

RELIEF

Introduction

System Structure of Management Goals
KOSHA's Focal Projects for Occupational Accident Prevention

System Structure of Management Goals

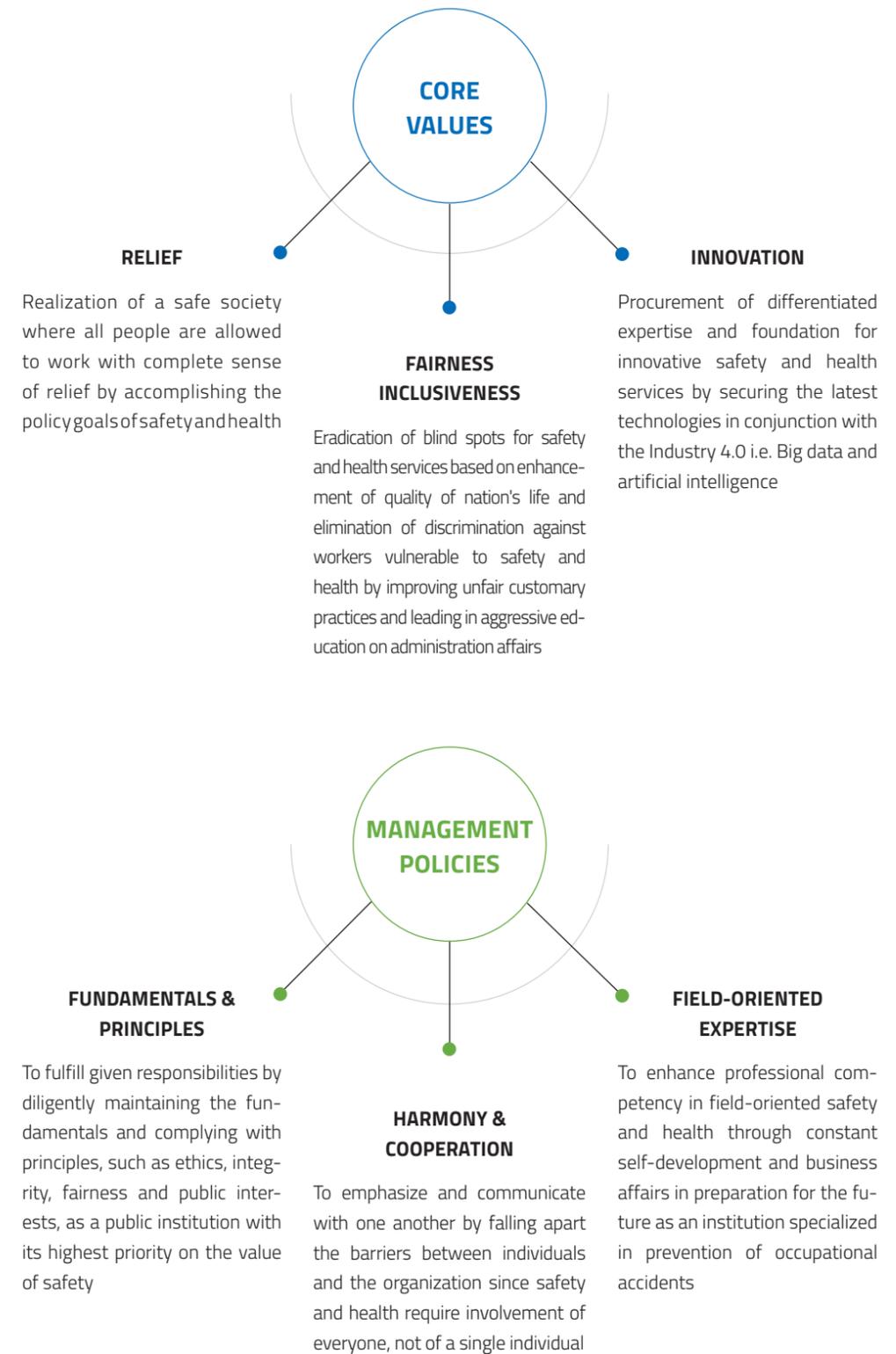


We aim to realize social values of safety and health to ensure that everyone can lead a life with peace of mind

We assertively implement fair economy and administrative works by keeping eyes and ears widely open to the safety and health issues at every worksite at all times

We place the highest priority on the value of inclusiveness for those who are vulnerable to safety and health, incapable of even asking for help despite in desperate need of help

We provide innovative safety and health services by acquiring the latest technology and knowledge to maintain expertise at the highest level at all times



KOSHA's Focal Projects for Occupational Accident Prevention



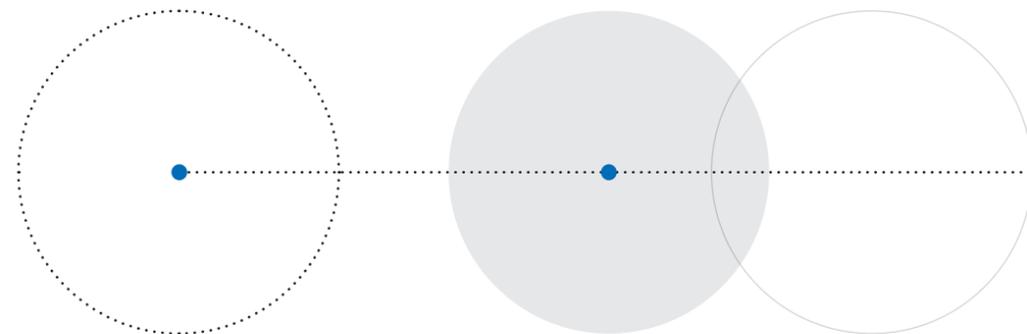
INTENSIVE MANAGEMENT TO REDUCE FATAL ACCIDENTS

- Expanded patrolling on-site inspections on main causes for fatal accidents and implementation of planned investigations on the causes for the issues of repeated accidents
- New installation of innovative projects for safety investment to decrease fundamental risks for fatal accidents and organization of preventive items/equipment for fatal accidents
- Operation of training courses to associate with prevention projects and enhance the awareness of responsibility in order to proliferate the consensus on prevention of fatal accidents



Protection of Vulnerable Groups such as Essential Workers, and Protection of Workers' Right to Be Healthy

- Reinforced supports and infrastructure to protect the health of essential workers
 - Investigation of harmful factors and support of protective equipment at worksites having essential workers suffering musculoskeletal disease with frequency
 - Support of expenses for health examination by occupation types and in-depth diagnosis to high-risk groups for deaths from overworks (cerebral-cardiovascular diseases)
- Formation of discrimination-free working environments, such as supports of resting/sanitation facility and disinfection supplies, i.e. partitions, in affiliation with financial aid projects
- Operation of training courses accommodating characteristics by occupation type for essential workers and workers in special types of employment, and implementation of tailored promotions by target in order to protect vulnerable groups
- Fulfillment of timely responses to occupational health issues, including infectious disease, suffocation and poisoning disease



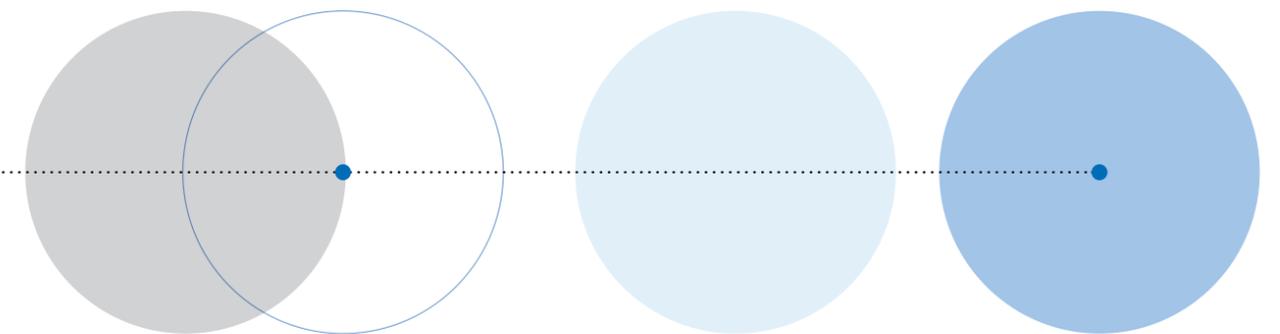
Strengthened Supports for Construction of a Self-Regulatory Safety Management System

- **Process Safety Management System:** Identification/management of blind spots for safety and adoption of advanced techniques
- **Harmful Risk Prevention Plan:** Construction of a permanent safety management system in conjunction with patrol inspections
 - **Manufacturing:** Enhanced activities to identify business sites yet to submit through unannounced inspections
 - **Construction:** Timely verification of hazardous operations for serious accidents through an on-site monitoring system
- **Safety and Health Management System:** Unification of authentication systems, currently under the dualized systems (construction industry and all other industries), into a single system, and heightened systems and improved on-site operability by adopting advanced techniques
- **Risk Assessment:** Promotion of patrol-type consultation and association with financial projects when improvements are required
- **Cooperative Program:** Supports with focus on on-site improvement by means of patrol methods and expansion of targets for on-site technical guidance (transferred to a parent company for approval of participation in 2021)
- **Safety Certification/Inspection:** Enhancement of phased systems to procure safety for hazardous machinery and strengthened preventive activities for fatal accidents



Post-COVID-19 and Future Responses

- **Digital Innovation:** Construction of scientific occupational accident prevention system through procurement/sharing/resource of data based on innovation of information systems and promotion of opening/utilization of safety and health information
- **Non-Face-to-Face methods:** Continuous development/distribution of non-face-to-face services to improve the level of safety and health at worksites during the post-COVID-19 era
- **Education/Contents:** Installation of video lecture studio to build convergence (collective + e-learning) educational environment, development of non-face-to-face/online contents and identification of future-oriented safety and health education models
- **Smart Infrastructure:** Development of non-face-to-face safety and health systems by industry combining ICT to protect workers in the hazardous industry and expansion of occupational health functions



ENSURE

**Key Achievements in 2020 &
Focal Activities in 2021**

FAIRNESS

Safety Culture & Promotion

Safety & Health Technical Support

Accident Prevention for Manufacturing Industry [Occupational Safety Projects]

Accident Prevention for Manufacturing Industry [Occupational Health Projects]

Accident Prevention for Construction Industry

Accident Prevention for Service Industry

Professional Engineering-related Projects

Accident Investigation

ICT, Statistical Analysis and Big Data-based Projects

Education/Innovative Contents Projects

International Cooperation

Public Institution Assessment Bureau

Occupational Safety and Health Research Projects

Occupational Safety and Health Training Projects

Occupational Safety and Health Certification Projects

Occupational Safety and Health Future Technology Projects

Safety Culture & Promotion

Proliferation of society-wide consensus on reduction of fatal accidents

Key Achievements in 2020

1. Laying of foundation to spread corrective measures to reduce accidents and fatalities

- Contribute to preventing fatal accidents by encouraging safety practices at the sites and business owners' enhanced awareness by promoting social perception and interests in reduction of fatal accidents
- Year-round/extensive campaign by each medium based on a theme to lower fatalities from accidents by half, including special features and joint coverage with socially-influential media outlets
 - TV campaigns (1,555 times), radio campaigns (3,192 times), feature articles and contributions (67 times), advertisements through media outlets (265 times), media promotion at the point of contact with daily lives (8 times), promotion through internet media (1,649 times)
- Improvement of effectiveness of events by delivering social messages to reduce fatal accidents during public events, such as "Safety Inspection Day," and promotion of public consensus to join countermeasures to cut down fatal accidents
 - Concurrent nationwide implementation of the above through joint efforts between headquarter-frontline offices based on identical themes (quarterly)



2. Procurement of places for OSH information exchange and employment opportunities through an online event of the Occupational Safety and Health Awareness Week in 2020

- Continuous proliferation of the society-wide consensus on mitigation of fatal accidents by hosting OSH seminars and presentation of exemplary cases through internet while cancelling the OSH Day Ceremony, International OSH Exhibition and other public-participating events in order to respond to COVID-19
- Complied with the governmental policies on jobs by connecting job-seekers and potential employers and performance of public HUB roles within OSH markets by hosting the online OSH Job Fair
- Participated by 33 agencies where 102 people were hired from 1,007 candidates

Focal Activities in 2021

1. Strategic promotion by theme and analysis of performances

- Improvement of awareness and practices regarding prevention of fatal accidents through promotion at the points of contact with worksites based on the analysis of exposures and patterns by media outlets for various targets
- Diversification of channels* to deliver OSH information directly to the workers of vulnerable groups at labor blind spots, including workers in special types of employment**
 - * Subway route guidance, outdoor advertisements at buses, etc.
 - ** Insurance planners, door-to-door visiting tutors and 7 more jobs whose employment status are in special form
- Implementation of omni-directional promotions by selecting the prevention of fall accidents in construction industry as a year-round promotion theme in order to directly contribute to accomplishing the goal to reduce fatal accidents, and formation of pan-national consensus
- Systematic analysis of evaluation of promotional performances by utilizing outside professional agencies, expanded monitoring of media trends, and improvement of reliability of promotions on occupational accident prevention through year-round management of media risks based on the above



2. Expanded communication through online channels

- Expansion of safety-first culture by using Youtube and short-form contents as the consumption of short video footages is constantly on the rise through the use of mobile devices
- Production of video contents to prevent fatal accidents, enhancement of viral marketing, and provision of consumer-tailored contents in cooperation with popular Youtubers and channels
- Construction of timely delivery system for information regarding how to lessen fatal accidents targeting key OSH officials, including local government offices, OSH commissions and OSH managers, by using mobile newsletters

3. The Occupational Safety and Health Awareness Week in 2021 and offering of the place to exchange OSH technology and information at home and abroad

- Operation of events in an online/offline-combined hybrid manner due to COVID-19
 - Online supporters will participate in the events through live streaming services while the number of participants in the ceremonial events will be minimized
- Uninterrupted delivery of messages to principal agents responsible for prevention of fatal accidents to encourage their fulfillment of their obligations
 - Delivery of powerful messages to promote active participation in preventive activities by associating all programs with fatal accidents and creating a stage to explore multi-directional solutions
- Provision of a stage for the world-class OSH festival participated by various society-wide principal agents
 - Formation of consensus concerning prevention of occupational accidents through various events attended by diverse society-wide principal agents, including OSH Day Ceremony and events for public-wide participations

4. Contribution to propagating safety culture to protect vulnerable groups, such as migrant workers and delivery workers, through public contests aiming to expand safety culture

- Improvement of project effectiveness by matching organizations hosting public contests with frontline institutions
 - Matching above will be made based on core targets and responsible areas of hosting organizations
- Enhanced supports for media/broadcasting fields to maximize the effects of proliferation of safety culture

Safety & Health Technical Support

Accident Prevention for Manufacturing Industry [Occupational Safety Projects]

