



# Workplace Safety and Health Report 2020

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National Statistics



MINISTRY OF  
MANPOWER

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## NOTATIONS

- : Nil or negligible
- n.a. : Not applicable/Not available
- \* : Estimated rates. The employment data excludes self-employed persons.

Note: Data presented in this report reflect revised methodology and improved classification of entities by industries, including the revision due to Singapore Standard Industrial Classification 2015 (version 2018). Data prior to 2013 is strictly not comparable.

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**KEY FACTS**

**LOWEST NUMBER FOR WORKPLACE INJURIES IN 2020**

There were 30 workplace fatal injury cases in 2020, 9 cases (30%) fewer than in 2019. The total number of workplace injury cases<sup>1</sup> decreased by close to 18% from 13,779 cases in 2019 to 11,350 cases in 2020. Occupational disease (OD) cases saw a marginal increase by 2% from 517 cases in 2019 to 528 cases in 2020.

The number of workplace major injury cases decreased by 26% from 629 cases in 2019 to 463 cases in 2020. Similarly, workplace minor injuries decreased by 17% from 13,111 cases in 2019 to 10,857 cases in 2020.

**Table 1: Number of workplace injuries, dangerous occurrences and occupational diseases, 2019 and 2020**

	2019	2020
<b>Workplace Injuries</b>	<b>13,779</b>	<b>11,350</b>
Fatal Injuries	39	30
Major Injuries	629	463
Minor Injuries	13,111	10,857
<b>Dangerous Occurrences<sup>2</sup></b>	<b>21</b>	<b>10</b>
<b>Occupational Diseases</b>	<b>517</b>	<b>528</b>

**Table 2: Key safety and health indicators, 2019 and 2020**

Per 100,000 workers

	2019	2020
<b>Workplace Injury Rate<sup>3</sup></b>	<b>395</b>	<b>344</b>
Fatal Injury rate	1.1	0.9
Major Injury rate	18.1	14.0
Minor Injury rate	376	329
<b>Occupational Disease Incidence Rate<sup>4</sup></b>	<b>14.8</b>	<b>16.0</b>
<b>Man-days Lost<sup>5</sup></b>	<b>544,664</b>	<b>417,063</b>

<sup>1</sup> A workplace injury is any personal injury or death resulting from a workplace accident, including work-related traffic injuries. Refer to Annexes E and F for the types of workplace injuries covered.

<sup>2</sup> Dangerous Occurrences refers to incident where no person is injured, but which had the potential to cause serious injury and death.

<sup>3</sup> Workplace Injury Rate =  $\frac{\text{No. of Fatal and Non-Fatal Workplace Injuries}}{\text{No. of Workers}} \times 100,000$

<sup>4</sup> Occupational Disease Incidence Rate =  $\frac{\text{No. of Occupational Disease Cases}}{\text{No. of Workers}} \times 100,000$

<sup>5</sup> For the purpose of this publication, MOM considers a fatal injury as equivalent to the loss of 6,000 man-days, similar to the U.S. National Institute of Occupational Safety and Health (NIOSH)'s table of scheduled charges.

In addition to reporting outcome indicators like workplace injury rates and occupational disease incidence rates, this report included leading indicators from prevention activities. The proactive activities included workplace Medical and Hygiene surveillance, which monitors health risks from exposures to physical and toxic or harmful substances at work, and Business under Surveillance (BUS), which guides poor performing companies to improve their WSH management system.

The main findings on the workplace safety and health performance for 2020 were:

### **WORKPLACE INJURIES**

- 30 workers were fatally injured, at a rate of 0.9 per 100,000 workers.
- 463 workers sustained workplace major injuries, at a rate of 14.0 per 100,000 workers.
- 10,857 workers sustained workplace minor injuries, at a rate of 329 per 100,000 workers.
- 417,063 man-days were lost due to workplace injuries in 2020.

### **DANGEROUS OCCURRENCES (DO)**

- 10 dangerous occurrences were reported to MOM in 2020.

### **OCCUPATIONAL DISEASES (OD)**

- 528 OD cases were confirmed in 2020, with an incidence rate of 16.0 per 100,000 workers.
- The leading OD was Work-related Musculoskeletal Disorders (WRMSD) with 328 cases, including back injury cases due to ergonomic risks. The second most common OD was Noise-induced Deafness (NID) with 110 cases.

### **BUSINESS UNDER SURVEILLANCE (BUS)**

- 7 companies entered the Business under Surveillance<sup>6</sup> (BUS) programme in 2020.

### **MEDICAL AND HYGIENE SURVEILLANCE**

- 107,069 workers from 2,125 workplaces were monitored under the Medical Surveillance<sup>7</sup> Programme.
- Under the Hygiene Surveillance<sup>8</sup> Programme, 81% of the workplaces had static noise levels greater than 85dBA.

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<sup>6</sup> Refer to Annex B and website below for information on BUS programme.

<https://www.mom.gov.sg/workplace-safety-and-health/monitoring-and-surveillance/business-under-surveillance-programme>

<sup>7</sup> Medical surveillance monitors the results of the medical examinations of workers who are exposed to specific hazards for early detection and prevention of potential ill health. Examinations are conducted by Designated Workplace Doctors (DWDs). Refer to Annex C for more information.

<sup>8</sup> Hygiene surveillance determines the levels of persons' exposure to noise and airborne toxic substances in the workplace. Refer to Annex C for more information.

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OVERVIEW OF TRENDS

WORKPLACE INJURIES

The overall number of reported workplace injuries<sup>9</sup> decreased by about 18% from 2019 to 2020. A key contributor for the reduction was the work stoppages due to Covid-19. The workplace injury rate consequently decreased from 395 per 100,000 workers in 2019 to 344 per 100,000 workers in 2020.

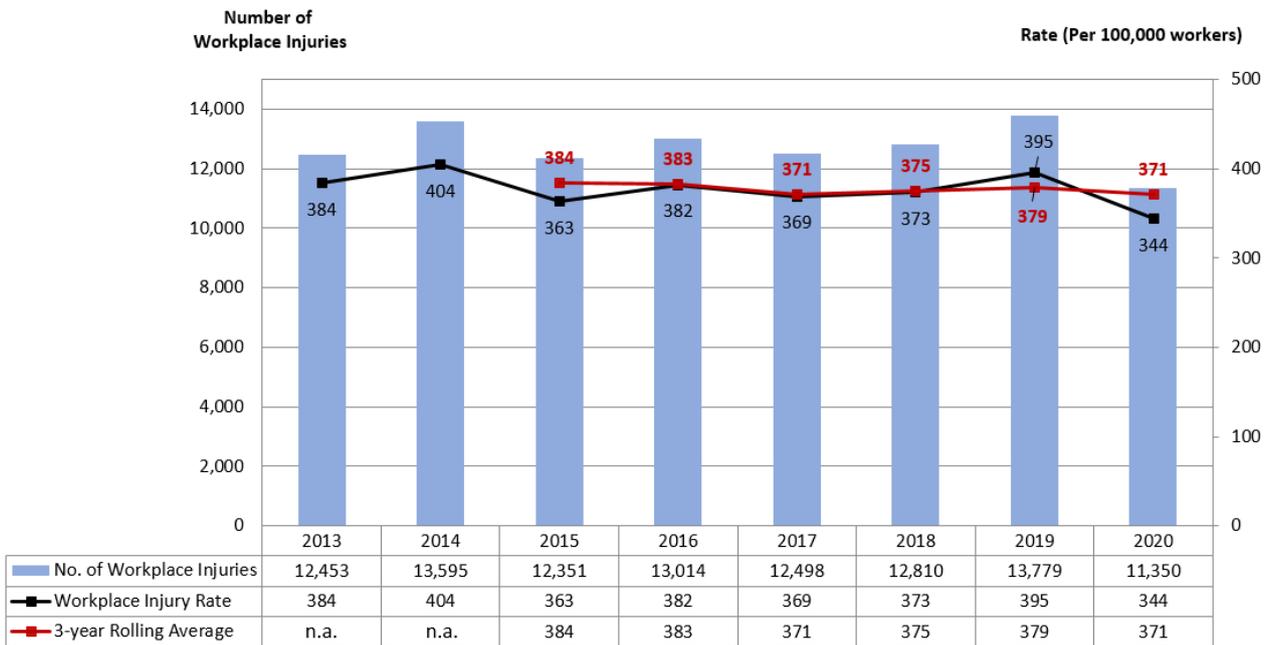
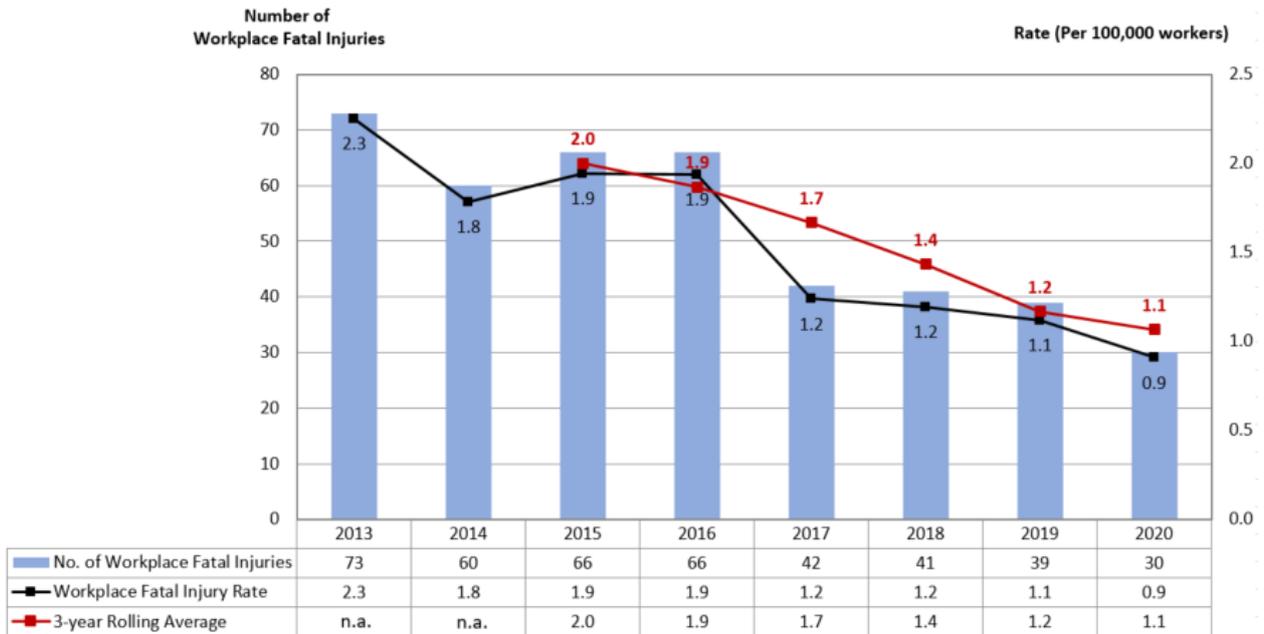