Support for stabilization of safety management to build safe manufacturing sites

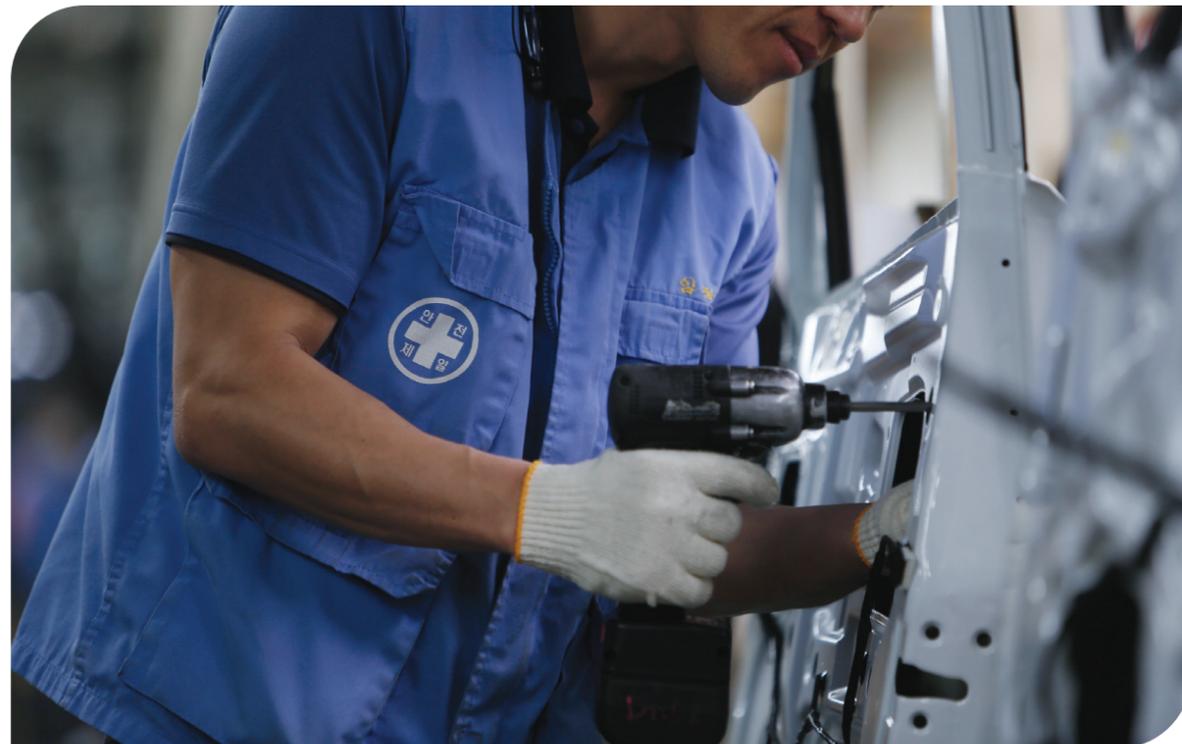
Key Achievements in 2020

1. Implementation of occupational accident prevention projects for trap accidents through specially-planned inspection (patrol) for manufacturing industry

- It aims to examine and improve essential safety measures and management methods by identifying the actual conditions of risks of fatal accidents within jurisdictions in order to prevent "trap" accidents accounting for approximately 32% of all fatal accidents in the manufacturing industry (21,032 sites)
- It aims to strengthen improvements of safety measures at workplaces in cooperation with supervision by the Ministry of Employment and Labor (MOEL) targeting the worksites with high risks of trap accidents

2. Construction of safety system at smart factories and elevation of assessment models

- As the Korean industries are rapidly employing automated smart systems, it is crucial to develop preemptive responsive measures against new potential risk factors
- It aims to improve the level of safety at workplaces equipped with smart factories by analyzing the relevance between the levels of smart features and safety system at worksites armed with smart factories and upgrading the checklist for evaluation of safety systems



3. Contribution to diminishing serious accidents in the manufacturing industry through evaluation and confirmation of harmful risk prevention plans

- It aims to secure fundamental safety by improving harmful/risk factors in advance through evaluation and confirmation of harmful risk prevention plans submitted by workplaces in the event where the entire worksite or major hazardous facility is installed or relocated or where major structures are modified by the business with high risks of occupational accidents

4. Strengthened foundation for risk assessment at small-and-medium business sites and improved standards for approval examination

- Additional development and provision of standard models (13 types) for risk assessment by business type and occupation type, including workers engaged in special types of employment
- Reduction of accidents by 9.5% (based on the statistics as of November, 2020) at business sites approved of risk assessment through concentration of competency to remove key risk factors (trap, fall, collision, suffocation) causing fatal accidents within workplaces
- Development and distribution of standard models for risk assessments concerning new business types and workers in special types of employment (10 business types, 3 forms of work) in line with the changes within social structures

Focal Activities in 2021

1. On-site patrol check to prevent fatal accidents [Goal: 20,000 times]

- Implementation of intensive checks on high-risk business sites with core risk factors (trap accident)
- Encouragement of improvement through supports of preventive items by business type and cause material in association with financial projects
- During inspection of business sites equipped with 6 major* hazardous facilities, aggressive supports for preventive facility, including protective devices, through installation of protective devices concerning relevant facility and verification of normal operation
- * Crane, conveyor, press & shear machine, lift elevator, injection molding machine, forklift
- Maximization of effects of technical projects for occupational accident prevention through strategic operation of patrol cars (287 units) and improvement of public interests and responsibilities in/for occupational safety with elevated visibility through regular on-site checks

2. Timely responses to current issues with occupational safety [Target: 6,500 times]

- Contribution to decreasing fatal accidents through inspections based on fact-finding survey of infrastructure industry with high structural risks and high-tech industries with expected new potential risks as well as supports for process improvement
- Selection of industries with expected increased risks, such as high-tech/root industries, as core targets in order to promote new safety industries based on production-safety integration
- (High-tech industries) Evaluation of safety management level of processes used, including smart factory-related industrial robots, and fostering of experts
- (Root industries) Reduction of fundamental risks of fatality and elevation of industrial competitiveness by improving hazardous processes of root industries, the blind spots for safety, caused by aging industry and loss of competitiveness
- Presentation of improvement measures by risk factor through fact-finding survey-based inspections of target business sites
- Procurement of practical safety and growth engine in association with safety investment innovative projects

3. Examination/confirmation of harmful risk prevention plans, i.e. high-risk business sites and facility manufacturers [Goal: 8,000 times]

- It is to assure fundamental safety by removing harmful/risk factors in advance through evaluation and confirmation of harmful risk prevention plans submitted by business owners in the event where the entire worksite type or major hazardous facility of a high-risk business is installed or relocated or where major structures are modified

4. Supports for construction of self-regulatory safety and health management system at small-and-medium business sites [Goal: 14,000 times]

- Expanded supports for consultation on risk assessment and approval examination allowing small-and-medium business sites with less than 50 employees to build a self-regulatory safety & health management system through implementation of risk assessment
- Implementation of consultation on risk assessment and approval examination focusing on detection and improvement of core risk factors (trap, fall, collision, suffocation) causing fatal accidents at small-and-medium business sites to prevent serious accidents

Safety & Health Technical Support

Accident Prevention for Manufacturing Industry [Occupational Health Projects]

Help creating healthy workplace with healthy work environments and healthy workers

Key Achievements in 2020

1. Enhanced harmful substance management for decent work environments

- Adoption of small-scale business sites and vulnerable groups into the formal occupational health sector through supports for both working environment measurement and costs of special health examination, and contribution to prevention against occupational diseases (measurement: 47,810 sites special examination: 287,504 people)
- Procurement of reliability in systematic operation and improvement of service quality of professional institutions through results from working environment measurements and assessments on professional occupational health institutions (485 sites)
- Proactive prevention against suffocation fatal accidents through intensive management of high-risk areas with suffocation accidents and on-site visit equipment rental service for suffocation accidents (intensive management: 5,033 sites on-site visit service: 57 times)
- Commencement of "Alert of Chemicals Exposure Information" service in order to enable workers to independently verify the type of unknown chemicals and exposure level (regional analysis chambers at 3 sites information offered: 1,600 cases)



- Improvement of related businesses and prevention of public-wide exposure to asbestos through evaluation of specialized technical capacity and compliance with safety and health measures oriented to the businesses conducting disposal and removal of asbestos (1,719 business sites evaluated)

2. Protection of workers' health through responses to work-related diseases and current issues of occupational health

- Provision of basic occupational health services for workers at the workplaces with less than 50 employees relatively vulnerable to health management by means of workers' health centers (23 centers 202,265 users)
- Operation of occupational trauma consultation centers offering mental health programs to workers and witnesses at the worksites where fatal accidents/suicides have occurred (1,932 workers from 232 worksites)
- Encouragement of stable operation of a self-regulatory management system for business sites through supports and timely intervention/responses to harmful/risk factors requiring intensive management, i.e. particulate matter, heat wave, cold wave and emotional labor (11,050 sites)
- Support for masks (3.32 million units) to prevent health hazards for workers vulnerable to exposure to high-concentration particulate matter
- Implementation of preventive epidemiological survey upon the business types with high probability to experience newly emerging social issues or occupational diseases (4 business types, including air transportation business)
- Construction of infrastructure in advance for operation of the system "MSDS submission and closed information screening" (from 2021)

Focal Activities in 2021

1. Enhanced management and improvement of harmful work environments

- Financial supports (USD 33.8 million) for small-scale workplaces with less than 20 employees and daily construction workers with lack of health management to execute working environment monitoring and special health examination
- Provision of comprehensive services, including monitoring of oxygen/harmful gas concentration, safety training and equipment rental, by visiting worksites with confined spaces through on-site visit one-call services (3,000 times)
- Guarantee of workers' right to know about handling and exposure of chemicals through implementation of nationwide "Alert of Chemicals Exposure Information" services (8,000 times)



- Advancement of the around-the-clock monitoring system on exposure to chemicals by means of ICT for electronics business sites handling multiple/high-toxicity chemicals
- Implementation of collaborative inspection to stop importing asbestos in order to fully prevent the general public from being exposed to asbestos, monitoring of disposal and removal of asbestos at small-scale work sites and evaluation on the safety of disposal and removal works of asbestos (7,000 sites)
- Implementation of close management of business sites with weak health control through expansion of targets for health management support projects at small-scale business sites and increased number of such supports (71,590 times)

2. Expansion of infrastructure and scope of workers' health management

- Implementation of medical examination by occupation type, supports for prevention of musculoskeletal diseases and intensive management of high-risk groups of deaths from overworks in order to secure the workers' right to have health at the blind spots, such as vulnerable groups for employment and workers in special types of employment (74,000 workers at 4,600 sites)
- Operation of workers' health centers to provide health consultations and basic occupational health services for workers at workplaces with less than 50 employees (23 centers and 21 branch offices)
- Expanded installation and operation of psychological consultation centers on occupational traumas in order to prevent workers' trauma acquired from occupational accidents (13 centers)
- Responses to and intensive management of social issues, including climate changes with particulate matter, heat wave and cold wage, deaths from overworks, COVID-19 and suffocation (16,000 sites)
- Execution of advance epidemiological survey for business types and occupation types with risks of outbreak of disease, by clarifying the correlation with the work and carrying out both on-site survey and cause analyses to prevent the same disaster caused by occupational diseases
- Construction of comprehensive information management systems for chemicals distributed in Korea through examinations and approvals regarding closed information after MSDS on chemicals/products in Korea is submitted

Safety & Health Technical Support

Accident Prevention for Construction Industry

Immediate improvement of risk factors to build safe construction sites created by all



50,000 times

On-site patrol checks to prevent fatal accidents



110 cases

supports for construction of OSH management systems



Key Achievements in 2020

- 1. Accident prevention programs by scale of construction sites**
 - Evaluation of appropriateness on the details of hazardous prevention plans for high-risk types of construction sites, i.e. structures higher than 31 meters, and procurement of safety in advance through regular verifications of compliance (3,703 evaluations & 15,468 on-site inspections)
- 2. Specially-planned checks (patrol) to prevent fatal accidents [Performance: 61,675 patrols]**
 - Improvement of inadequate worksites through continuous management over compliance with safety measures after selecting worksites with high risks of fatal accidents
 - Implementation of assessment on safety levels, including business owners' level of awareness and workers' hazardous behaviors
- 3. Expanded financial supports and simplified procedures to encourage Universal Employment of System Scaffolds**
 - Expanded supports (construction sites less than \$1.8 million → \$4.5 million) for safety facility (system scaffolds, safety nets) to prevent fall accidents in order to ensure pleasant and safe working environments, and simplified administrative procedures through minimized verification steps (11 steps → 7 steps)
 - Budget: \$29 million in 2019 → \$50 million in 2020 (+ \$21 million)
- 4. Enhanced establishment and support for KOSHA-MS for construction industry [Performance results: 122]**
 - Reinforcement of prevention-oriented systems for fatal accidents by improving safety management awareness of senior management and promoting enhanced self-regulatory safety management systems of headquarters
 - Aggressive distribution of certificates to public construction project owners pursuant to implementation of evaluation systems on safety activities of public project owners
 - New certification and conversion of KOSHA-MS, differential management by the level of certificate holders, and enhanced follow-up/renewal screening

Focal Activities in 2021

- 1. On-site patrol checks to prevent fatal accidents [Goal: 50,000 times]**
 - Reduction of fatal accidents by elevating the awareness that inadequate worksites must be improved, through unannounced checks (patrol) on the site/works/machinery with risks of fatal accidents
 - Operation of around-the-clock inspection systems focusing on prevention of fatal accidents
 - Determination of objects and schedule based on identification of current status, including local characteristics by frontline institutions, tendency and period of fatal accidents
 - Elevation of effects from reduction of fatal fall accidents at construction sites in association with the improvement projects on facilities with risk factors
- 2. Accident prevention programs by scales of construction sites**
 - Evaluation of appropriateness of hazardous prevention plans for high-risk types of construction sites, i.e. structures higher than 31 meters, and procurement of safety in advance through regular verifications of compliance (3,000 evaluations & 15,500 on-site checks)
 - Raised OSH awareness for business owners and workers and prevention of massive fire accidents through repeated patrol activities and surveillance of firearm operations at small-and-medium construction sites (of which budget is less than \$10.7 million) by employing safety-health experts, including retirees with vast construction-field experiences (100,000 times of patrol by 330 experts)
 - Promoted self-regulatory safety activities through partial financial supports for the costs necessary to improve facilities with risk factors in order to prevent fall accidents at small-scale construction sites worth less than \$4.5 million (6,900 sites/\$50 million)
 - Supports for 50-65% of the amount spent to lease/install/purchase system scaffolds and safety nets (up to \$27 thousand)
- 3. Competence enhancement of self-regulatory safety and health management by constructions business (site)**
 - Contribution to competency improvement of systematic safety and health management by having business owners to voluntarily build OSH management systems to prevent accidents through distribution of management systems for safety and health of construction businesses (KOSHA-MS) to public project owners and general and special construction businesses and by promoting self-regulatory OSH activities through elevation of the senior management's awareness of safety management (110 cases of supports for construction of OSH management systems)

Safety & Health Technical Support

Accident Prevention for Service Industry

Formation of safe workplaces for workers in service industry



100,000 times

Technical training for workplace with high risks of fatal and serious injury accidents



Key Achievements in 2020

1. Expansion of safety nets to prevent fatal accidents for vulnerable occupations, i.e. workers in special types of employment

- (Intensive management of vulnerable occupations, i.e. workers in special types of employment) Implementation of on-site technical training to protect vulnerable workers with high risks of fatal accidents by providing on-site inspection and promoting the amended statute* for workers engaged in special types of employment and workers affiliated with member stores (681 times)

* Article 77 (Safety and Health Measures for Workers Engaged in Special Types of Employment): Implementation of safety and health measures and safety and health training

* Works in special types of employment: "The dependent self-Employment" (ILO)

- (Implementation of protection systems for workers with 4 major hazardous operations at local governments) Fact-finding surveys (637 times) concerning 4 major hazardous operations prone to fatal accidents from the projects either directly conducted or ordered by local governments

* Rearrangement works on forest and green areas, collection and transportation of household wastes, construction works ordered by local governments, repair/maintenance works of aging sewer pipes

2. Technical training for workplace with high risks of fatal and serious injury accidents

- (Technical support for on-site accident prevention at small-scale service businesses) Safety checks and provision of OSH materials for small-scale and high-risk service businesses holding facilities or equipment prone to experiencing fatal and serious injury accidents (100,608 times)

3. Support for OSH activities focused on headquarters or principal contractors

- Procurement of foundation where OSH technology of headquarters and principal contractors can be delivered to their business partners/subcontractors by consulting and certifying safety behavior programs (5 programs) oriented to franchise headquarters with outstanding safety management and operating OSH cooperative programs oriented to parent companies holding business partners (300 parent companies)



Focal Activities in 2021

1. Expansion of safety nets to prevent fatal accidents for vulnerable occupations, i.e. workers in special types of employment

- (Intensive management of vulnerable occupations, i.e. workers in special types of employment) Implementation of on-site technical training to protect vulnerable workers with high risks of fatal accidents for workers in special types of employment engaging in franchise headquarters, delivery businesses, motorcycle messenger services, sanitation and other similar service businesses

* Article 77 (Safety and Health Measures for Workers Engaged in Special Types of Employment): Implementation of safety and health measures and safety and health training

- (Enhanced safety management of local governments) Supports from the Ministry of Employment and Labor/ KOSHA through cooperation to help the projects directly performed or ordered by local governments constructing self-regulatory safety management systems

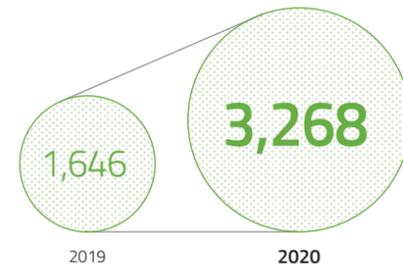
2. Technical training for workplace with high risks of fatal and serious injury accidents

- (Technical support for on-site accident prevention at small-scale service businesses) Implementation of on-site check and technical guidance for building management and food service business sites with high risks of fatal accidents from the service business sites composed of less than 50 employees which lack resources for safety and health management (100,000 times)

Professional engineering-related projects

Self-regulatory safety systems to prevent large-scale accidents

[Checks and safety examination on facilities handling harmful chemicals] (Unit: Cases)



Key Achievements in 2020

1. Evaluation and confirmation of

Process Safety Management (PSM) reports

- Contribution to prevention of serious occupational accidents through comprehensive and scientific preventive activities, including factual surveys on 7 business types, such as crude oil refineries, and workplaces using 51 types of harmful substances/chemicals, i.e. chlorine and ammonia over the prescribed standards, development of OSH materials, assessments on process safety and risks, establishment of countermeasures, and maintenance of hazardous equipment
- Evaluation and confirmation of PSM reports (1,999 cases)

2. Establishment and support for safety and health management systems (KOSHA 18001&MS)

- Contribution to occupational accident prevention through supports for adoption and stabilization of safety and health management systems at workplaces
- Number of workplaces certified by KOSHA 18001&MS since the system was implemented in 1999 (1,499 sites)

3. OSH comprehensive examination (diagnosis)

- Contribution to prevention of occupational accidents by identifying harmfulness/risks at the workplaces with high risks of accidents, such as aging petrochemical factories, through examinations ordered by the Ministry of Employment and Labor or requests for self-regulatory examinations made by business owners due to outbreak of serious accidents, and by presenting improvement measures
- OSH examinations at 2 workplaces (ordered examinations at 2 sites)

4. Checks and safety examination on facilities handling harmful chemicals

- Contribution to prevention of chemical accidents through implementation of inspections at facilities handling hazardous chemicals, such as toxic chemicals, chemicals requiring a permission, restricted chemicals, prohibited chemicals and chemicals requiring preparation for accidents, under the Chemicals Control Act, and installation/regular/frequent checks and safety examinations at business sites subject to safety examination
- Installation/regular/frequent checks and safety examinations (1,646 cases)

5. Development and distribution of safety & health technical guidelines

- 1,584 technical guidelines were established from 1995 to 2020, and 1,306 technical guidelines are currently available as of 2020 following necessary amendments and abolishment

Focal Activities in 2021

1. Evaluation and confirmation of PSM reports

- Prevention of serious occupational accidents through evaluation and confirmation of process safety reports for business owners newly establishing, moving or modifying major structures of facilities prone to high risks of serious occupational accidents, including fire, explosion and leakage of toxic substances
- The Number of Projects (1,600 cases)

2. Alert system for chemical accidents

- Implementation of consulting services and follow-up technical training based on risk levels by collecting and analyzing risk signs of workplaces every 3 months and subsequently issuing danger alerts on 3 different levels (attention/beware/alert) in order to eradicate fatal accidents and serious chemical accidents prone to occurring during repair, maintenance and non-regular operations
- The number of projects (2,000 times)

3. Establishment and support for safety and health management systems (KOSHA 18001&MS)

- Contribution to prevention of occupational accidents through advancement of management systems based on certification conversion into KOSHA 18001 business sites and new introduction/stabilization of safety and health management systems at business sites
- The Number of Projects (construction business 110 cases, other businesses except construction: 2,240 cases)

4. OSH comprehensive examination (diagnosis)

- Contribution to prevention of occupational accidents by analyzing OSH organizations/systems and harmful operations at the workplaces with high risks of accidents through examinations ordered by the Ministry of Employment and Labor or requests for self-regulatory examinations made by business owners due to outbreak of serious accidents or society-wide criticism and by presenting improvement measures
- The Number of Projects (on a frequent basis)

5. Checks and safety examination on facilities handling harmful chemicals

- Contribution to reduction of victims from chemical accidents caused by defective facilities through inspections of facilities handling harmful chemicals and by ensuring chemical facilities installed at the business sites subject to safety examinations to be properly installed and operated in accordance with legal and technical standards
- The number of projects (3,268 cases)

6. Development and distribution of safety & health technical guidelines

- Development and distribution of safety & health technical guidelines to contribute to fostering environments apt for self-regulatory safety & health activities at workplaces by responding to the constant changes in technical standards in Korea and overseas
- The number of projects (100 cases)

Accident Investigation

Prevention of accident recurrence through scientific investigations on causes of accidents and in-depth causal analysis



Key Achievements in 2020

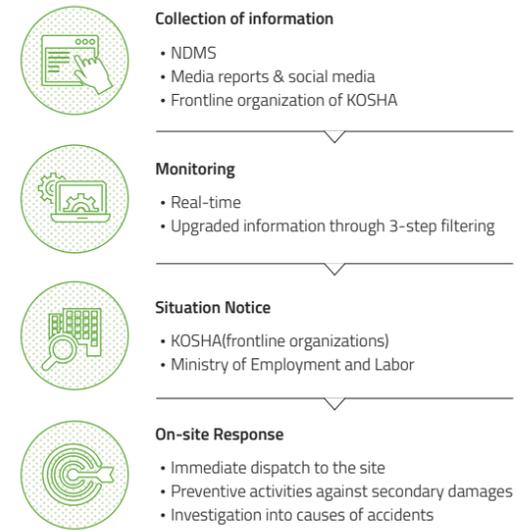
1. Operation of accident monitoring & response center

- Purpose
 - In aims to promptly respond to accident sites and prevent secondary damages through real-time monitoring of accident situations and proliferation of situation notices in conjunction with the National Disaster Management System (NDMS)*
- * NDMS (National Disaster Management System)
- Performances
 - 11,697 cases in 2019 → 14,397 cases in 2020 for proliferation of situation notices (↑2,700 cases, 23.1% from the previous year)

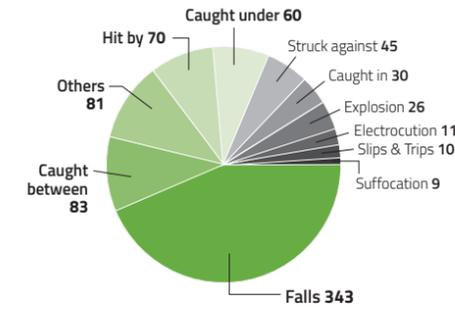
2. Investigations into causes of serious accidents

- Purpose
 - In aims to prevent reoccurrence of similar accidents through investigations into causes of accidents by establishing countermeasures when serious accidents, such as fatal accidents, ever occur (frontline agencies, metropolitan accident investigation center)
- Performances
 - 768 cases investigated in 2020

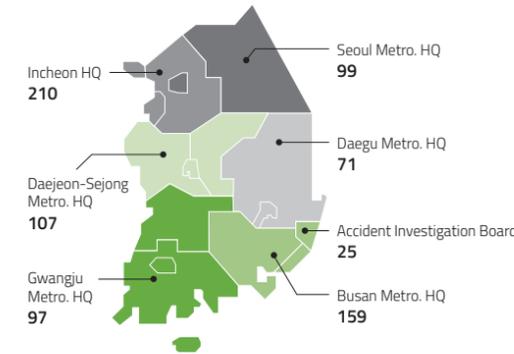
[Operational Process of Accident Monitoring & Response Center]



[Information By type of occurrences] (Unit: no. of accidents)



[Information by regions]



3. In-depth investigations of serious accidents

- Purpose
 - Enhanced reflux functions by identifying fundamental causes for accidents and establishing countermeasures to prevent accidents through systematic analyses on causes of accidents** performed by experts in accident investigation upon occurrence of serious accidents* and accidents with social issues
- * Serious accidents: Accidents with 2 or more fatalities and 3 or more casualties (including 1 death)
- ** Accident investigation and analysis technique applied
- Application of MTO (Man, Technology and Organization), AcciMap and FRAM through Factual Analysis, Barrier Analysis and Change Analysis
- Performances
 - 25 cases investigated in 2020

[Outcome of in-depth accident investigations: Major reflux performances to prevent identical accidents from reoccurring in 2020]

- (Regulatory Improvement) Presentation of an amended bill on the Clean Air Conservation Act and safety regulations to prevent suffocation/poisoning accidents from reoccurring to workers handling refrigerant
- (Regulatory Improvement) Presentation of improvement measures on conveyor regulatory systems to prevent trap accidents from occurring at waste treatment businesses

4. Planned investigations into repeated accidents

- Purpose
 - In aims to prevent reoccurrence of identical/similar accidents through development of countermeasures, by identifying direct causes and contributing factors through in-depth analyses on causes of accidents with regard to new types of accidents arising from repeated accidents, environmental changes and introduction of new technology

Focal Activities in 2021

- 1. Operation of accident monitoring & response center**
 - Real-time monitoring of accident situations and proliferation of situation notices
 - Identification of latest trends in accidents through analyses on data of situation notices
 - Link with accident prevention projects, such as patrols concerning the business sites where accidents occur

2. Investigations into Causes of Serious Accidents

- Investigations into cause of accident and establishment of countermeasures to prevent reoccurrence
- Prompt dissemination of breaking news regarding fatal accidents (official website, social media, etc.)
- Production/distribution of notices of serious accident cases (OPS)
- Formation/operation of expert workforce dedicated to accident investigations

3. In-depth investigations of serious accidents

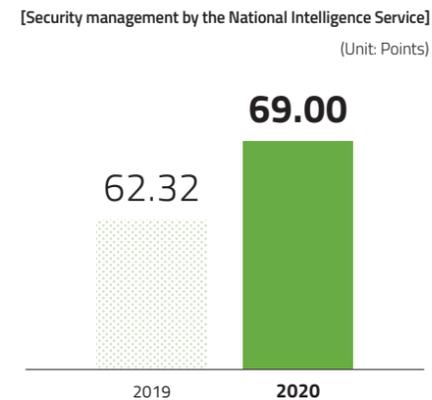
- Application of advanced accident investigation and analysis techniques, such as MTO, RCA, Accimap and FRAM
- Enhanced reflux/feedback functions, including improvements of regulations and businesses, through accident investigations
- Construction of foundation for prompt responses to accidents and scientific investigations of accidents
- Production/distribution of issues reports on serious accidents
- Holding accident investigation-related seminars and sharing cases

4. Planned investigations into repeated accidents

- Identification of fundamental causes based on comprehensive analyses, including outcomes from accident investigations and fact-finding surveys
- Prevention of reoccurrence of repeated accidents through establishment of improvement measures for laws/systems or from the aspects of business executions
- Establishment of plans on planned investigations based on analyses of trends in accidents within jurisdictions

ICT, Statistical Analysis and Big Data-based Projects

Data-based scientific occupational accident prevention Projects



Key Achievements in 2020

1. Improvement of data quality for comprehensive information systems on prevention of occupational accidents and management of information security

- Acquisition of "Gold rating" based on assessment of data quality for comprehensive information systems on prevention of occupational accidents (in the field of accounting) (Korea Data Agency, October 27, 2020)
- Increased by 6.68 points* from the previous year based on assessment of information security management by the National Intelligence Service

* 62.32 points in 2019 → 69.00 points in 2020 [16.68 points 67 points in average for quasi-government agencies]

2. Promotion of occupational accident prevention systems (AI platform) based on Big Data

- (Collection/Construction of DB) Construction of database through collection of data (92 cases*, 18,190,000 units) from internal/external business sites, including business site information owned by the KOSHA, statistics on occupational accidents and public data portals

* (Internal information) 47 cases from working environment surveys and statistical data (External information) 41 cases from factory registration information

- (Development of an accident probability prediction model) Development of prototype of an accident probability prediction model through machine learning in connection with the business site information DB built with manufacturing business sites (386,199 sites) as of December, 2019

- (Recommendation of targets for technical guidance/Smart search) Indication at the upper section of preventive measures highly related to the search words input through processing of natural language regarding knowledge-based basic data

* Search with the highest priority as the relevance is elevated based on the outcome from users' feedback through machine learning

3. Improved quality of statistics and enhanced usability

- Acquisition of "Outstanding (the highest rating)" based on the results from examination of statistics quality independently conducted by Statistics Korea through stable production and enhanced reliability of statistics approved by the State

* Quarterly production of State-certified statistics (4 times), production of monthly provisional statistics and provision of analysis data (12 times)

- More occupational accident prevention statistics provided internally/externally (344 cases in 2019 → 354 cases in 2020) and distribution of info-graphic based News Release on linkage/analysis of outside materials

Focal Activities in 2021

1. Discovery/opening of public data from the database containing prevention of occupational accidents and promotion of the use by the public sector

- Procurement of usability of data through identification and improvement of data and structure for the database held by the KOSHA
- Identification of problems and improvement measures through analyses on current quality management by the KOSHA
- Definition of business rules by system in order to examine the consistency of data quality
- Promotion of standardization of terminology/formats, such as date and numbers, common standards for data

2. Maintenance of production of high-quality statistics on occupational accidents and analyses on causes of fatalities from accidents

- Seamless production of quarterly statistics (timeliness), verification of classification by type of occurrences (accuracy), production of high-quality statistics on occupational accidents through provision of info-graphics for statistical data (usability)
- Implementation of causal analyses on fatalities from accidents through DB construction on various causes of accidents