Figure 1: Number and rate of workplace injuries, 2013-2020

<sup>9</sup> Employer or Occupier has to report work incidents to the Ministry of Manpower under the WSH (Incident Reporting) Regulations.

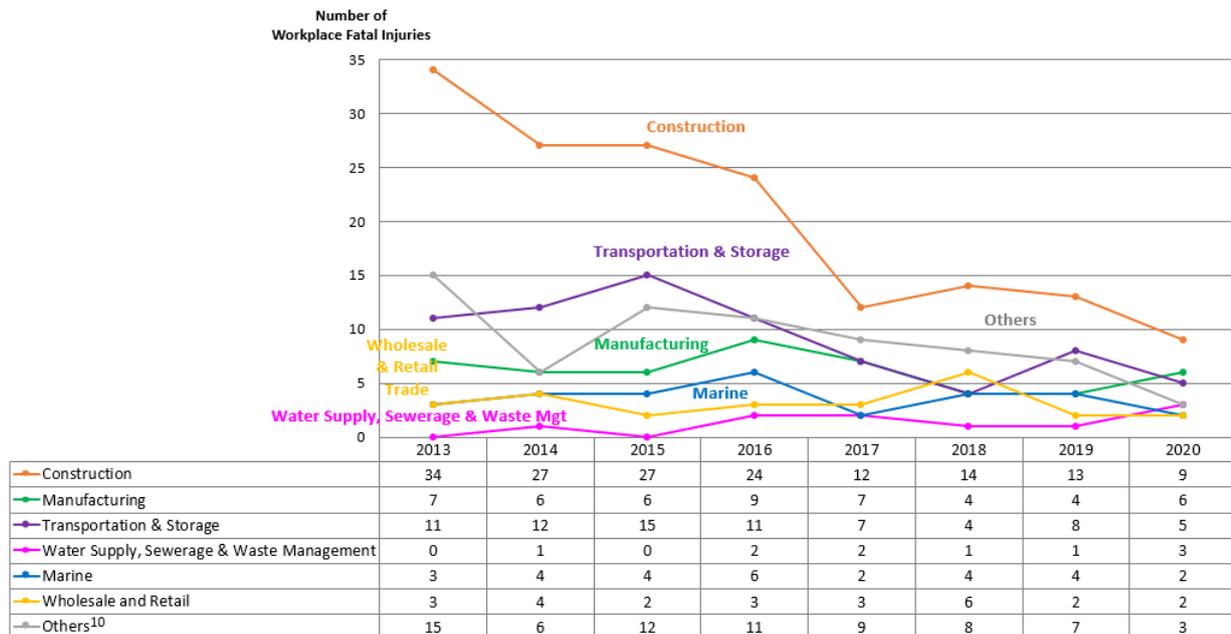
**WORKPLACE FATAL INJURIES**

There were 30 workplace fatal injuries in 2020, 30% (9 cases) fewer compared to 39 cases in 2019. The workplace fatal injury rate consequently decreased from 1.1 per 100,000 workers in 2019 to 0.9 per 100,000 workers in 2020.



**Figure 2: Number and rate of workplace fatal injuries, 2013-2020**

The Construction sector remained as the top contributor with 9 fatal injuries. Both the Manufacturing and the Water Supply, Sewerage and Waste Management industries each saw 2 more fatal injuries in 2020 compared to 2019.

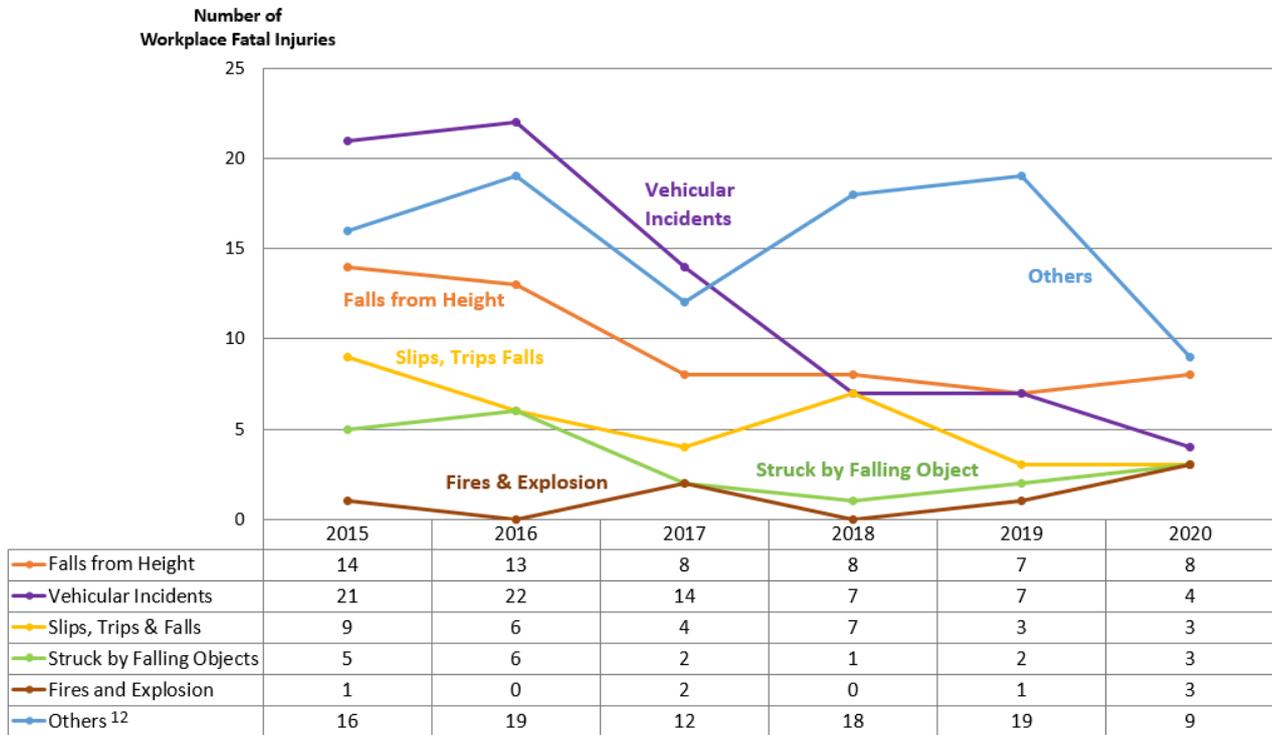


**Figure 3: Number of workplace fatal injuries by industry, 2013-2020**

<sup>10</sup> Others refer to the summation of various industries with low incidence of workplace fatalities. For more information, please refer to the statistical tables in Annex A.

**CAUSES OF WORKPLACE FATAL INJURIES**

The top two causes of workplace fatalities were (i) Falls from Height & (ii) Vehicular Incidents<sup>11</sup>. These collectively accounted for 40% (12 cases) of the total number of workplace fatal injuries in 2020.