3. Provision of statistics on internal/external occupational accidents

- Provision of requested statistical data supporting the logical validity of the establishment and evaluation of policies for prevention of occupational accidents
- Operation of an automatic issuance system for "Occupational Accident Rate Confirmation" allowing for easy verification of accident rates at business sites

4. Full-fledged development of data-based scientific occupational accident prevention systems

- Exploration of algorithm applicable to raise predictive performances for probability of fatal accidents at business sites, and full-fledged development of prediction models through continuous collection of information regarding business sites and construction of classification DB
- Expanded development of smart search systems through transformation of text materials into data, including the Occupational Safety and Health Act, KOSHA Guide and consultation data on technical civil petitions

Education/ Innovative Contents Projects

Site-oriented education/contents
to prevent fatal accidents



Key Achievements in 2020

1. Safety and health training for each group focusing on fatal accidents

- Expanded safety & health training for executive/mid-level management
- Conversion of the main axis of education projects to focus on the management level, "those with authority and responsibility," capable of changing the worksites, such as training for business owners on the accident prevention rating system
- Discovery/expansion of training courses composed of practical contents targeting the mid-level management through accommodation of local characteristics in consideration of local industrial structures and characteristics of accidents occurred
- Operation of empirical/practical training courses to develop the capabilities of workers and vulnerables for safety behavior
- Put empirical/practical training course throughout entire educational curriculum (utilization of the Empirical Safety Training Centers)
- Generation of synergy through concurrent implementation with patrol checks, technical projects and private entrusted institutions
- Contribution to improving safety awareness of workers by expanding "Tailored Door-to-door OSH Training" targeting vulnerable workers' group, including migrant, middle-aged and female workers and workforce in reserve

2. Development and distribution of diverse safety and health contents by business and occupation type

- Development of safety and health contents reflecting social issues and characteristics of workplaces and workers
- Development of contents in accordance with the wholly amended Occupational Safety and Health Act and altered labor patterns
- Supporting SMEs for their self-regulatory SH management via creation and timely distribution of contents in line with social issues and characteristics of accidents and worksites
- Development of contents for vulnerable workers and general public to improve safety awareness of prevention of industrial accidents and utilization as educational materials
- Distribution through various media to strengthen communicability and usability of safety and health contents
- Enhanced convenience for users of contents through construction of OSH Big Data and improvement of safety & health archives, and improved accessibility to contents through construction of new platforms, i.e. media kiosk
- Contribution to preventing industrial accidents through distribution of safety and health media via multifarious channels, including internet (safety & health archives, 360° VR-only theater, comprehensive search portals, Apps, Youtube) and offline distribution (KOSHA, relevant authorities)

Focal Activities in 2021

1. Field-oriented training courses to prevent fatal accidents

- Focusing on training courses in connection with technical projects to reduce fatal accidents
- Operation of field-oriented curriculum for construction sites (falls), workplaces with most of 7 major cause materials (caught between) and workplaces with confined spaces (suffocation) based on vulnerable causes classified by period and work type in connection with the "on-site patrol checks at hazardous sites"
- Enhanced training, i.e. protection of safety and health for essential workers and workers in special types of employment
- Operation of field-oriented curriculum (e-learning, real-time video training, collective training, etc.) based on courses considering occupational characteristics for essential workers and workers in special types of employment
- Training on key details of the "Serious Accidents Punishment Act"
- Running courses on key details about the Serious Accidents Punishment Act, by delivering intensive training on fatalities prevention and using standard teaching plans and contents for statutory/political education

2. Development of contents suitable to future environments and strengthened on-site communicability

- Development of OSH contents tailored to business/occupation types to promote occupational accident prevention dealing with rapidly changing modern society
- Removal of safety blind spots by developing contents for essential workers delivering core service in COVID-19 era as well as to educate key details of the Serious Accidents Punishment Act for its early settlement at workplaces
- Development of user-oriented contents in diverse forms, including leaflets, posters, stickers, booklets and videos, under the utmost consideration of on-site operability
- Development of future-oriented contents which are realistic with strong educational impacts based on ICT
- Development of VR contents (empirical/informative types) to further improve engagement and power of information delivery
- Operation of "Door-to-door VR experience" for workers at small-sized workplaces vulnerable to fatal accidents
- Diversified contents through joint development collaboration of VR with outside agencies
- Improvement of on/off-line delivery systems by strengthening communicability and enhancement of public relations
- Operation of OSH contents distribution network via various routes in order to support self-regulatory safety management for SMEs, including mobile apps and on-site delivery service
- Stabilized provision of services and prevention of access failures by improving relevant Apps and websites

International Cooperation

Creating win-win prosperity
through preemptive international activities



Key Achievements in 2020

1. Conclusion of agreements and technical cooperation with international OSH organizations

- Improvement of technology and enhancement of international competency of the KOSHA by expanding cooperative organizations through execution of treaties on technical cooperation in addition to steady technical and information exchanges

2. Expanded supports for accompanied growth of OSH level in developing countries in the Asian region

- [ODA Project] Enhancement of competency at the OSH education and training center in Ho Chi Minh City, Vietnam

[Project overview]

- Duration: 2020-2022 (3 years)
- Scale: 3 million USD
- Main objects: Develop OSH curriculum, Enhance competency for instructors, offer training facilities/equipment

- [Joint Projects with Korean OSH organizations] (Korea Development Institute) Promotion of improvement projects for OSH education and training system in 4 ASEAN countries (Cambodia, Laos, Myanmar, Vietnam) (Labor and Management

Development Foundation) Sharing of key details concerning current status of OSH for Korean enterprises advancing abroad (Cambodia, Indonesia)

- [Cooperative Projects with International Organizations] (ILO) Joint development of scorecards to measure the OSH levels (WHO) Participation in and support for re-approval examination of OSH cooperation centers
- [International Cooperative Projects] (Myanmar and Cambodia) Joint research on the field of safety and health laws and policies (Vietnam) Comparison of educational systems between Korea and Vietnam and improvement of educational effects

3. Information exchange regarding OSH in Korea and Overseas

- Improvement of OSH levels in Korea and enhancement of experts' competency through distribution of OSH knowledge/information (strategies, policies and best practices) as the era of trans-border cooperation for OSH has now arrived
- New installment of 2 types of special websites for COVID-19 and provision of information regarding COVID-19 on 30 occasions
- * Provision of 92 cases of requests for investigations into systems related to occupational accident prevention activities, 42 news articles on international OSH trends, 17 times of distribution of technical OSH regulations, and production and distribution of 5 reports on issues

[Agencies under Agreements in 2020]

(Unit: Cases)



- Production support of the Korean edition (1,783 cards) of the "International Chemical Safety Cards (ICSCs)" jointly produced by the International Labor Organization (ILO) and the World Health Organization (WHO)
- Consultation supports for joint patent application on "Smart Evaluation Tools" with the Japan Society for Occupational Health (JSOH)

4. Global proliferation of prevention culture

- International exchange and cooperation as an institution representing the chair organization for a Culture of Prevention Section and Vice-chair institution for the Special Commission on Prevention of International Social Security Association (ISSA)
- Contribution of and interviews (3 times) on the cases of responses to COVID-19 to the journals published in major OSH advanced nations
- Distribution of materials on responses to COVID-19 in Korea through cooperation with member organizations of International Social Security Association
- Leading in the global network cooperation to co-develop and spread application of the global Prevention Culture Index
- Enhanced cooperation with Special Commission on Prevention and its sections
- Joint development of preventive culture index (PCI) with German Social Accident Insurance (DGUV: Deutsche Gesetzliche Unfallversicherung)
- Publication of research journal on development of index, selection/presentation of outstanding journal at SPR Academy, presentation at the joint meeting of the European Network Education & Training in Occupational Safety & Health (ENETOSH)

Focal Activities in 2021

1. Agreements and technical cooperation with OSH organizations overseas

- Execution of new technical cooperation agreements with OSH organizations abroad, renewal of agreements with OSH organizations in Germany and France, and exchange of technology and information regarding accident prevention through existing OSH organizations under previous agreements
- Maintenance of agreements with 54 professional institutions from 29 countries, including the National Institute for Occupational Safety and Health (NIOSH) in the States
- Status by field: Technical exchange (15 institutions), technical supports in developing countries (15 institutions), reciprocal certifications (24 institutions)

- Reinforcement of technical support agreements with international organizations and institutions specialized in accident prevention
- * Enhanced technical cooperation with institutions under agreements Strengthened responses to new harmful hazards and emergency disasters/accidents

2. Expansion of cooperative programs for accompanied growth of occupational safety and health with developing countries

- Enhanced cooperative systems with developing countries in the Asia-Pacific Region to support elevation of the OSH level
- Technical supports for tailored accident prevention accommodating the industrial environments of developing countries under consideration of extent of industrialization, capability to adopt and developmental stage of recipient countries
- Expansion and reinforcement of official development assistant projects aiming to support the establishment of OSH systems in developing countries

3. Exchange of information/knowledge on OSH in Korea and overseas

- Prompt collection and distribution of latest international information, such as exemplary cases of accident prevention overseas
- Discovery of policies/strategies/trends of overseas OSH as well as exemplary cases of accident prevention by country in order to actively react to ever-changing industrial environments
- Supports for provision and distribution of the Korean edition (1,783 cards) of the "International Chemical Safety Cards (ICSCs)"

4. Implementation and proliferation of prevention culture in Korea and overseas through cooperation with global networks

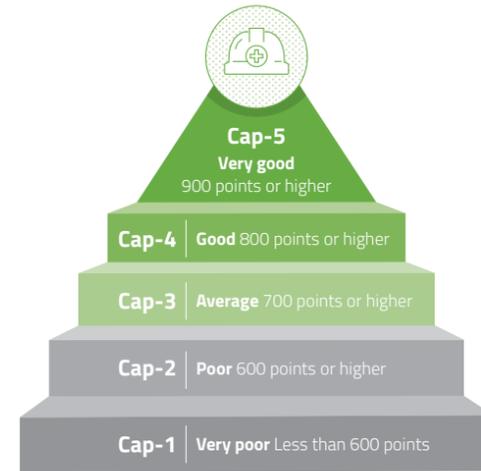
- Proliferation of global prevention culture by hosting a symposium on prevention culture during the 22nd World Congress on Safety and Health at Work
- Enhanced cooperation with Special Commission on Prevention and other sub-committees under ISSA
- Proliferation of preventive culture index (PCI) jointly developed together with German Social Accident Insurance (DGUV: Deutsche Gesetzliche Unfallversicherung)
- Development and commercialization of preventive culture index (PCI) to spread global preventive cultures
- Carrying forward the project to spread "Vision Zero" throughout developing countries in the Asian-Pacific Region

Public Institution Assessment Bureau

Procurement of systems to improve execution level of safety activities by public institutions

Safety & Health services placing the highest priority on workers' safety and health

[Operation of the safety management level system: Safety-Cap]



Key Achievements in 2020

1. Procurement of evaluation systems and structures reflecting the level of safety activities on the governmental management assessments as public-wide concerns are growing due to repeated safety accidents and personal casualties of public institutions (September 2019)

* Public notification concerning assessment on the level of safety activities by public institutions (Sep. 2019), Manual of Management Evaluation of Public institutions in 2019 (Ministry of Economy and Finance October 2019)

2. Assessment on the level of safety activities by public institutions assigning KOSHA as an acting body of assessments (128 sites, January - February 2020)

3. Upgrade of evaluation systems and index in order to strengthen on-site operability focusing on on-site safety activities from the previously established safety management system (2019)

- Implementation of on-site evaluation oriented to institutions with hazardous sites
- Reflection of safety execution and level of participation based on assessments of interview with managers and workers
- Expanded weighted values on efforts to reduce fatalities from accidents

4. Procurement of windows for participations by workers at workplaces directly managed by public institutions and construction sites ordered by public project owners based on construction and operation of hazardous situation reporting systems

5. Standardization of evaluation procedures/methods through enactment of the "Rule on Process of Evaluation Works for Private Accident Prevention Institutions"

- Enactment of the "Rule on Process of Evaluation Works for Private Accident Prevention Institutions" based on new establishment of the grounds for evaluation of private accident prevention institutions in the wholly amended Occupational Safety and Health Act and transfer of principal agents of evaluation (MOEL → KOSHA)
- Promotion of improvement of OSH service levels through feedback of results from evaluation of private accident prevention institutions
- Procurement of systematic grounds for differential managements by reflecting the results from evaluation of private accident prevention institutions, including offering of incentives for outstanding institutions (S) and inspection/revocation of designation (suspension of business) for inadequate institutions (Grade D)

6. Expanded and heightened evaluation systems for private accident prevention institutions

- Expansion and upgrade of "Evaluation System for Private Accident Prevention Institutions" designed to input, manage and give feedbacks on the information of private accident prevention institutions (workforce, facility, equipment, etc.) as well as the information (details of assistance, information on accidents occurred), business performances and evaluation results of technical support businesses

Focal Activities in 2021

1. Encouragement of voluntary improvement of safety level and settlement of safety culture by public institutions through supports for examination and operation of the safety management level system (Safety-Cap) for public institutions conducted by the Ministry of Economy and Finance

- Calculation of public safety index (PSI) based on examination standards of competence, level, performance and value of safety by public institutions, and granting of 5-step safety management grades (Cap 1 through 5) according to the calculation above
- Implementation of supports for improvement of safety level by constructing follow-up systems oriented to the institutions with low grades (Cap 1 or 2) from safety management ratings

2. Improvement by shifting the focus from documents to on-site monitoring during evaluation of private accident prevention institutions

- Implementation of site-visit evaluation systems (on-site monitoring) for business sites with technical guidance oriented to the professional safety management agencies