**Figure 4: Number of workplace fatal injuries by cause of injury, 2015-2020**

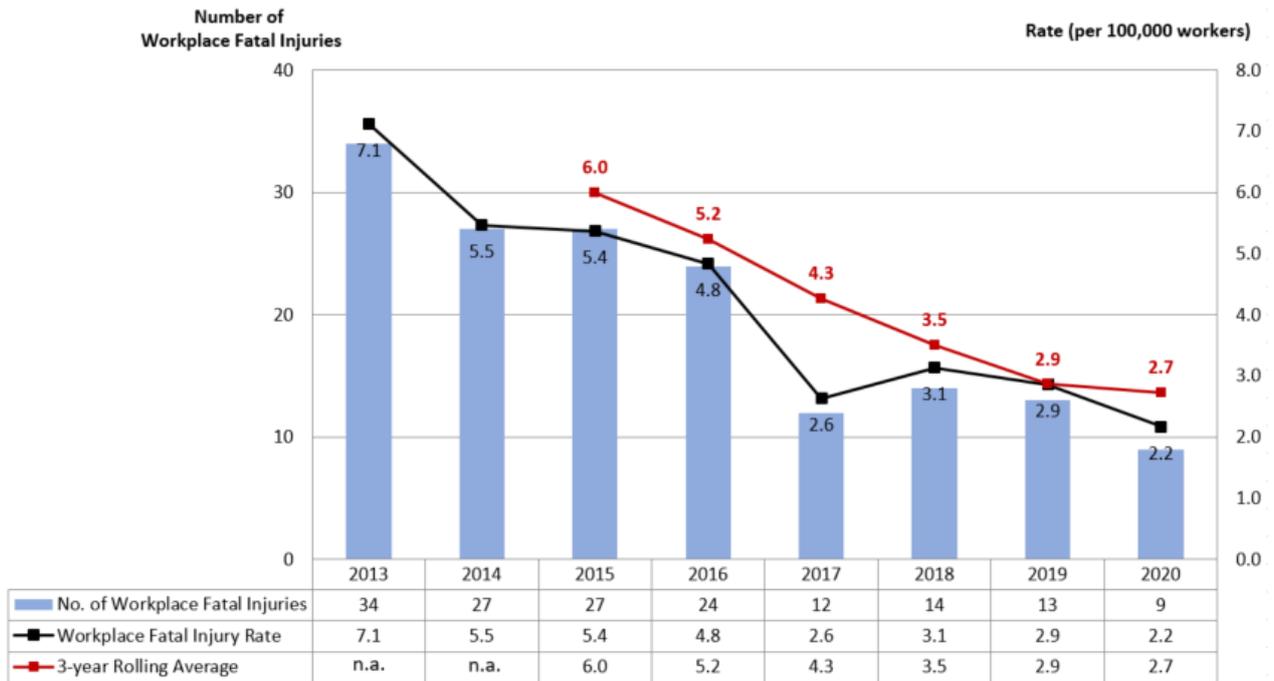
<sup>11</sup> Vehicular Incidents include Struck by Moving Objects and Caught In/Between Objects where the agent(s) is a vehicle.

<sup>12</sup> Others refer to the summation of various fatal injury causes with low incidence of workplace fatalities. For more information, please refer to the statistical tables in Annex A.

**WORKPLACE FATAL INJURIES BY INDUSTRY**

CONSTRUCTION

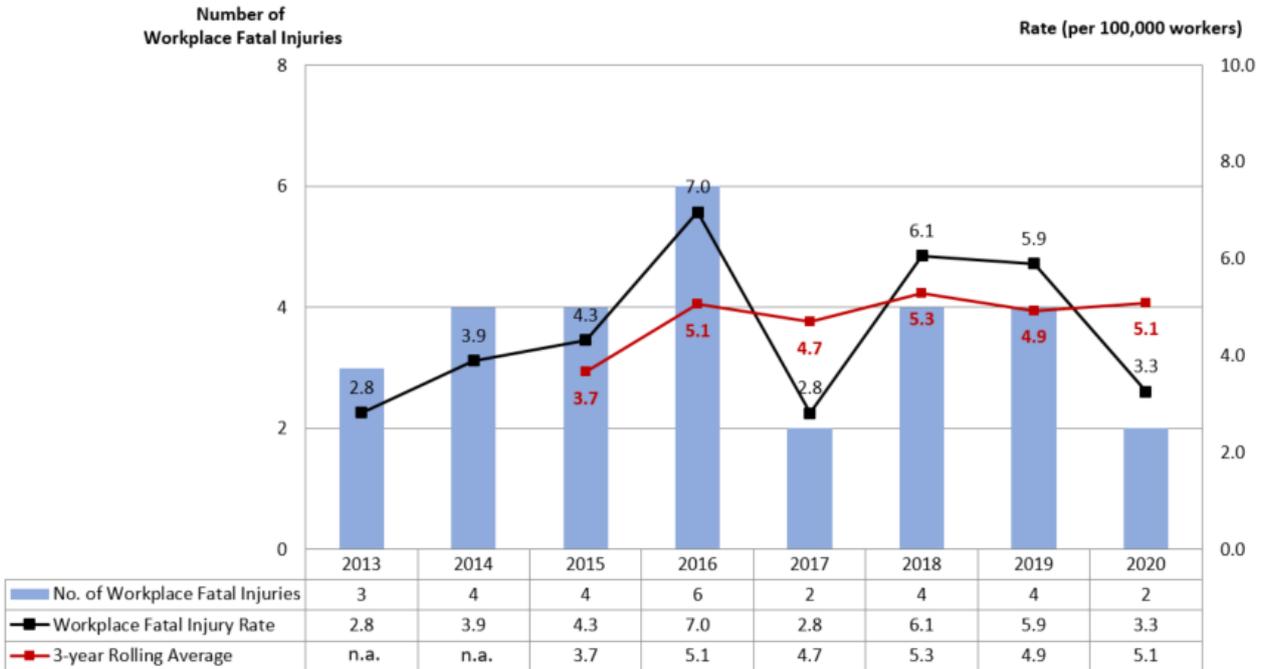
There were 9 workplace fatal injuries in the Construction sector in 2020, 4 fatal injuries fewer than in 2019. The workplace fatal injury rate for the sector consequently decreased from 2.9 per 100,000 workers in 2019 to 2.2 per 100,000 workers in 2020.



**Figure 5: Number and rate of workplace fatal injuries for Construction sector, 2013-2020**

**MARINE**

There were 2 workplace fatal injuries in the Marine industry<sup>13</sup> in 2020, 2 fatal injuries fewer than in 2019. The workplace fatal injury rate consequently decreased from 5.9 per 100,000 workers in 2019 to 3.3 per 100,000 workers in 2020.



**Figure 6: Number and rate of workplace fatal injuries for Marine industry, 2013-2020**

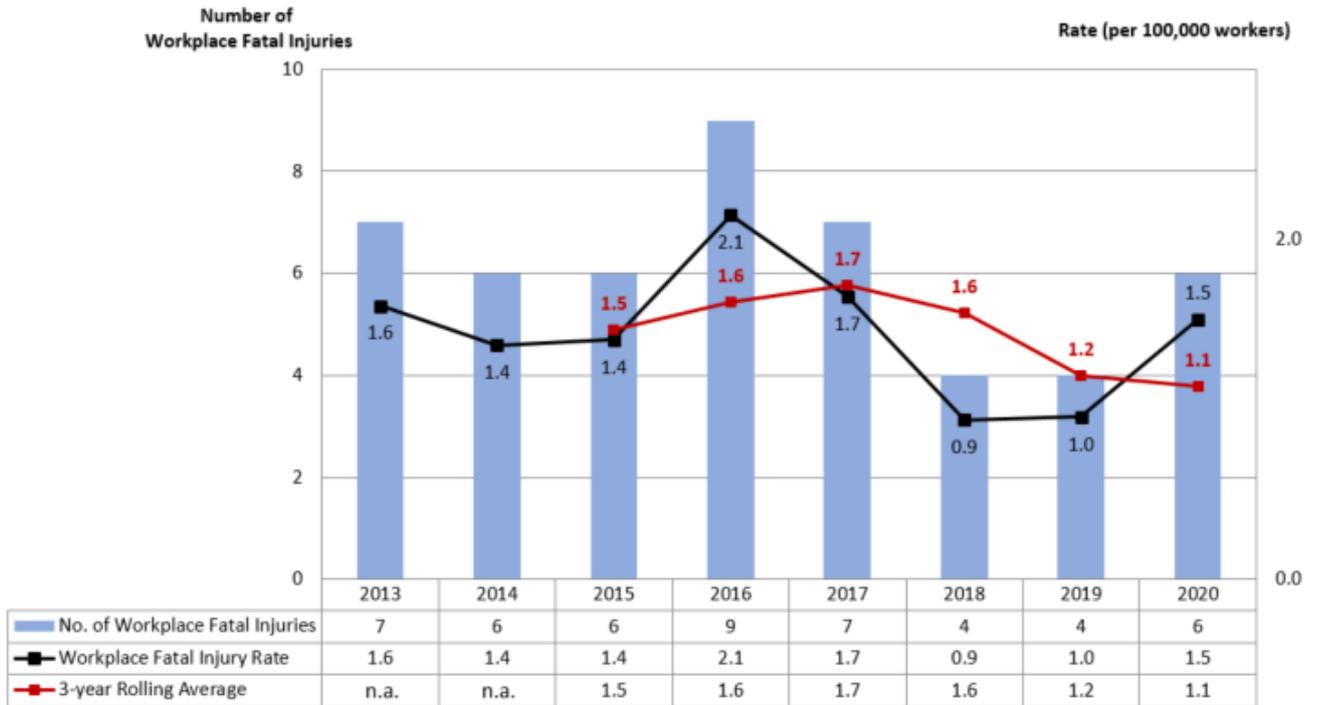
<sup>13</sup> The marine industry includes the following activities:

- Shipbuilding and Ship Repair
- Marine Surveying Services (other than classification societies)
- Salvaging of distressed vessels and cargo

Works carried out in the anchorage are also included.

**MANUFACTURING**

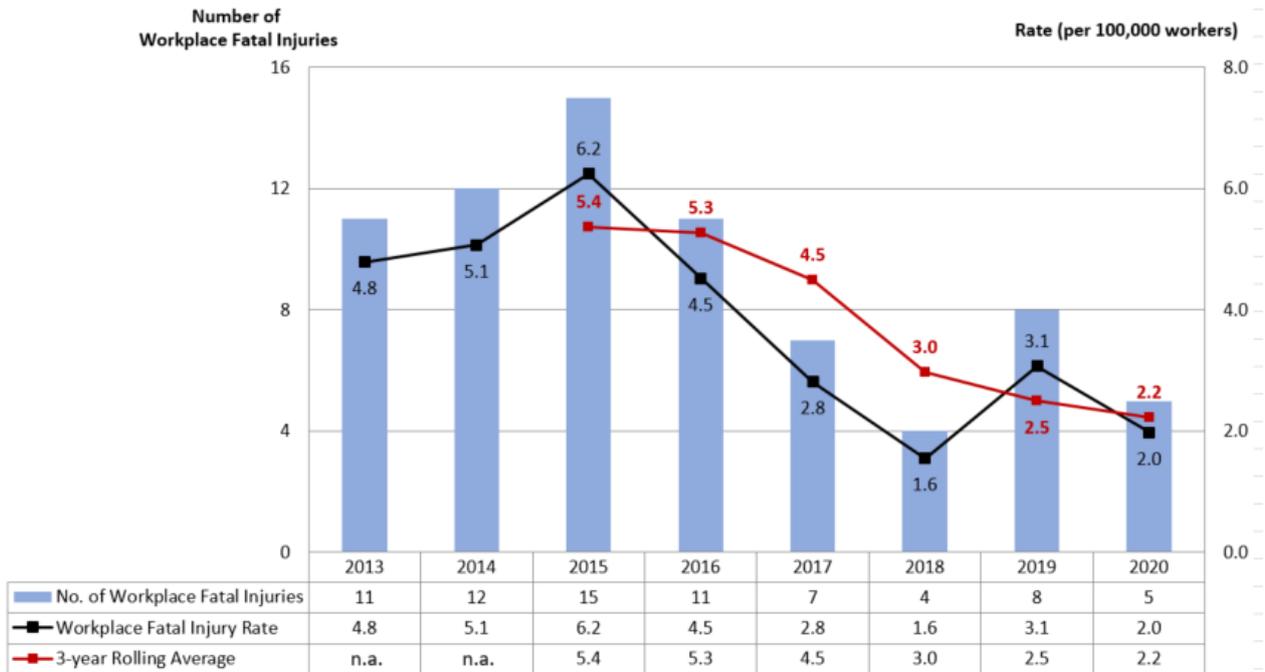
There were 6 workplace fatal injuries in the Manufacturing sector in 2020, 2 fatal injuries more than in 2019. The workplace fatal injury rate for the sector consequently increased from 1.0 per 100,000 workers in 2019 to 1.5 per 100,000 workers in 2020.



**Figure 7: Number and rate of workplace fatal injuries for Manufacturing sector, 2013-2020**

TRANSPORTATION & STORAGE

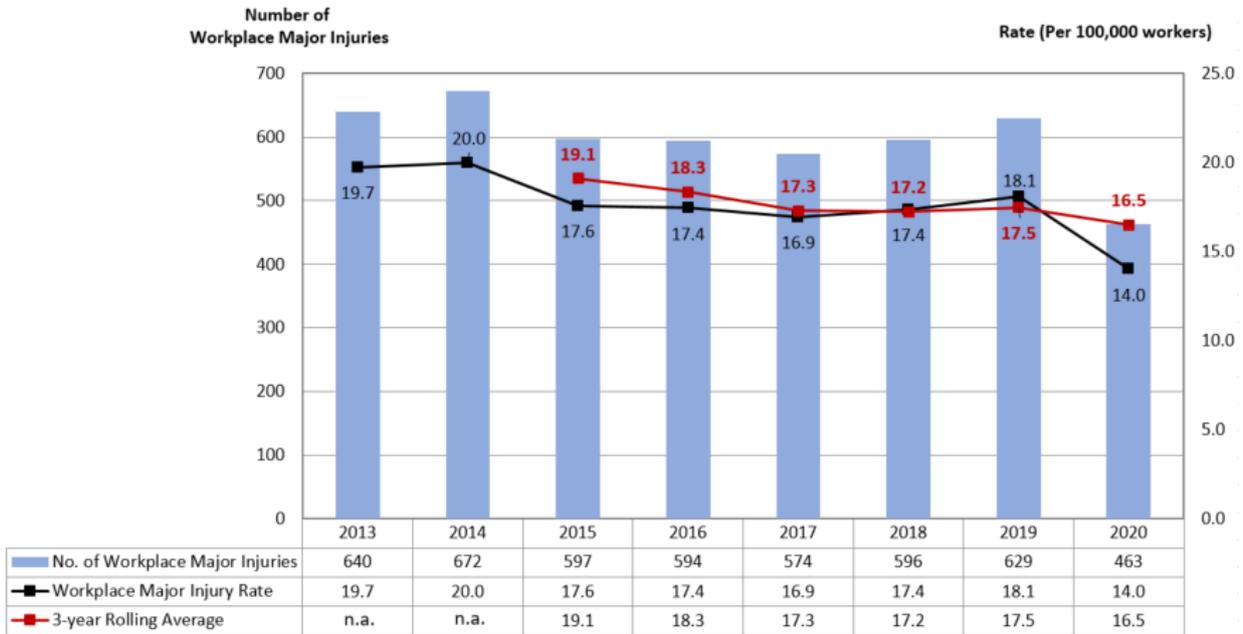
There were 5 workplace fatal injuries in the Transportation & Storage industry in 2020, 3 cases fewer than in 2019. The workplace fatal injury rate for the industry consequently decreased from 3.1 per 100,000 workers in 2019 to 2.0 per 100,000 workers in 2020.