3. Complete adoption of self-evaluation systems for private accident prevention institutions

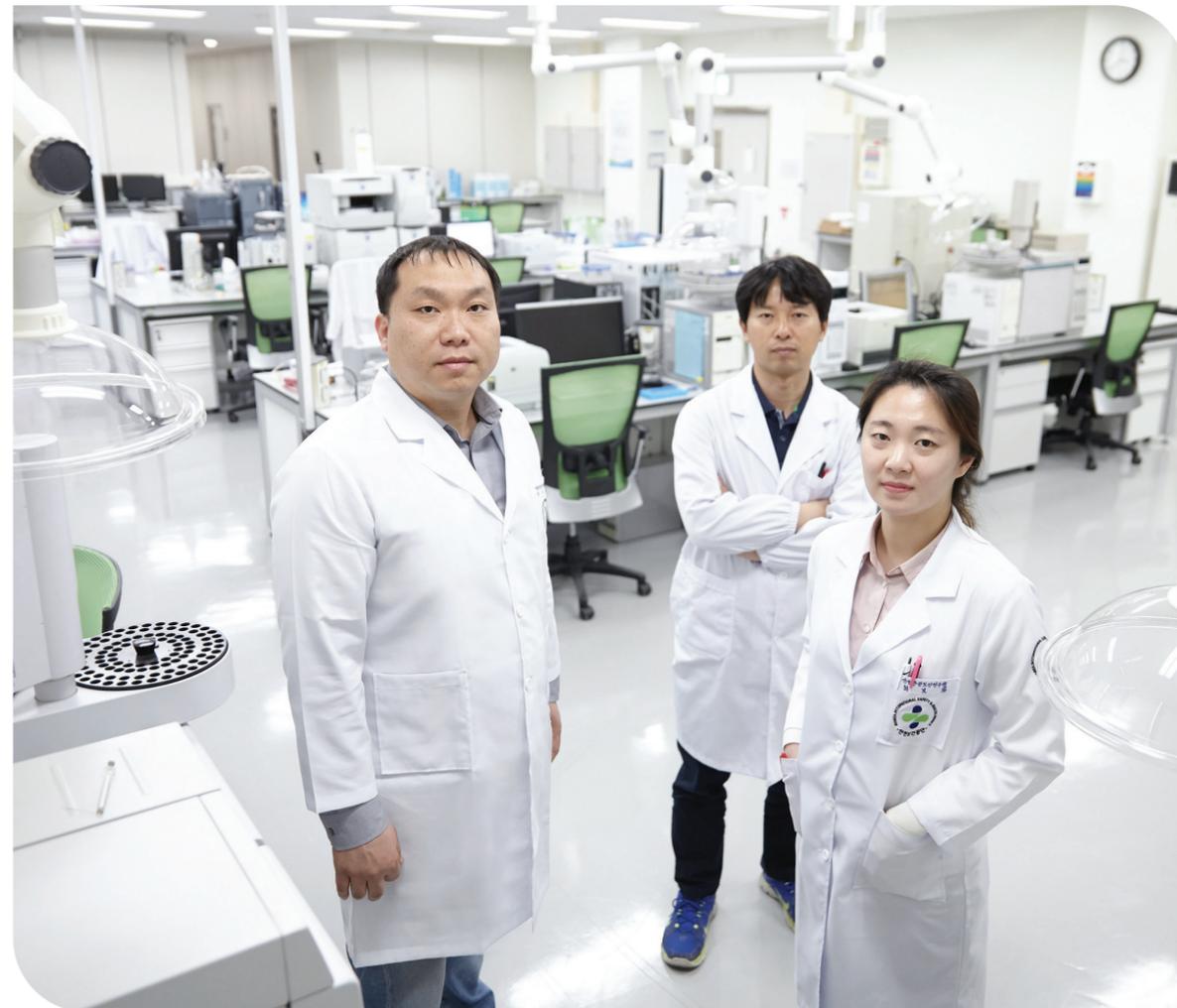
- It allows private accident prevention institutions to autonomously manage their competence, and adopts the self-evaluation systems for private accident prevention institutions reflecting the subsequent results on their evaluations in order to prevent unfair treatments due to the evaluation schedules assigned for each institution

4. Enhancement of on-site operability for private accident prevention institutions by applying the status report input system

- Management of status reports registered at the evaluation management system (K2B) for private accident prevention institutions in order to reinforce the management of consignment business sites of professional safety/health management agencies and professional training agencies for prevention of construction accidents
- Periodic verification and improvement of reports facilitate inspection of business performance status and utilization as data for evaluation of levels

Occupational Safety and Health Research Projects

The Occupational Safety and Health Research Institution leading in occupational accident prevention policies



Key Achievements in 2020

1. Improvement of the level and usability of OSH research

- Enhancement of contributions to establishment of government policies through policy and practical research, and continuous performance of distinct functions of the agency through publication of journals and reflection of policies

[Details of Major Research Performance]

- (Practical Research) Study on Enhancement Measures for Operational Safety of Remotely Controlled Tower Cranes: Development of operating manuals to improve operational safety of remotely controlled tower cranes where constant accidents occur
- (Response to Emerging Infectious Disease) Development of manuals in response to airborne infectious disease for door-to-door service workers
- (Resolution of Social Issues) In-depth status investigations into lung cancer for equine managers, identification of harmfulness within 3D printers, evaluation of risks from exposure to harmful factors at the coal thermal power plants, etc.
- (Vulnerable Groups) Development of amended bills on the safety and health rules to protect workers in special types of employment

2. Procurement of public interests through performance of research/projects to support government policies

- (Korean New Deal) Selection of "Project on Prediction of Risks for Occupational Disease based on OSH Integrated DB" as a project for intensive management of Korean New Deal
- (Government Project) Development of computer systems following the enactment of an MSDS closed information screening system (January 16, 2021), and construction of foundation through establishment/amendment of related administrative rules and operation manuals
- (Evaluation of Public Institutions) Presentation of effective evaluation systems, including development of evaluation index measuring the competency of safety activities in consideration of characteristics and on-site operability of public institutions

- (Analysis of Business Impact) Analysis of effects on reduction of fatal accidents by occupational accident prevention policies which have been enhanced since 2017 and subsequent presentation of policy improvement measures based on the results from such analyses
- (Improvement of Systems) Redesign of systems aiming at systematic management of chemicals pursuant to the Occupational Safety and Health Act, such as presentation of execution measures to improve the systems concerning harmful substances subject to management, and procurement of practical measures

3. Realization of social values through resolution of current social issues and practical research

- (Practical Research) Development of operating manuals to improve operational safety of remotely controlled tower cranes where constant accidents occur, and installation and expansion of box grips for supermarkets through preventive studies on musculoskeletal diseases for workers at supermarkets
- (Fight against COVID-19) Presentation of responsive improvement measures for business sites prone to airborne infectious diseases, and development of manuals to respond to airborne infectious diseases for door-to-door service workers
- (Resolution of Social Issues) In-depth status investigations into lung cancer for equine managers, identification of harmfulness within 3D printers, and evaluation of risks from exposure to harmful factors at the coal thermal power plants
- (Operation of In-house Venture Company) Procurement of growth engine at the safety market through creation of jobs at private sectors and commercialization of results from public-private joint research
- * Procurement of patent on new technology related to prevention of falls during scaffold works and collapse during excavation works, transfer of technology to the private sector, and amendments to notification of safety certificates
- (Execution of Specialized Projects) Improvement of accuracy and reliability of measurement and analyses through quality control of analytical capabilities of institutions inspecting working environments and asbestos investigation bodies

[Total Number of Journals Published at International Academic Journals (SCI-level) and Korean Academic Journals (KCI)]

Subject	2016	2017	2018	2019	2020
No. of Research Conducted	80	79	79	76	70
No. of policy/system improvements reflected	33	36	40	41	41
Publication of journals [Total*(SCI-level)]	41(20)	29(25)	31(20)	44(19)	33(22)

- * Consistent maintenance of over 90% in success ratios by institutions inspecting working environments (organic solvent: 97%, heavy metal: 96.5%) and asbestos investigation bodies (airborne: 93.9%, solids: 96.0%)
- (Construction of Database based on Results from Working Environment Monitoring) Presentation of grounds for establishment of OSH policies through construction of DB based on monitoring results obtained by each institution monitoring working environments
- (Information Management) Qualitative/quantitative enhancement of OSH information on chemicals, including additional provision of MSDS, reflection of most up-to-date information and evaluation of reliability of distribution MSDS
- (Enhancement of Preventive Capability against Occupational Diseases) Performance of preventive epidemiological survey*, including construction of workers cohort using the data and pilot development of programs calculating entire incidence/mortality risks of cancer by business type
- Enhancement of preventive capabilities against occupational diseases, including occupational cancer, through construction of monitoring foundations to engage in active epidemiological survey by group
- * Performance of data-based epidemiological surveys, including "Evaluation of risks of onset of diseases by occupation type for workers of the air transport industry" and "Cohort operation of occupational disease using Big Data"

4. Sharing and Dissemination of Research Findings

- (Publication at the SCI-level International Academic Journal) Expansion of research base scopes and enhancement of global stature through publication at the International Academic Journal (SH@W) in order to discover and spread outstanding OSH journals in Korea and overseas

- Steady rise of citation rate of journals (1,431 times in 2019 → 1,945 times in 2020) and the number of journals submitted (683 in 2019 → 1,013 in 2020)
- (Provision of Information on Toxicity) New presentation of the results from the toxicity tests (260 cases) performed since 1992 after being summarized and organized in a single page for better understanding through the official website* of the OSHRI
- * Specialized projects → Test/evaluation of chemicals → Inhalation toxicity tests and genetic toxicity tests → Test results (summarized data)

Focal Activities in 2021

1. Performance of practical research to implement government policies aiming at reducing occupational fatal accidents

- Study on improvement of safety and on-site applicability of mobile scaffolds at construction sites
- Study on improvement measures for safety to decrease fatal accidents from trapping by conveyors
- Study on improvement measures for usability of patrol cars to prevent occupational accidents

2. Research on responses to social issues and resolution of current issues with safety and health

- Investigations into long-hour labors and study on preventive measures for health hazards, including deaths from overworks
- Study on improvement measures for implementation of special health examination during night-shift works at vulnerable fields
- Study on characteristics of nano-particles at metal 3D printing workplaces

3. Research on responses to emerging infectious diseases and future environments

- Research on development of guidelines for workers' health examinations during the period of seasonal airborne infectious diseases
- Study on improvement measures for responsive systems at business sites where emerging infectious diseases break out (focusing on the cases of COVID-19)
- Study on identification of OSH levels at smart factories

4. Basic research for formation of a solid OSH foundation

- Study on introduction measures for health examination by occupation type
- Study on development of reference samples for evaluation of biological exposure
- Study on procurement of evaluation tools for job stresses from special types of employment and development of self-diagnosis programs

5. Construction of support systems concerning MSDS submission and closed information screening systems

- Submission* of industrial MSDS pursuant to the amended Occupational Safety and Health Act, and construction of information systems aiming to support application and examination** of closed information (name of system: KMS)
- * Any person who manufactures or imports substances subject to the material safety data sheets shall prepare and submit the MSDS to the KOSHA prior to manufacturing/importing
- ** When matters concerning trade secrets within the MSDS (name and content of chemicals) need to be replaced with alternative data (alternative name and alternative content), application shall be filed, and the MSDS shall be prepared in accordance with the result from the application concerned
- Construction and advancement of intelligent MSDS management systems



6. Enhancement of advanced preventive functions of epidemiological surveys

- Expansion of preventive epidemiological surveys in order to preemptively respond to newly emerging issues of occupational diseases
- ※ 4 cases in 2020 → 6 cases scheduled to investigate in 2021
- Conversion from individual epidemiological surveys based on the cases approved for medical care to advanced preventive epidemiological surveys, group epidemiological surveys and Big Data-based epidemiological surveys

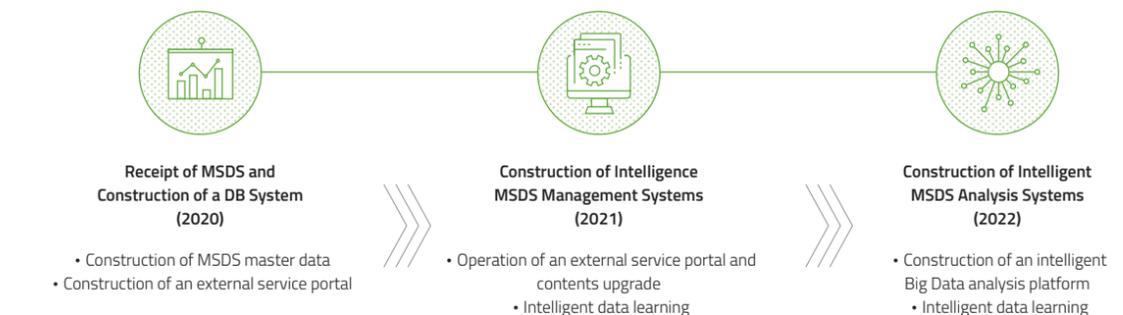
7. Implementation of the 10th OSH Factual Survey

- Investigations into overall situations concerning OSH activities at business sites, including OSH risk factors, actual status, activities and investment costs at the business sites, and reflection of such investigation results on the establishment of policies
- Implementation of status investigations oriented to 6,000 business sites, such as manufacturing, construction and service industries

[Submission Rates of Safety and Health at Work]

Subject	Submission Rate			
	No. of journals submitted	No. of journals published	Rejection rate	Growth rate of journals submitted
2017	416	60	77%	16%
2018	471	68	86%	13%
2019	683	69	90%	45%
2020	879	66	87%	29%

[Construction and advancement (3 years) process of intelligent MSDS management systems]



Occupational Safety and Health Training Projects

The Agency dedicated to development of OSH talents for protection of everyone's life



Key Achievements in 2020

1. 1,347,350 people trained by the OSHTI since its foundation

- Since its foundation in 1988, the OSHTI has trained a total of over 1.34 million OSH officers from various workplaces through collective training and online training as of 2020 (441,000 for collective training and 906,000 for e-learning)
- ※ Achievements in 2020: 102,737 people (3,290 people for collective training and 99,447 people for e-learning)

2. Pilot operation of existing face-to-face training as mixed/non-face-to-face training to overcome COVID-19

- Operation of uninterrupted training courses during the second half of the year by focusing on non-face-to-face training through the use of Webex, a video training, to overcome the COVID-19 environment
- (Non-face-to-face) 627 people on 43 occasions, (mixed) 299 people on 23 occasions, and (face-to-face) 1,205 people on 50 occasions

3. Development/operation of curriculums accommodating social issues and changes in OSH paradigms

- Development/operation of training programs designed to respond to implementation of Korean New Deal policies, the Fourth Industrial Revolution and ever-changing OSH environments and issues
- Practical courses on safety systems at smart factories and health expert courses in the electronics industry
- New development/operation of curriculums regarding application and explanation of the amended Occupational Safety and Health Act

4. Enhanced practical training on hazardous machinery/equipment to reduce fatal accidents

- Operation of the license course utilizing the practical training facility for installation/disassembly of tower cranes (New: 29 people on 2 occasions, Maintenance: 245 people on 7 occasions) and the license course for mobile cranes and high-altitude work platforms (395 people on 14 occasions)

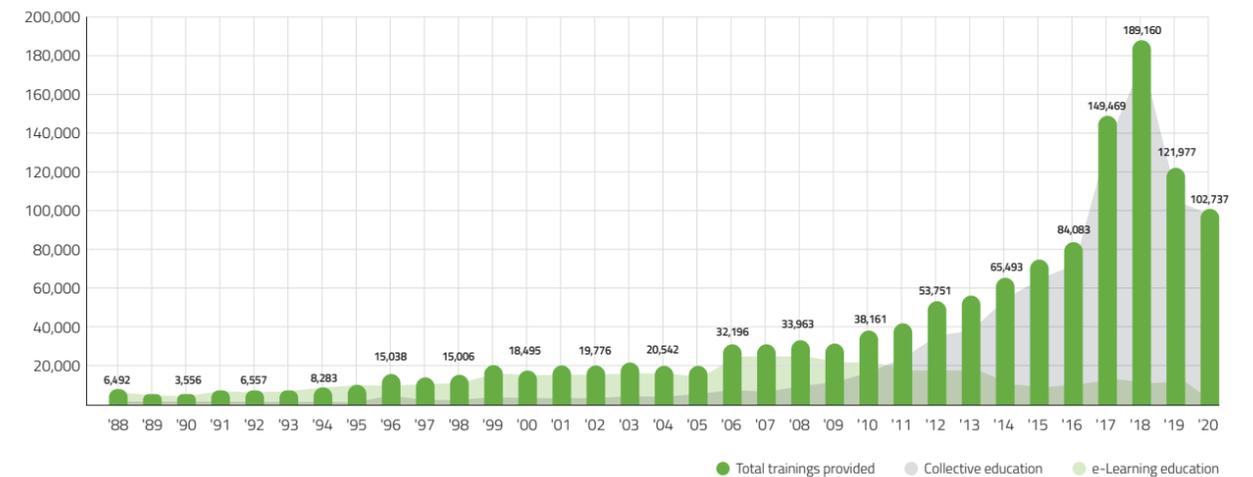
5. Demands for e-learning from various groups are addressed as non-face-to-face training is favored