**Figure 8: Number and rate of workplace fatal injuries for Transportation & Storage industry, 2013-2020**

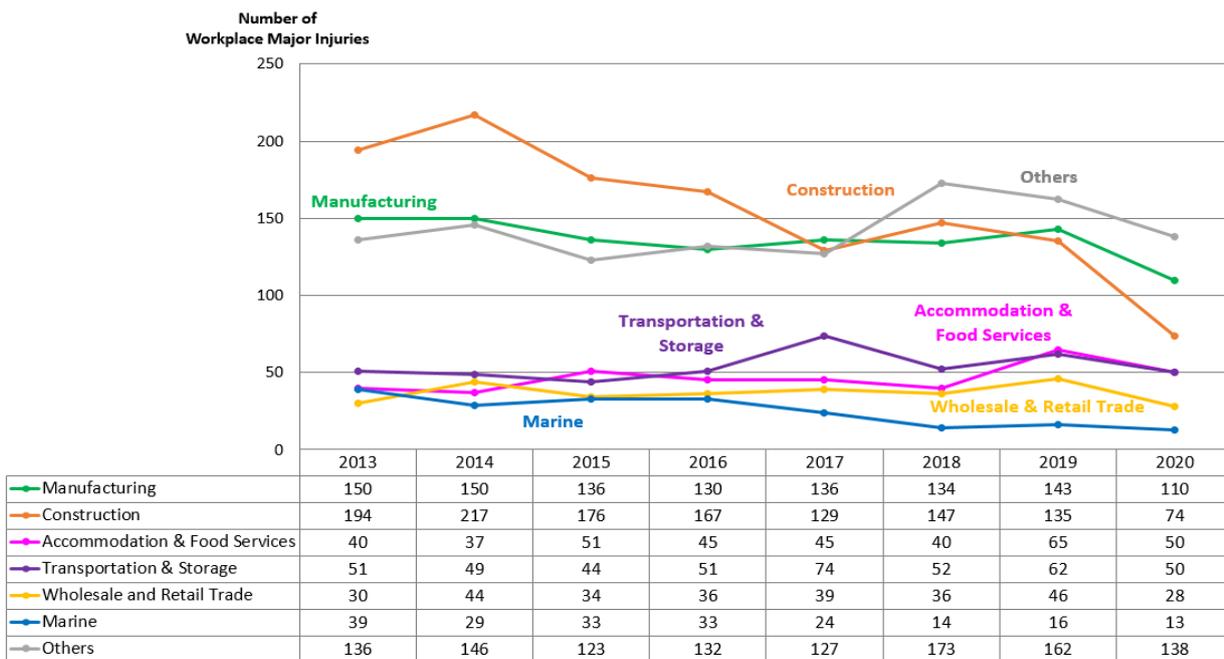
**WORKPLACE MAJOR INJURIES**

There were 463 workplace major injuries<sup>10</sup> in 2020, 26% (166 cases) fewer compared to 629 cases in 2019. The major injury rate consequently decreased from 18.1 per 100,000 workers in 2019 to 14.0 per 100,000 workers in 2020.



**Figure 9: Number and rate of workplace major injuries, 2013-2020**

In 2020, the top contributing industry for major injuries was Manufacturing sector with 110 major injuries, followed by the Construction sector with 74 major injuries. The top 2 contributing industries collectively accounted for 40% (184 cases) of the total major injuries in 2020.

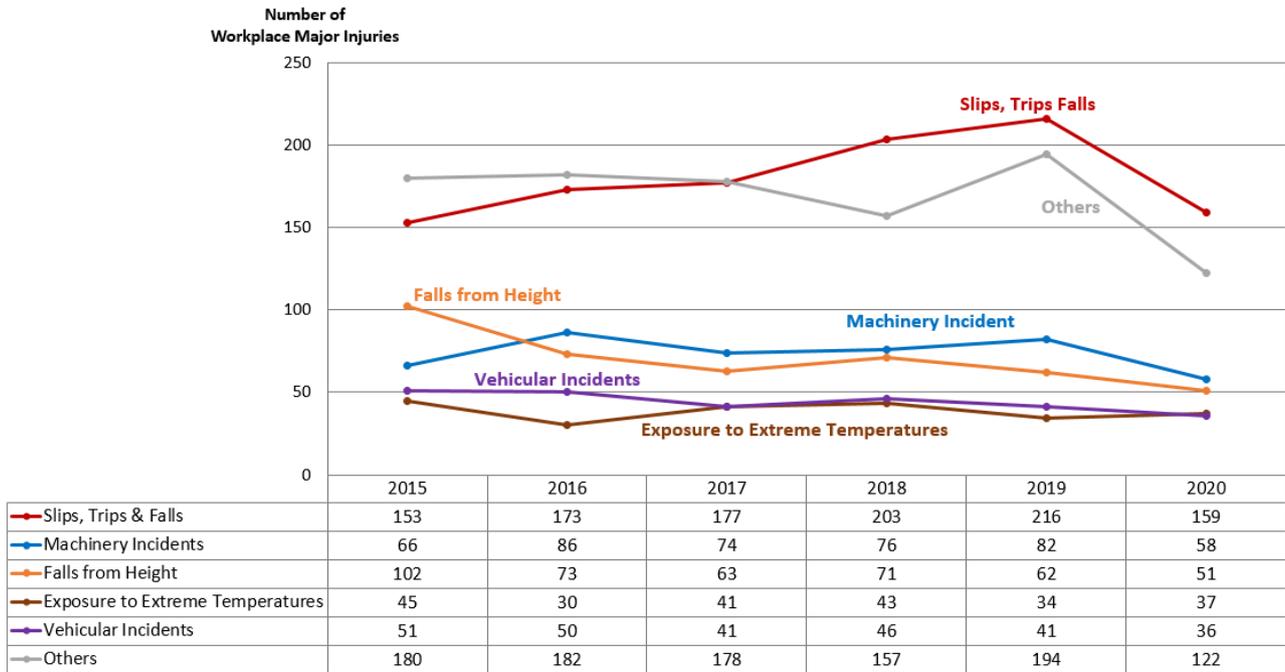


**Figure 10: Number of workplace major injuries by industry, 2013-2020**

<sup>14</sup> Refer to Annex F for the detailed definition of workplace major injuries.

**CAUSES OF WORKPLACE MAJOR INJURIES**

The top two causes of workplace major injuries were (i) Slips, Trips & Falls and (ii) Machinery Incidents,<sup>15</sup> these collectively accounted for 47% (217 cases) of the total number of workplace major injuries in 2020.



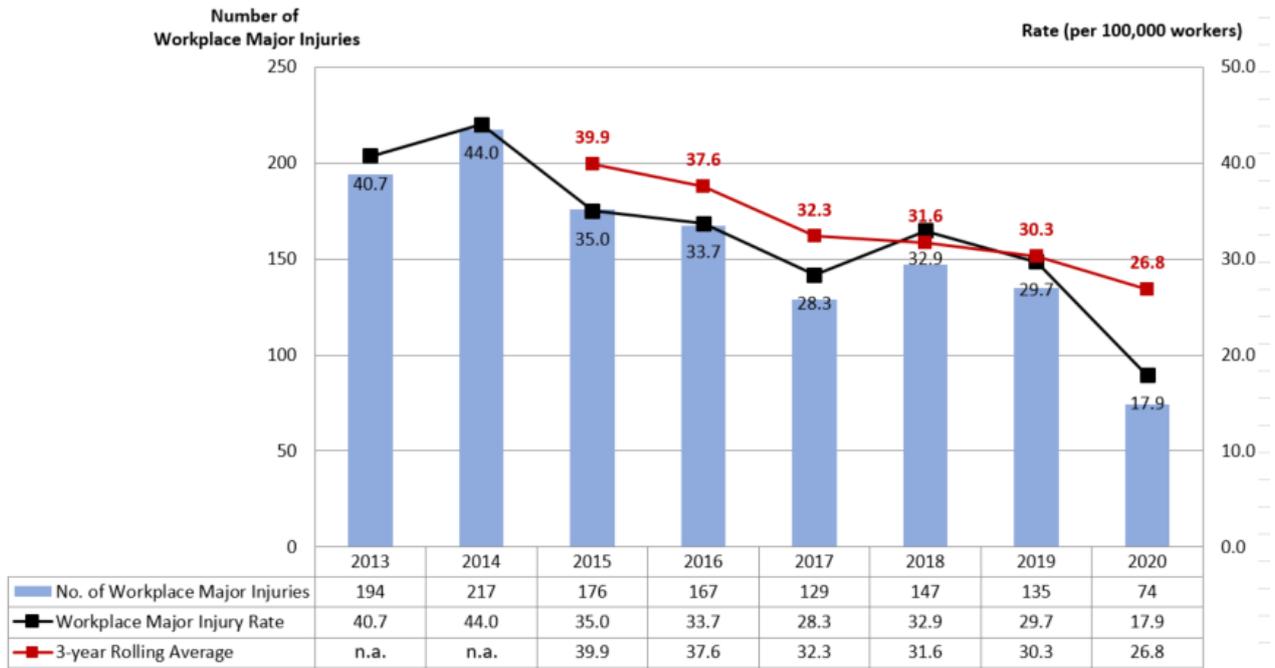
**Figure 11: Number of workplace major injuries by cause of injury, 2015-2020**

<sup>15</sup> Machinery Incidents include Struck by Moving Objects, Caught In/Between Objects and Cut/Stabbed by Objects where the agent(s) is an industrial machine, industrial hand tool or other machines and tools.

**WORKPLACE MAJOR INJURIES BY INDUSTRY**

CONSTRUCTION

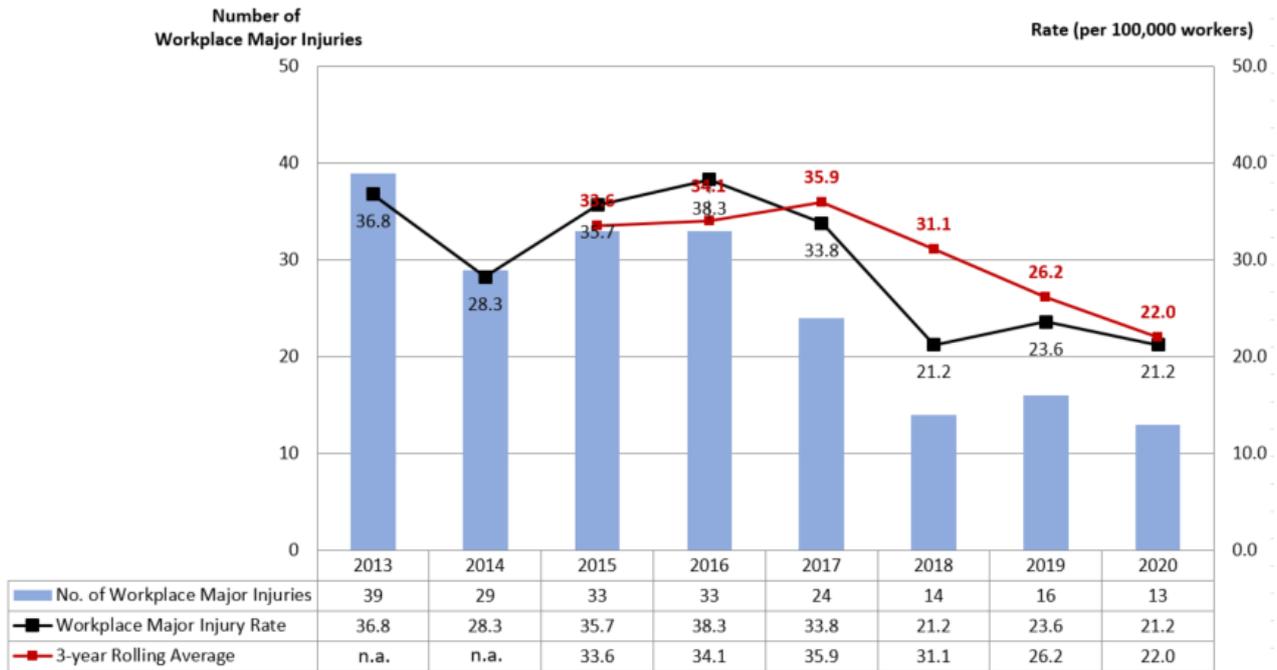
There were 74 workplace major injuries in the Construction sector in 2020, 61 cases fewer than in 2019. The workplace major injury rate for the sector consequently decreased from 29.7 per 100,000 workers in 2019 to 17.9 per 100,000 workers in 2020.



**Figure 12: Number and rate of workplace major injuries for Construction sector, 2013-2020**

MARINE

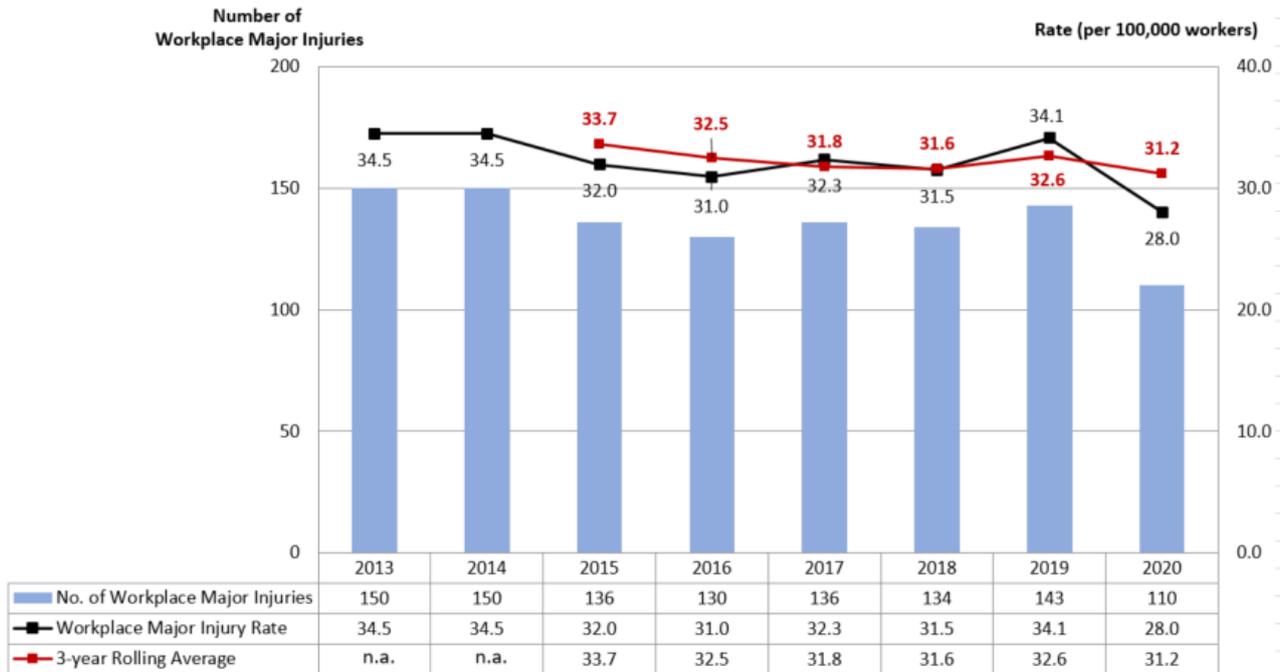
There were 13 workplace major injury in the Marine industry in 2020, 3 cases fewer than in 2019. The workplace major injury rate consequently decreased from 23.6 per 100,000 workers in 2019 to 21.2 per 100,000 workers in 2020.



**Figure 13: Number and rate of workplace major injuries for Marine industry, 2013-2020**

**MANUFACTURING**

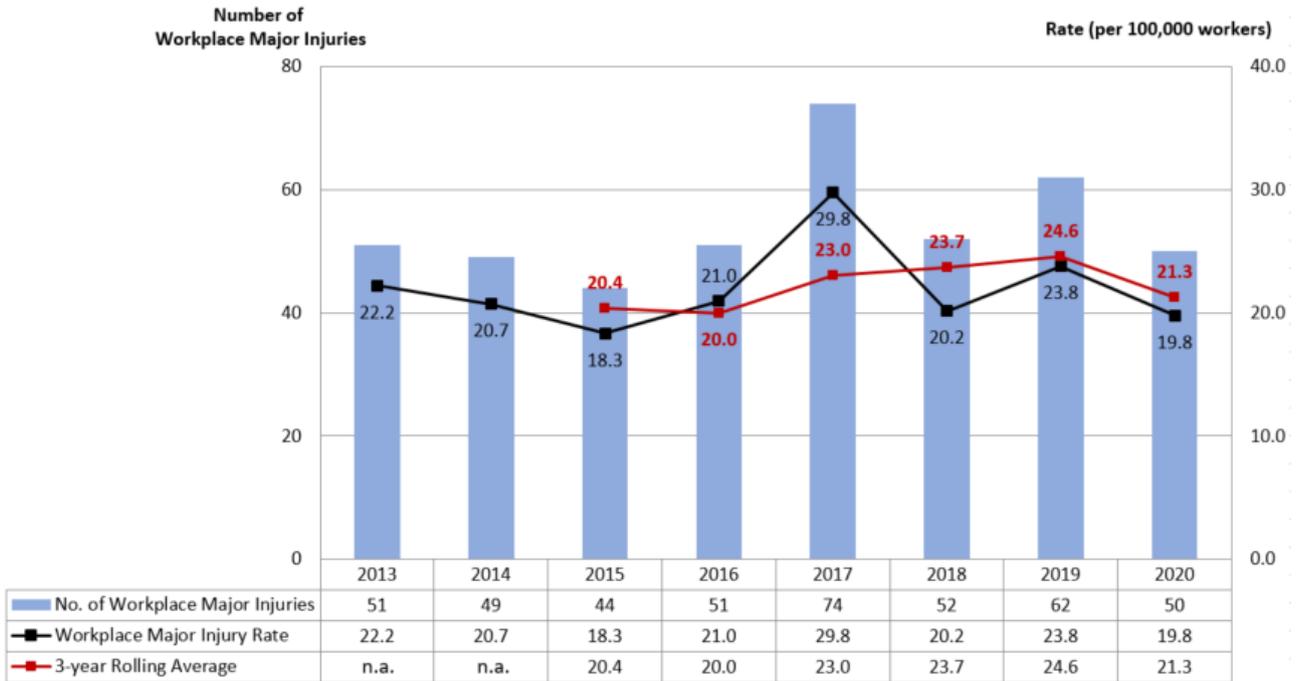
There were 110 workplace major injuries in the Manufacturing sector in 2020, 33 fewer than in 2019. The workplace major injury rate for the sector consequently decreased from 34.1 per 100,000 workers in 2019 to 28.0 per 100,000 workers in 2020.