- Provision of stable educational services by increasing the number of video streaming servers (1 unit→5 units) in order to mitigate the delay of services at the official website caused by rapid increase of trainees
- The maximum number of users allowed to access simultaneously was increased from 1,200 to 6,000 maximum
- Leading in the development contents based on themes conforming with the roadmap for contents development, the Occupational Safety and Health Act and governmental policies (Goal: 60 types → Achievement: 62 types)
- Positive acceptance of the demands to convert internal/external collective training to internet-based training (232,360 people completed the program)
- Opening of 21 training courses, including training for business owners on industrial disaster preventive rate system and training for business owners on risk assessment
- Enhanced training programs tailored to workers in special types of employment*, workers of public institutions** and military personnel

* 80,256 people net increase

**10 training courses for 139,637people (increase by 352% from the previous year)

[1,347,350 people trained by the OSHTI since its foundation]



6. Operation of "Safety Consensus Plus+" Open Campus designed to help regional college students find jobs

- Support for trainings tailored to assist job-seeking focusing on practical field works in order to develop talents from regional colleges by building continuous cooperative relationships based on an MOU agreement between the OSHTI and University of Ulsan
- Operation of practical training courses for junior and senior students from regional colleges (University of Ulsan) and the "Safety Consensus Plus+" credit course (2 credits for one semester) focusing on practical field works

Focal Activities in 2021

1. Stable operation of training courses of OSHTI in preparation for the post-COVID-19 era

- Conversion of training courses of OSHTI during the first half of the year to non-face-to-face formats in preparation for the post-COVID-19 era
- Conversion and operation of professional curriculums to non-face-to-face formats during the first half of the year
- Expanded operation of user-oriented non-face-to-face education (Webex) during the COVID-19 era (introduced in 2020)
- Performance of supporting works optimized for non-face-to-face training through formation/operation by dedicated assistance groups
- Face-to-face formats will apply to some courses difficult to be operated in non-face-to-face formats, such as license-granting courses (PSM, harmful risk prevention plans, etc.), legal affairs training and other courses requiring experiments/practical training

2. Operation of OSHTI centered on users, worksites and reduction of fatal accidents

- Operation of OSHTI focusing on worksites and users with training courses different from existing ones in cooperation with 6 training centers and regional consultative councils
- Innovation of existing training systems through designs/operations focusing on the process of creating performances from reduction of fatal accidents

3. Development of training courses reflecting internal/external environmental changes, including government policies and amendments to the Occupational Safety and Health Act

- New offering of the courses on "Application and Understanding of the Act on the Penalty of Fatal Accidents and the Occupational Safety and Health Act"
- Supports for stabilization of applicable statutes through



trainings on occupational accident preventive measures for business enterprises to employ as the interests from business owners keenly rise following the enactment of the Act on the Penalty of Fatal Accidents

- Supports for construction of occupational accident prevention systems at industrial sites though offering of courses combining the Act on the Penalty of Fatal Accidents with the Occupational Safety and Health Act
- Development of curriculums mainly on implementation measures for business owners to fulfill their legal duties, including court cases (precedents) and administrative interpretations

4. Operation of practical works/field-oriented training programs for enhancement of professional competency in order to strategically develop qualified workforce

- Stable operation of strategic talent development training programs for comprehensive OSH capabilities in accordance with the "Educational Systems on Development of Experts"
- Development of practical competency through sequential training and OJT based on educational curriculums* by OSH field, and strengthened feedbacks through weekly comprehensive evaluations

* Co-requisite → requisite for major → common application → application for major

- Enhanced management of courses to improve educational achievements, including procurement of first-class faculties, operation of practice/discussion-oriented training programs and strict supervision over completion of courses, in order to foster OSH experts

5. Stable operation of practice-oriented training to prepare for future environments

- (Response to future environments) Stable operation of the sources designed/developed in 2020 in order to address rapidly-altering environmental changes, such as new technology/techniques which cannot be easily accessed by private sectors

* Systematic training courses for core safety systems required to operate smart factories, such as SIL and PL, and health management courses for the electronics industry allowing for early prevention of occupational diseases and health hazards

- (Practical/Empirical Training) Practice-oriented training, utilizing the practical training facility for installation/disassembly of tower cranes, 13 types of harmful/hazardous machinery/equipment, 24 independent practice rooms and evaluation sheets on practices

6. Implementation of "Cyber Safety and Health Training Center" for advancement in Internet Training

- Clear establishment of roadmap, systems and roles by each principal agent for the cyber safety and health training center through analysis of internal/external business environments and external examination regarding overall existing internet training service systems

- Development of 52 different HTML5-type learning-oriented contents responding to changes in the ICT environment, oriented to OSH officials, future industrial workforce and vulnerable groups (platform workers)

- Reinforced stature of "Safety and Health MOOC" as a signature brand for internet training in the field of occupational safety and health through production and expansion of contents according to "Public Contest of Themes on Safety and Health Knowledge to Share with Everyone"

7. Expansion of social values on safety through the role of hub

- Reinforced investment in human resources through operation of safety and health courses for CEOs (Operation in 2 sites)

- Improvement of safety awareness for senior managements and reinforced corporate competitiveness by offering the courses professing the value of "safety," i.e. philosophy on safety management, oriented to senior management of business enterprises and executives of public institutions, at one graduate school each in Seoul Metropolitan Area and other region

- Financial aids on tuitions to help employees of small-and-medium-sized enterprises obtain master's degree (50 people, 1 occasion)

- Opening of OSH-related master's courses at 4 regular graduate schools in Korea*, and financial aids for tuitions

* Graduate Schools Offering the Course: 4 universities, including Kyunghee University, Korea University of Technology and Education, Korea National University of Transportation and Hankyong National University



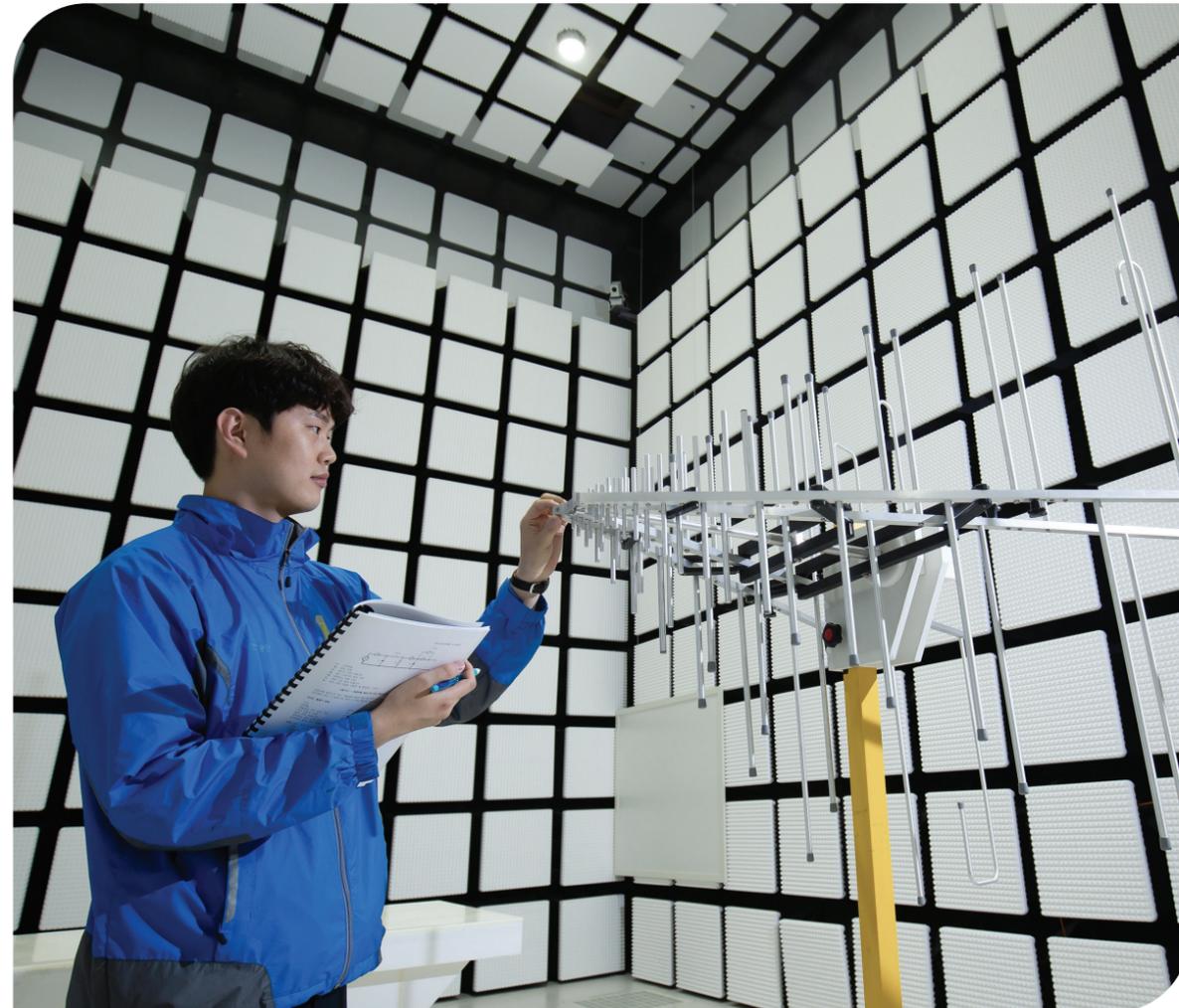
- Expanded Operation of "Safety Consensus Plus+" Open Campus

- Realization of social values through development of local talents in Ulsan by expanding the "Safety Consensus Plus+" course throughout all students at University of Ulsan and accommodating the national policies of balanced growth by fully utilizing remarkable educational infrastructure owned by the OSHTI



Occupational Safety and Health Certification Projects

*The Agency Specialized in Certification/
Inspection of Safety - OSHCI*



Key Achievements in 2020

1. Procurement of complete safety through safety certification and safety inspection of hazardous machinery, protective devices and gear

- Procurement of ultimate safety through regular inspection, assessment and certification of safety for harmful factors, hazardous machinery and protective devices/gear prone to occupational accidents
- The number of hazardous machine-related serious injury accidents requiring rehabilitation for at least 90 days decreased by 4.4%

2. Certification standards amended in order to secure fundamental safety during design/manufacturing phases of hazardous machinery

- Installation of moment devices* became mandatory in order to prevent overload and fall accidents from mobile cranes and aerial work platforms mounted on the vehicle
- * Moment devices: Safety devices preventing overload and falls under the comprehensive consideration of length, angle and load
- Manufacturing of industrial hoist-type lifts has been prohibited in order to prevent fall accidents

3. Preemptive responses to new risks from expanded use of industrial robots

- The standards on safety certification for protective gear of industrial robots (safety mat, optoelectronic protective devices) were established in order to enhance the safety of industrial robots

4. Risk awareness for workers handling hazardous machinery has been improved through reinforced delivery of risk information on high-risk machinery prone to frequent fatal accidents

- Key risk factors (key-message) and safety measures were widely delivered mainly for operators of hazardous machinery (operators, repair workers, etc.) during the safety inspection in order to prevent fatal accidents caused by hazardous machinery

5. Special safety inspections were conducted at the worksites manufacturing and using hazardous machinery

- Inspections were conducted upon manufacturing processes at the business sites manufacturing the products subject to self-regulatory safety examination reports
- Unannounced inspections were carried out at the workplaces equipped with conveyors to judge the necessity of maintenance of safety devices and verify appropriateness of safety inspection conducted by private inspection agencies

6. Adoption of surveillance systems on the market of protective devices/gear to secure effectiveness of safety certification systems

- Protection of domestic OSH markets and enhancement of market surveillance functions against defective/uncertified products by implementing performance test systems regarding the products subject to safety certification and self-regulatory safety confirmation report

7. Procurement of competitiveness in exports for Korean business sites through development of and supports for safety industries concerning protective devices/gear

- Promotion of environments where development of new products can be vitalized through supports for research and development and the funds to purchase test equipment
- Enhancement of MOU activities with overseas certification agencies and implementation of certification test services based on international standards

[Performance of Safety Certification, Self-Regulatory Safety Examination Report and Safety Inspection in 2020]

(Unit: Cases)

Safety Certification			Self-Regulatory Safety Examination Report		Safety Examination
Hazardous machine/equipment	Protective Device/Gear	S Mark	Hazardous machine/equipment	Protective Devices/Gear	
42,571	6,485	1,967	10,264	202	58,003

Focal Activities in 2021**1. Fulfilling the roles as a leading agency specialized in safety certifications/inspections**

- Fundamental prevention of accidental disasters caused by industrial machinery through construction and operation of work performance systems based on the international standards as an international safety certification/assessment agency

2. Focus has been extensively placed on the prevention activities against fatal accidents during the use of hazardous machinery

- Key risk factors (key-message) and safety measures have been presented to operators of hazardous machinery (operators, repair workers, etc.) during the safety inspection in order to prevent fatal accidents caused by hazardous machinery
- Unannounced inspections were executed in order to secure safety during the use of hazardous machinery at the business sites subject to safety inspections
- Construction of the foundation for user-centered comprehensive management systems of hazardous machinery by means of ICT technologies

3. Activities to improve safety certification/inspection systems have been conducted in order to address the industry-wide environmental changes

- The standards on safety certification have been established and implemented in order to aggressively respond to the changes in industrial environments, including increasing smart factories and expanded workplaces using industrial robots
- The scope of application of safety certification has been improved in order to preemptively respond to future changes in industrial environments and to prevent fatal accidents caused by new risks
- Efforts were made to improve systems in order to secure safety during the installation and use of temporary equipment
- Research services were commissioned in order to improve the safety certification/inspection systems for hazardous machinery

4. Eradication of market disturbance activities by enhancing market surveillance functions regarding protective devices/gear

- Protection of Korean OSH markets and enhancement of market surveillance functions against defective/uncertified products through implementation of investigations into



manufacturing process and performance test systems regarding the products subject to safety certification and self-regulatory safety confirmation report

5. Enhanced cooperative system with relevant authorities in the fields of safety certification and safety inspection

- Business collaboration with relevant authorities of safety certification and MOU institutions was strengthened where technical exchanges were implemented

6. Supports for manufacturers of protective devices/gear were vitalized for mutual cooperation

- Financial aids for R&D and test equipment were offered in order to improve the quality and performance of products of protective devices/gear
- Supports were given to help manufacturers improve the level of quality and increase exporting volumes through assistance facilitating their acquisition of the CE mark for protective gear
- Provision of consulting services through technical consultations for business sites developing new products of safety certifications

7. Unification of certification standards was promoted to accord with the national standards (KS)

- Unification of certification standards for the field of explosion-proof electrical products was promoted to accord with the national standards (KS)
- Efforts were made to have the certification standards for protective gear correspond to the international standards (CE)

8. Enhanced job performance capabilities and professional technical skills of certification/inspection officers

- Operation of programs designed to strengthen professional technical skills of examination/inspection officers
- Efforts were made to provide inspection officers with new and supplementary training programs

Occupational Safety and Health Future Technology Projects

Construction of Future OSH Infrastructure for Hazardous Industries



Key Achievements in 2020

1. New establishment of Occupational Safety and Health Future Technology Institute (OSHFTI) in order to preemptively respond to future OSH harmful risks through hazardous industries, and promotion of development and commercialization of occupational accident prevention projects in a whole new format (January 1, 2020)

2. Development of real-time monitoring systems for hazardous industries

[Electronics industry]

- Development and on-site application of year-round remote chemicals detectors
- * Development of real-time remote detectors of exposure information with reflux functions at the site through remote monitoring of chemicals (TVOC, HCN, HF, HCl) used by business sites, and implementation of monitoring of chemicals exposure levels

3. Development of non-face-to-face risk management systems for the COVID-19 era

[Call center]

- Development and distribution of self-regulatory ventilation management evaluation tools for 3-close worksites (condensed operation, confined workplace, close contact)
- * Prevention of COVID-19 proliferation by presenting the evaluation of carbon dioxide (CO₂) concentration level and proper ventilation methods within worksites when brief information (volume, number of workers, activities, working hours, etc.) concerning working environments at worksites is entered on the system

[Construction industry]

- Development of non-face-to-face monitoring systems for hazardous operations by means of drones and smart CCTVs
- * Construction of prevention activity systems with high effectiveness by utilizing multi-purpose special vehicles equipped with non-face-to-face monitoring equipment at the areas concentrated with small-scale construction sites

4. Efforts to secure OSH approach measures focusing on occupation types (workers)

[Service industry]

- Construction of OSH information systems for two-wheeled delivery vehicles in a form of Open-API (Application Programming Interface) interconnected with delivery Apps
- * Construction of systems directly delivering safety and health information to the delivery workers with two-wheeled vehicles by providing alert messages when approaching accident-prone districts and transmission of accident prevention images (weather response, etc.)



Focal Activities in 2021

1. Development of future safety and health technology tailored to hazardous industries (occupation types)

[Electronics industry]

- Construction of year-round chemicals monitoring systems utilizing remote detectors
- * Enhanced on-site applicability through additional development (2 types) of remote detectors capable of detecting new chemicals based on new remote detectors developed in 2020
- Development of harmful risks assessments and alert systems to prevent acute poisoning accidents

- * Prevention of acute poisoning accidents and fatal accidents by effectively providing the risk information and safe working protocols for the workers handling acute poisoning substances

[Construction industry]

- Development/distribution of smart construction safety systems
- * Construction of effective safety management systems through development of smart construction safety systems combined with cutting-edge technologies, including IoT, sensors and wearable, and application of the above to the small-and-medium-sized construction sites

- Development of evaluation systems for contact-free self-regulatory safety and health activities

- * Development of quantitative/qualitative evaluation index in line with the characteristics of construction sites affecting the level of safety and health

[Service industry]

- Development of algorithm guides calculating the delivery time to ensure safe deliveries

- * Enhancement of safety features for Apps and promotion of safe delivery culture by establishing the standards that calculate the minimum hours for safe delivery with diverse variables (weather, traffic volume, etc.) reflected and development of guidelines based on the above

- Development of systems for early detection of risks within service industries and management supports

- * Pilot development of real-time risk detection systems with regard to overworks and risks in the logistics field integrating outside Big Data (keywords, social media, etc.) related to delivery services and logistics and the outcomes from evaluation regarding the level of logistics facilities

ACCELERATE

INNOVATION

Appendix

Status of Occupational Accidents in 2020

Organization & Staff

Financial Report

History of KOSHA

Contact Address

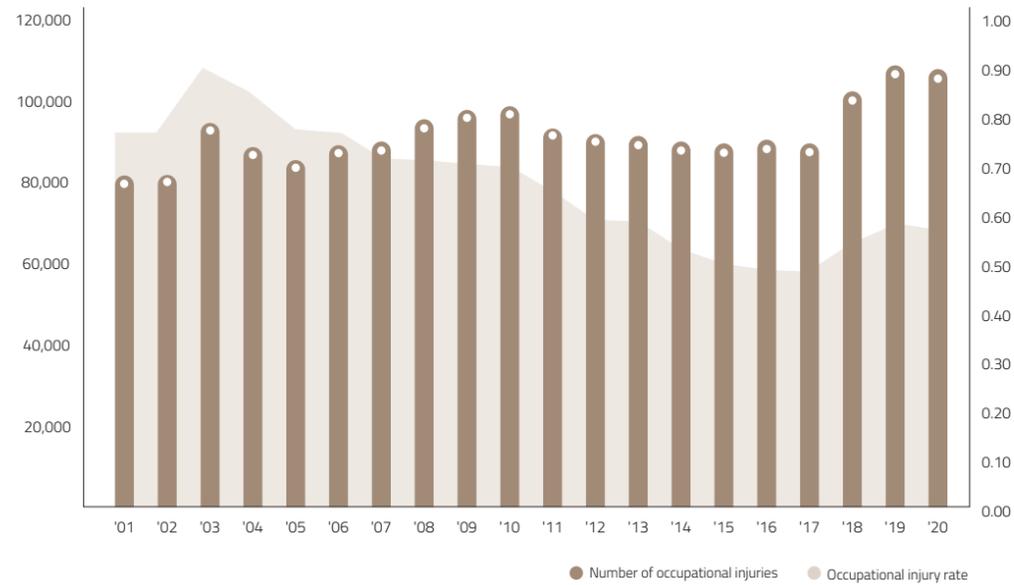
Status of Occupational Accidents in 2020

Overview

- Of 18,974,513 workers working at 2,719,308 workplace that are eligible for industrial accidents compensation insurance in 2020, 108,379 workers required 4 or more days of nursing and accident rate was 0.57%
- The Number of workers increased by 1.3% compared to 2019 and occupational accident victims decreased by 0.8% and accidents rate decreased by 0.01%p year on year
- From July 2000, the coverage of occupational accidents insurance has expanded from businesses with 5 employees or more to 1 employee or more which resulted in sudden increase of accidents rate until 2003 but from then on until 2017 it has been showing continued downward trend. In addition, industrial accident compensation insurance covers businesses with fewer than one employee or more since July 2018, thus occupational accident rate turned upward from 2018

[No. of injuries & accident rate by year]

(Unit: persons/%)

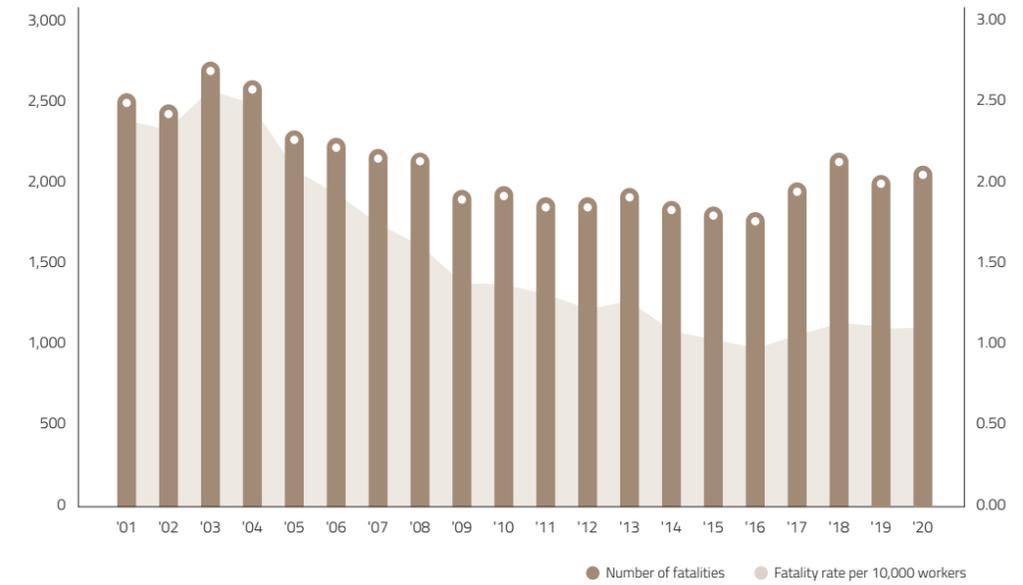


Status on occupational deaths

- Occupational deaths were 2,062 persons and of those, work-related accidents were 882 and death from occupational disease were 1,180
- The fatality rate per 10,000 workers were 1.09‰, increasing by 0.01‰ comparing to 1.08‰ in 2019. Work-related accident rate per 10,000 workers was 0.46‰, same from the year 2019. The type of fatal accidents were work-related diseases (cerebrovascular disease etc.) 531, pneumoconiosis 412, and falls 328 in order
- The number of fatalities was on downward trend from 2004 to 2012. From 2012, it increased slightly until 2014 when it started to decrease again. It showed slight increase from 2017 but it turned to downward in 2019

[Number of fatalities and fatality rate per 10,000 workers by year]

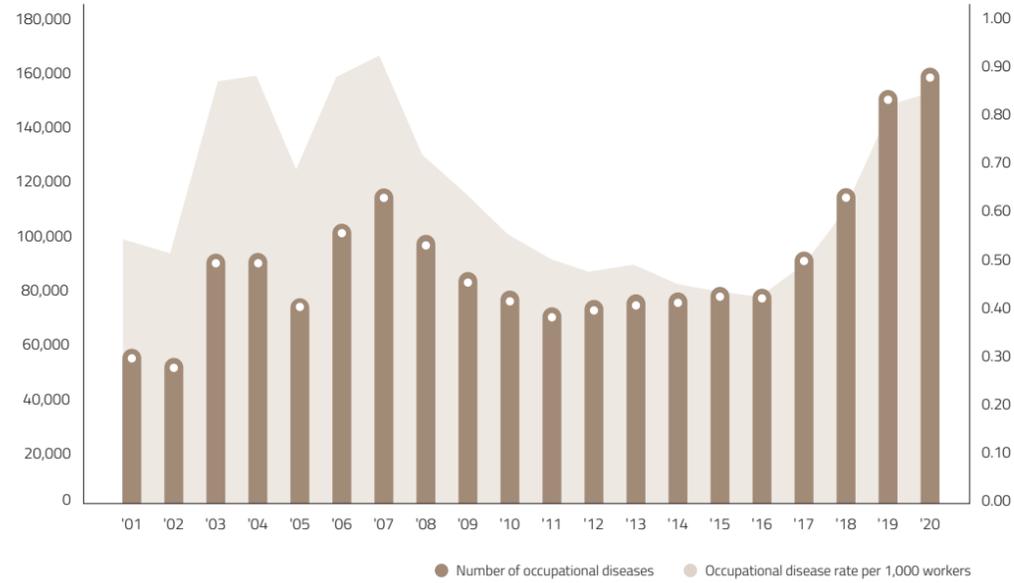
(Unit: persons/‰)



Status of occupational disease

- The number of workers suffered from occupational diseases in 2020 (including deaths) was 15,996, increased by 801 (5.3%) from 15,195 the year before
- Of these, the number of occupational diseases was 4,784 in 2020 increasing by 749 (18.6%) from 4,035 the year before and the number of work-related diseases was 11,212, 52 (0.5%) increase from 11,160 in 2019

[Number of occupational diseases and morbidity rate by the year] (Unit: cases/%)



[Accident Index]

Accident Rate
Number of injuries/Number of workers eligible for occupational accidents insurance ×100

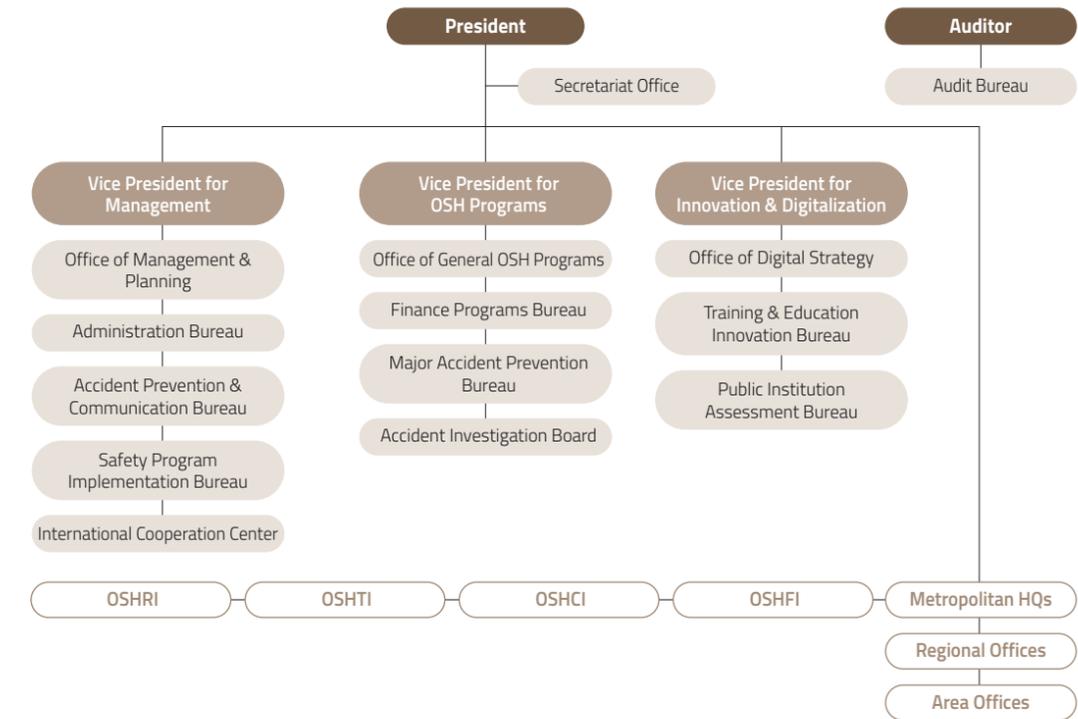
Fatality rate per 10,000 workers
Number of fatality/Number of workers eligible for occupational accidents insurance ×10,000

Morbidity rate
Number of victims for work related diseases/Number of workers eligible for occupational accident insurance ×1,000

Organization and Staff

Organization structure

Headquarters (3 Offices, 8 Bureaus, 1 Board, 1 Centers), OSHRI, OSHTI, OSHCI, OSHFI, 6 Metropolitan Offices, 10 Regional Offices, 14 Area Offices



Staff (Total: 2,062)

[Total: Headquarters 369 (17.9%) & Affiliates 1,693 (82.1%)]

(Unit: Persons)

HQs/Affiliates	Total	CEOs	Privileged position	Directors	Deputy directors	Senior managers	Managers	Assistant managers	Staff and others
Total	2,062	5	5	64	200	436	564	473	159
HQs	369	5	-	14	40	95	105	13	19
Affiliates	1,693	-	5	50	160	341	459	460	140

※ 327 Professional engineers, 1,098 certified engineers, 77 Phds, 456 masters degree holders, 5 MDs

Financial Report

Main resource

Industrial accident compensation insurance and contributions for the prevention fund pursuant to Article 96 (Use of Fund) of the Industrial Accident Compensation Insurance Act

Revenue

(Unit: 100 million KRW)