**Figure 14: Number and rate of workplace major injuries for Manufacturing sector, 2013-2020**

TRANSPORTATION & STORAGE

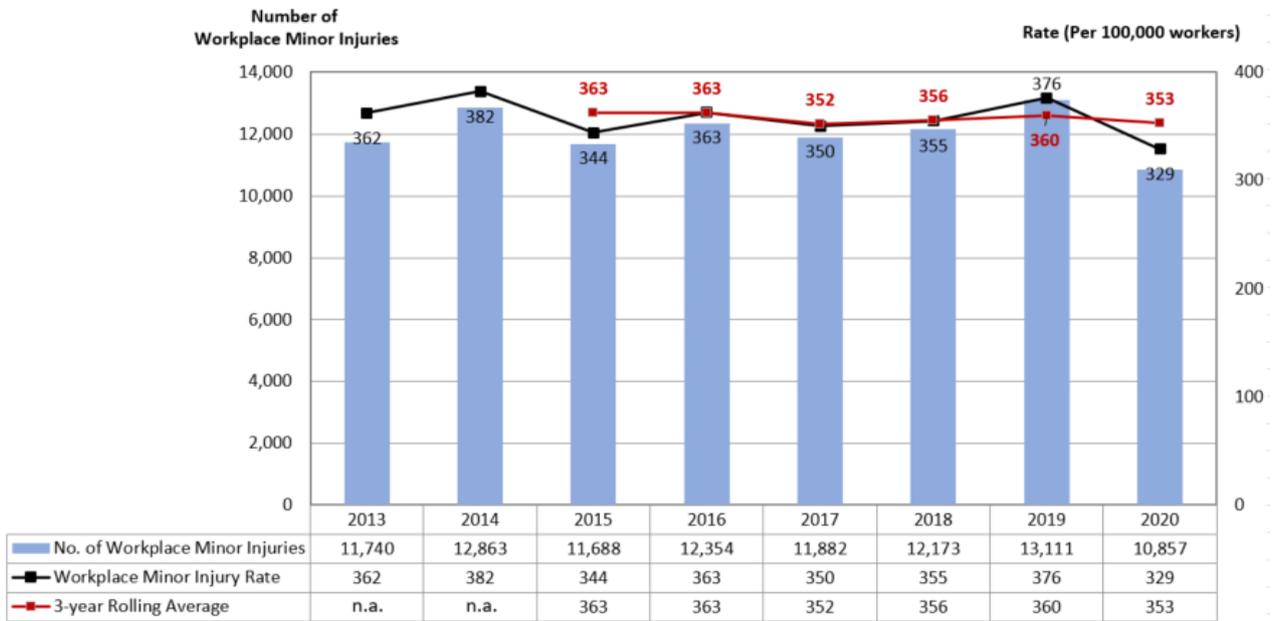
There were 50 workplace major injuries in the Transportation & Storage industry in 2020, 12 fewer than in 2019. The workplace major injury rate for the industry consequently decreased from 23.8 per 100,000 workers in 2019 to 19.8 per 100,000 workers in 2020.



**Figure 15: Number and rate of workplace major injuries for Transportation & Storage industry, 2013-2020**

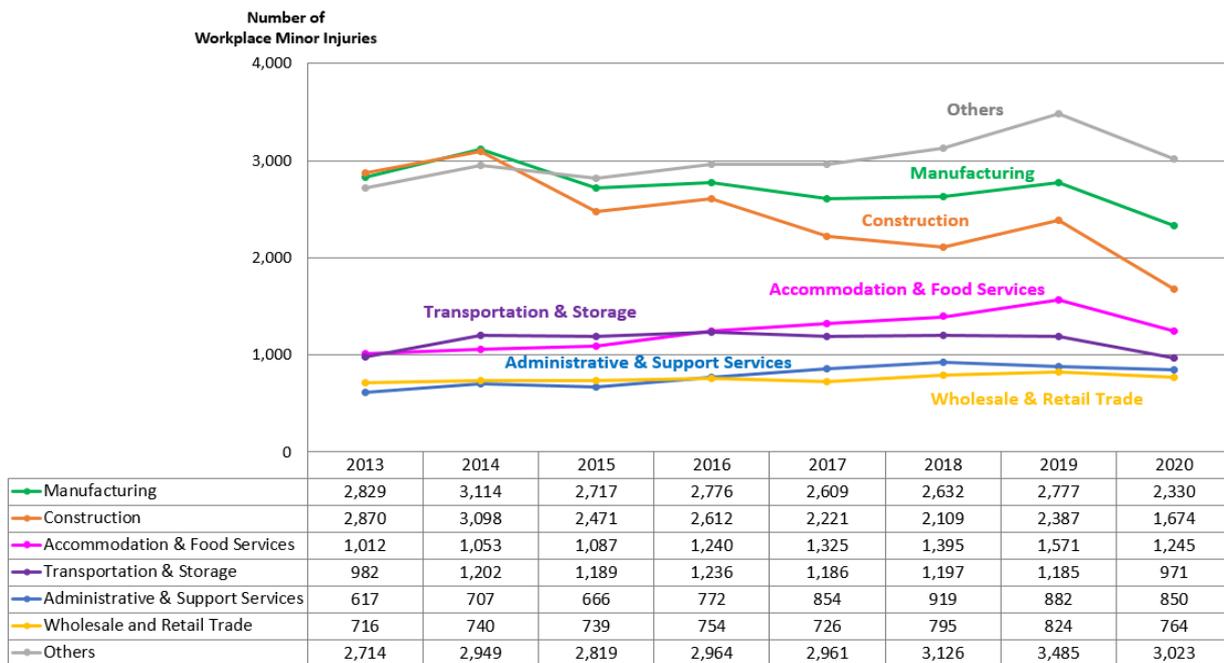
**WORKPLACE MINOR INJURIES**

There were 10,857 workplace minor injuries in 2020, 17% (2,254 cases) fewer compared to 13,111 cases in 2019. The minor injury rate consequently decreased from 376 per 100,000 workers in 2019 to 329 per 100,000 workers in 2020.



**Figure 16: Number and rate of workplace minor injuries, 2013-2020**

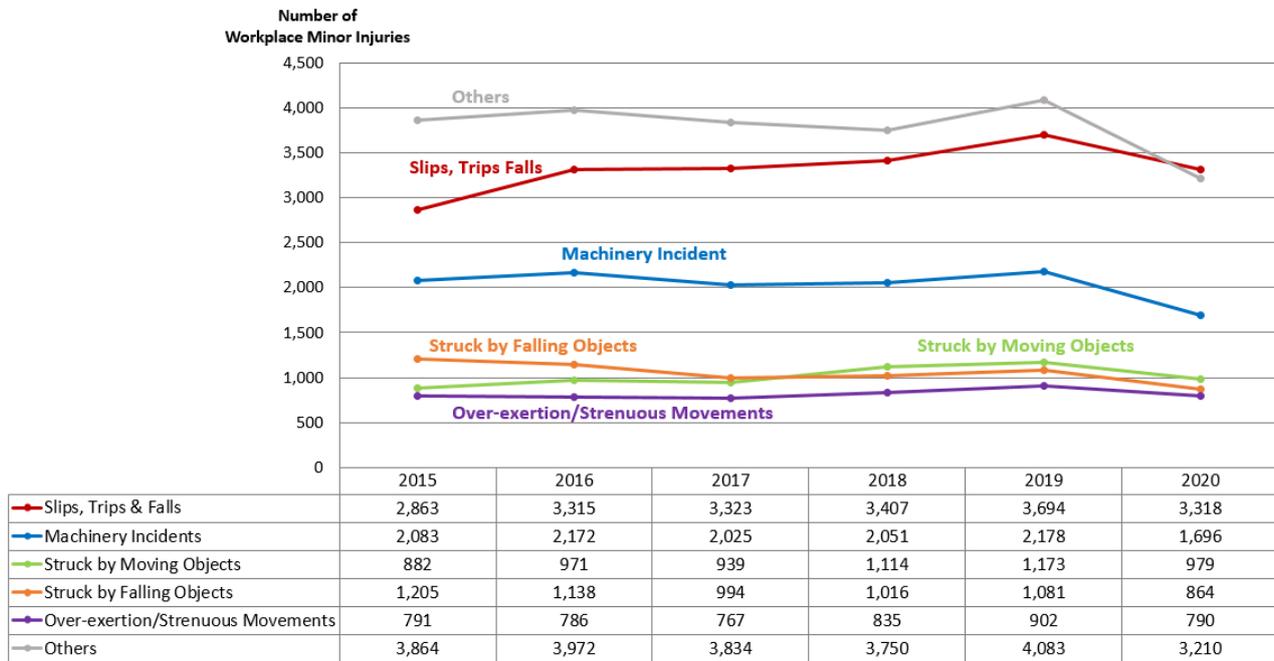
In 2020, the leading contributor of minor injuries was the Manufacturing sector with 2,330 cases, followed by the Construction sector with 1,674 cases and the Accommodation & Food Services industry with 1,245 cases. The top 3 contributing industries collectively accounted for 48% (5,249 cases) of the total minor injuries in 2020.