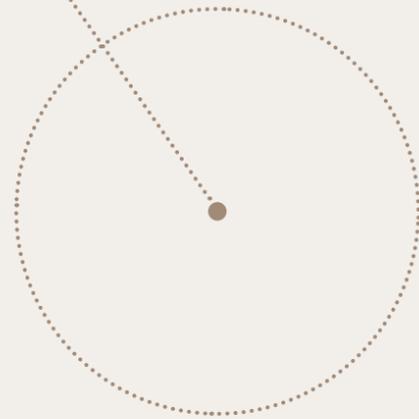
Budget type	2021(A)	%	2020 (B)	%	Increase decrease (A-B)	%
Total	11,793	100.0	7,098	100.0	4,695	66.1
Industrial accident compensation insurance and contributions for the prevention fund	11,250	95.4	6,566	92.5	4,684	71.3
- Contributions	8,009	67.9	3,855	54.3	4,154	107.8
- Subsidies	-	-	1,683	23.7	△ 1,683	net decrease
- Intangible assets	13	0.1	-	-	13	net increase
- Loan	3,228	27.4	1,028	14.5	2,200	214.0
General account (contribution)	25	0.2	7	0.1	18	257.1
Donation	494	4.2	502	7.1	△ 8	1.6
Earned income	25	0.2	25	0.4	-	-

Expenditure

(Unit: 100 million KRW)

Budget type	2021 (A)	2020 (B)	Increase decrease (A-B)	%
Total	11,793	7,098	4,695	66.1
Financial aid for 'clean workplace'	4,265	1,707	2,558	149.9
Loan for accident prevention facilities	3,228	1,028	2,200	214.0
Accident prevention by industrial classification	688	920	△ 232	△ 25.2
Safety accreditation or certification	67	67	-	-
Hazardous working environment improvement	616	511	105	20.5
Workers' health protection	365	386	△ 21	△ 5.4
Safety and health culture establishment	287	306	△ 19	△ 6.1
Accident prevention facilities construction	112	55	57	103.6
Operation of OSH information system	59	64	△ 5	△ 7.8
OSH R&D and international cooperation	64	74	△ 10	△ 13.5
Personnel, operating expenses, etc.	1,523	1,471	52	3.5
Ho Chi Minh OSH center	25	7	18	257.1
Infrastructure establishment	494	502	△ 8	△ 1.6

History of KOSHA



December 1987
Established Korea Industrial Safety Corporation

July 1989
Established Occupational Safety and Health Research Institute

1995
The occupational accident rate of Korea decreased to below 1%
Headquarters moved to the present location in Bupyeong, Incheon

December 1995
Completed the construction of Safety and Health Research Center

September 1997
Completed the construction of Industrial Chemicals Research Center

April 1998
Held the 14th APOSHO Annual General Meeting in Seoul, Korea Research Center

December 1999
Celebrated its 12th anniversary and declared new CI

November 2000
Mutually acknowledged the SH management system between KOSHA-BVQI

September 2004
Received 'Grand Prize' at the National Productivity Award

December 2004
Completed the construction of Chemicals Safety and Health Center

August 2006
Sponsored 'No. 1 Escape from crisis' a TV program on Korea Broadcasting Station

February 2010
Organized Service Industry Department

December 2011
Declared the new CI and Vision on the occasion of the 24th anniversary

January 2013
Organized Major Accident Prevention Department

January 2014
Organized Partnership Program Department

March 2014
Held the opening ceremony of the new headquarters of KOSHA in Ulsan

Year of 2015
Got A grade on public institutions' customer satisfaction evaluation Declared new vision

December 2015
Completed the construction of chronic inhalation toxicity test facility

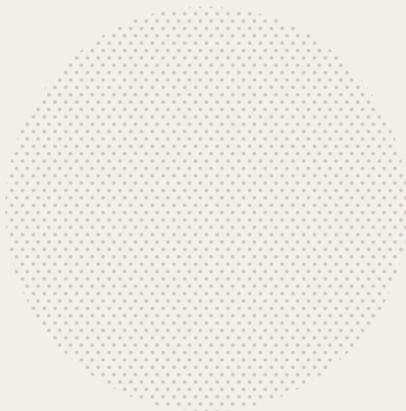
1987~1990 Foundation

1991~1994 Take-off

1995~1998 Acceleration

1999~2009 Growth and Development

2010~2021 Second Take-off



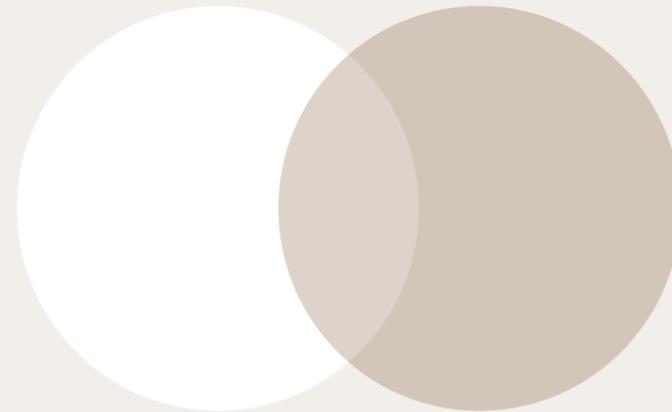
October 1991
Held a Korea-Germany occupational safety cooperation meeting

February 1992
Held a Korea-Japan joint meeting on occupational disease prevention

August 1992
Held a tripartite meeting for realizing low-cost & highefficient workplace with zero accidents

August 1992
10,097,600 people participated in the Zero Accident Signature Campaign

November 1993
Held the 1st OSH awards



October 2007
Issued the 5,000th safety certification mark (S-mark)

December 2007
Celebrated its 20th anniversary

June 2008
Hosted the 18th World Congress on Safety and Health at Work and adopted the Seoul Declaration on Safety and Health at Work

January 2009
Changed name to the Korea Occupational Safety and Health Agency

November 2016
Opened the Central Training Center of OSHTI

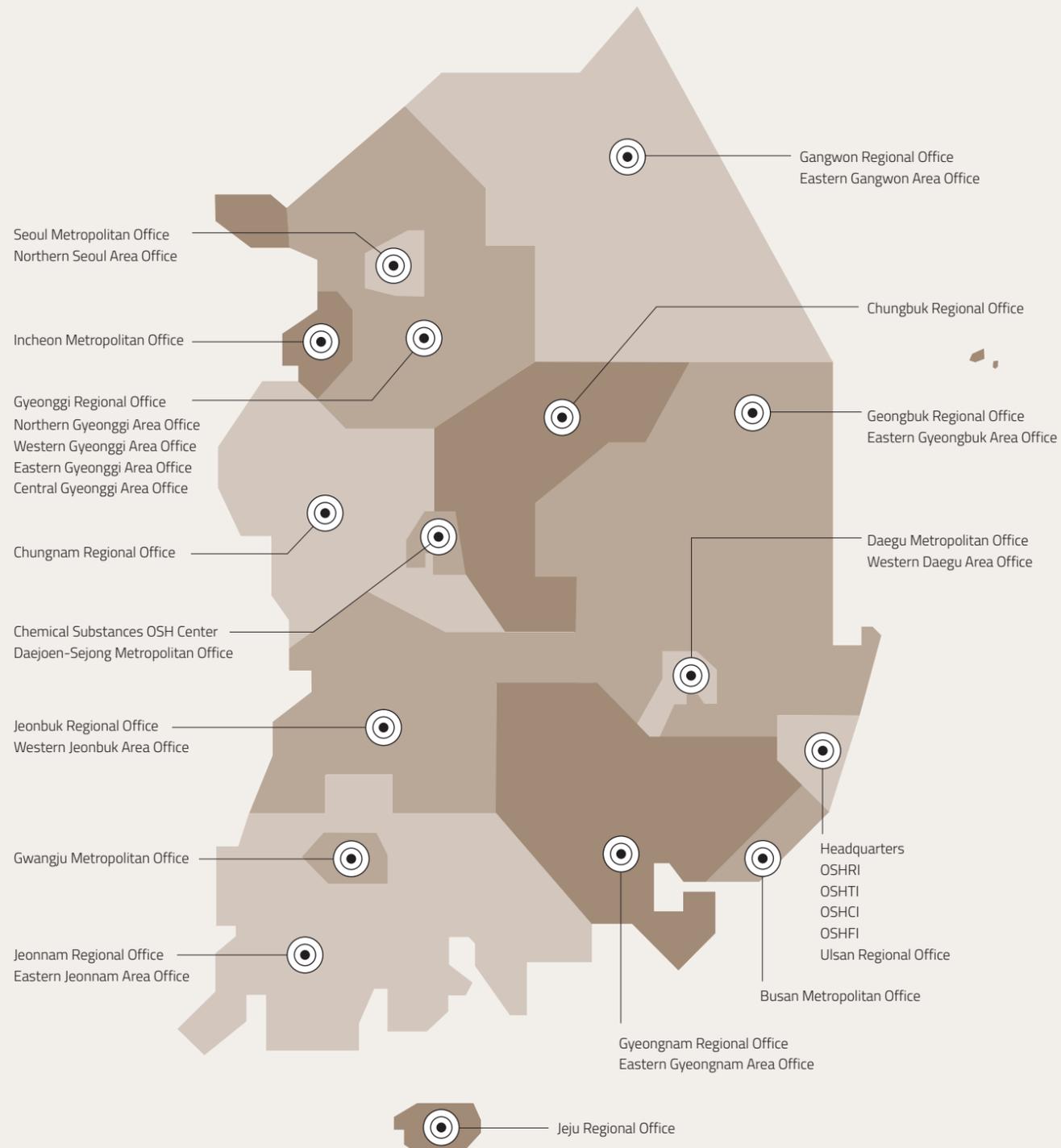
January 2017
Opened the Occupational Safety and Health Certification Institute

December 2018
Expanded KOSHA's regional offices from 6 offices to 16 offices

December 2019
Newly establish OSHTI and renamed KOSHA Affiliates (16 Regional Offices, 6 Metropolitan Offices, 10 Regional Offices)

Second half of 2021
Planning to establish 3 more Regional offices of KOSHA

Contact Address



Office		Tel. (+82)	Location
Ulsan	Headquarters	52)703-0500	400 Jongga-ro, Jung-gu, Ulsan, Korea
	OSHRI	52)703-0500	400 Jongga-ro, Jung-gu, Ulsan, Korea
	OSHTI	52)703-0500	400 Jongga-ro, Jung-gu, Ulsan, Korea
	OSHCI	52)703-0500	400 Jongga-ro, Jung-gu, Ulsan, Korea
	OSHFI	52)703-0500	400 Jongga-ro, Jung-gu, Ulsan, Korea
	Ulsan Regional Office	52)226-0510	83 Jeongdong-ro, Nam-gu, Ulsan, Korea
Seoul	Seoul Metropolitan Office	2)6711-2800	8, Beodeunaru-ro 2-gil, Yeongdeungpo-gu, Seoul, Korea
	Northern Seoul Area Office	2)3783-8300	7F, Woori Building, 42 Chilpaе-gil, Jung-gu, Seoul, Korea
Gyeonggi	Gyeonggi Regional Office	31)259-7149	10F, Gyeonggi Small & Medium Business Center, 107 Gwanggyo-ro, Yeongtong-gu, Suwon, Gyeonggi-do, Korea
	Northern Gyeonggi Area Office	31)841-4900	140, Chudong-ro, Uijeongbu-si, Gyeonggi-do, Korea
	Western Gyeonggi Area Office	31)481-7599	230, Gwangdeok 4-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Korea
	Eastern Gyeonggi Area Office	31)785-3300	2F, Sogok Hall Building, 3, 17 Beon-gil, Swetgol-ro, Bundang-gu, Seongnam, Gyeonggi-do, Korea
	Central Gyeonggi Area Office	32)680-6500	3F, Daeshin Plaza, 19, 265 Beon-gil, Songnae-daero, Wonmi-gu, Bucheon, Gyeonggi-do, Korea
Incheon	Incheon Metropolitan Office	32)5100-500	478 Munemi-ro, Bupyeong-gu, Incheon, Korea
Gangwon	Gangwon Regional Office	33)815-1004	2F, Korean Teacher's Credit Union Building, 2370 Gyeonchun-ro, Chuncheon, Gangwon-do, Korea
	Eastern Gangwon Area Office	33)820-2580	3F, 182, Haseulla-ro, Gangneung-si, Gangwon-do, Korea
Busan	Busan Metropolitan Office	51)520-0510	26, 1763 Beon-gil, Jungang-daero, Geumjeong-gu, Busan, Korea
Daegu	Daegu Metropolitan Office	53)609-0500	19F, Hosu Building, 648 Gukchaebosang-ro, Junggu, Daegu, Korea
	Western Daegu Area Office	53)650-6812	5F, 1834 Dalgubeol-daero, Dalseo-gu, Daegu, Korea
Geongbuk	Geongbuk Regional Office	54)478-8000	3 Gongdan 1-ro, Gumi-si, Gyeongbuk, Korea
	Eastern Gyeongbuk Area Office	54)271-2014	402 POSCO-daero, Nam-gu, Pohang, Gyeongsangbuk-do, Korea
Gyeongnam	Gyeongnam Regional Office	55)269-0510	259 Jungang-daero, Uichang-dong, Changwon, Gyeongsangbuk-do, Korea
	Eastern Gyeongnam Area Office	55)371-7500	4F, Yangsan Labor Complex Building, 51 Namyangsan 2-gil, Dong-myeon, Yangsan, Korea
Daejeon Sejong	Chemical Substances OSH Center	42)869-0300	30, 339 gil, Expo-ro, Yuseong-gu, Daejeon, Korea
	Daejeon-Sejong Metropolitan Office	42)620-5600	60, 339 Beon-gil, Expo-ro, Yuseong-gu, Daejeon, Korea
Chungbuk	Chungbuk Regional Office	43)230-7111	3F, KT Building, 20, 161 Beon-gil, Gagyeong-ro, Heungdeok-gu, Chungju, Chungbuk, Korea
Chungnam	Chungnam Regional Office	41)570-3400	3F, Chungnam Economy Service Centre, 215Gwangjang-ro, Seobuk-gu, Cheonan, Chungnam, Korea
Gwangju	Gwangju Metropolitan Office	62)949-8700	8F, Trade Hall Building, 282 Mujin-daero, Usan-dong, Gwangsan-gu, Gwangju, Korea
Jeonbuk	Jeonbuk Regional Office	63)240-8500	4F, Ministry of Employment and Labor Complex Building, 251 Geonsan-ro, Deokjin-gu, Jeonju, Jeonbuk, Korea
	Western Jeonbuk Area Office	63)460-3600	2F, 482 Jayu-ro, Gunsan, Jeonbuk, Korea
Jeonnam	Jeonnam Regional Office	61)288-8700	242, Hugwang-daero, Samhyang-eup, Muan-gun, Jeollanam-do, Korea
	Eastern Jeonnam Area Office	61)689-4900	35 Museonjungang-ro, Yeosu, Jeollanam-do, Korea
Jeju	Jeju Regional Office	64)797-7500	4F, Small & Medium Business Center, 473 Yeonsam-ro, Jeju, Jeju-do, Korea

**RELIEF
FAIRNESS
INNOVATION**



ANNUAL REPORT 2020 KOSHA

Korea Occupational Safety and Health Agency
400 Jongga-ro, Jung-gu, Ulsan, Korea
TEL +82.52.703.0740-0746
FAX +82.52.703.0326
overseas@kosha.or.kr www.kosha.or.kr