**Figure 17: Number of workplace minor injuries by industry, 2013-2020**

**CAUSES OF WORKPLACE MINOR INJURIES**

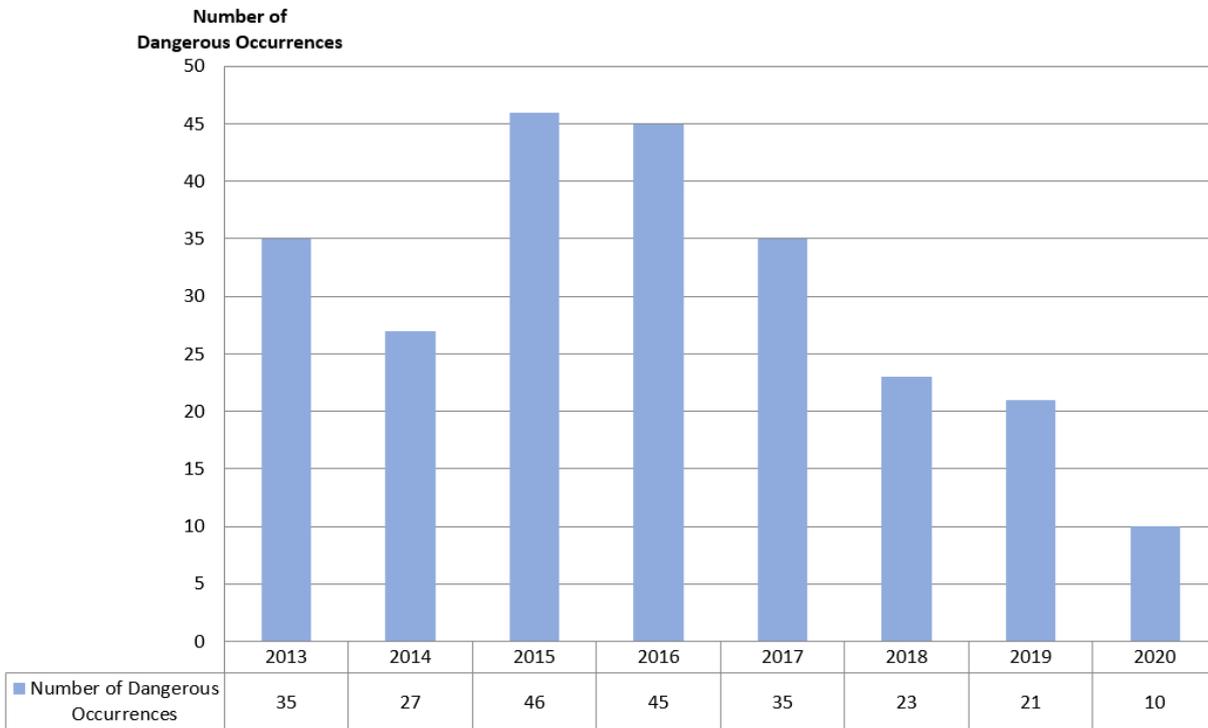
The top three causes of workplace minor injuries were (i) Slips, Trips & Falls, (ii) Machinery Incidents, and (iii) Struck by Moving Objects. These collectively accounted for 55% (5,993 cases) of the total number of workplace minor injuries.



**Figure 18: Number of workplace minor injuries by cause of injury, 2015-2020**

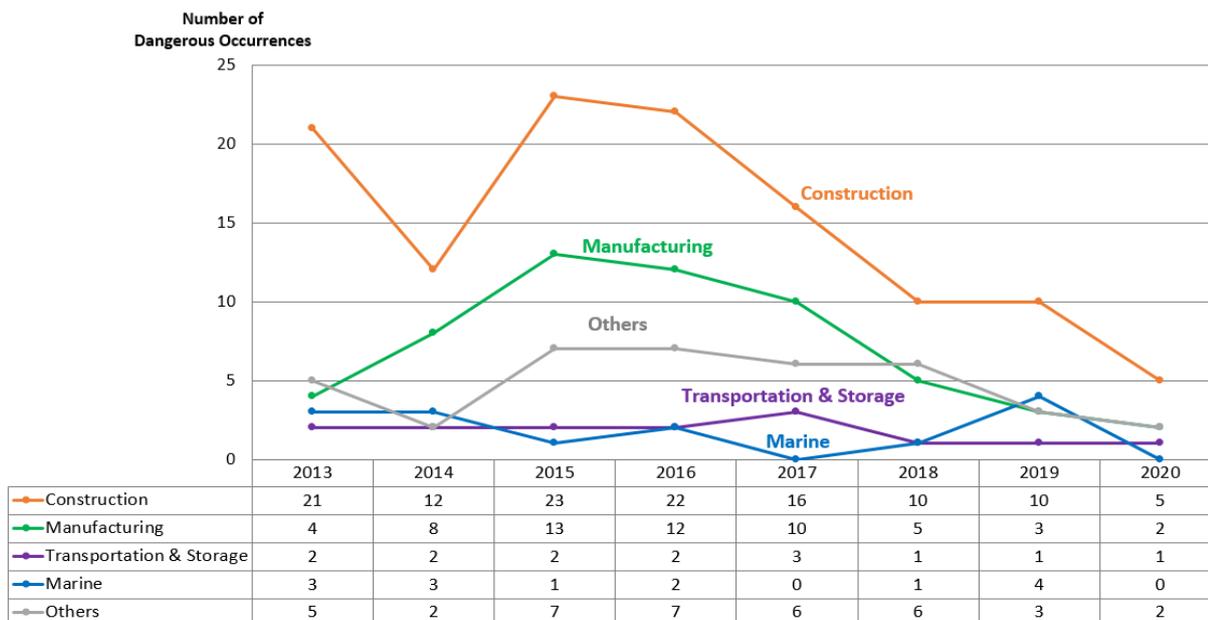
**DANGEROUS OCCURRENCES (DO)**

There were 10 cases of DOs reported to MOM in 2020, 11 cases fewer than in 2019. Amongst the DO cases, 7 cases involved Collapse/Failure of Structures & Equipment and 3 cases involved Fires & Explosion.



**Figure 19: Number of dangerous occurrences, 2013-2020**

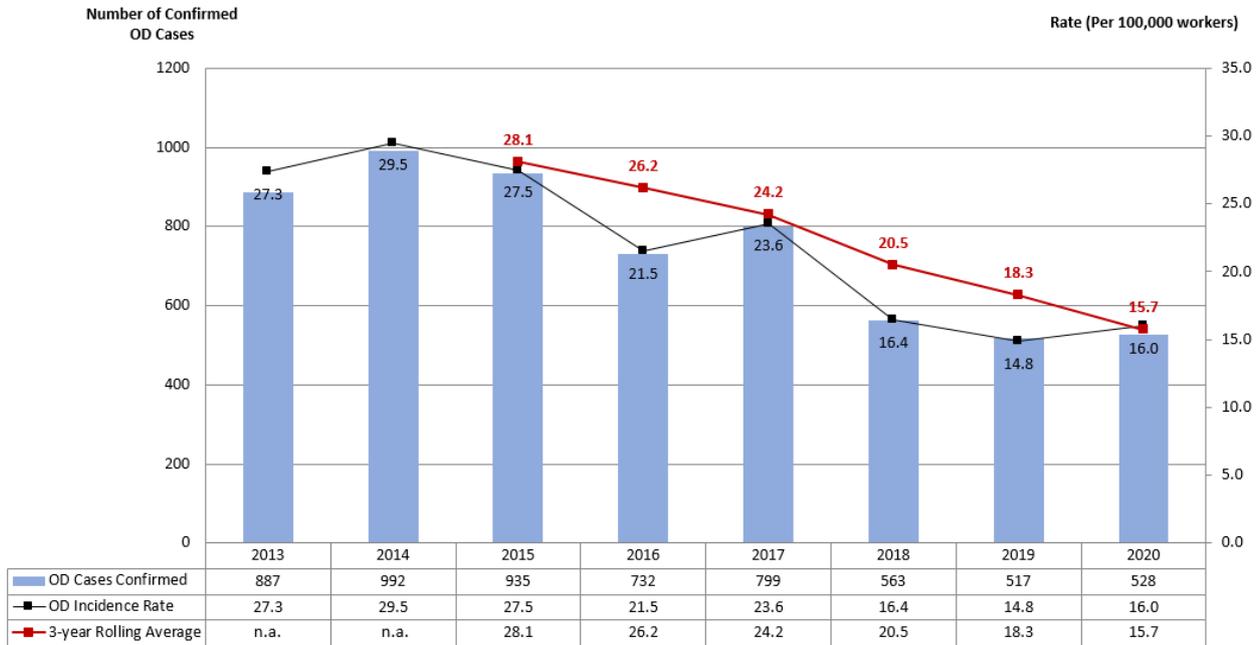
In 2020, the Construction sector was the top contributor accounting for 50% (5 cases) of the total number of DO cases. The second top contributing industry was Manufacturing with 2 DO cases.



**Figure 20: Number of dangerous occurrences by industry, 2013-2020**

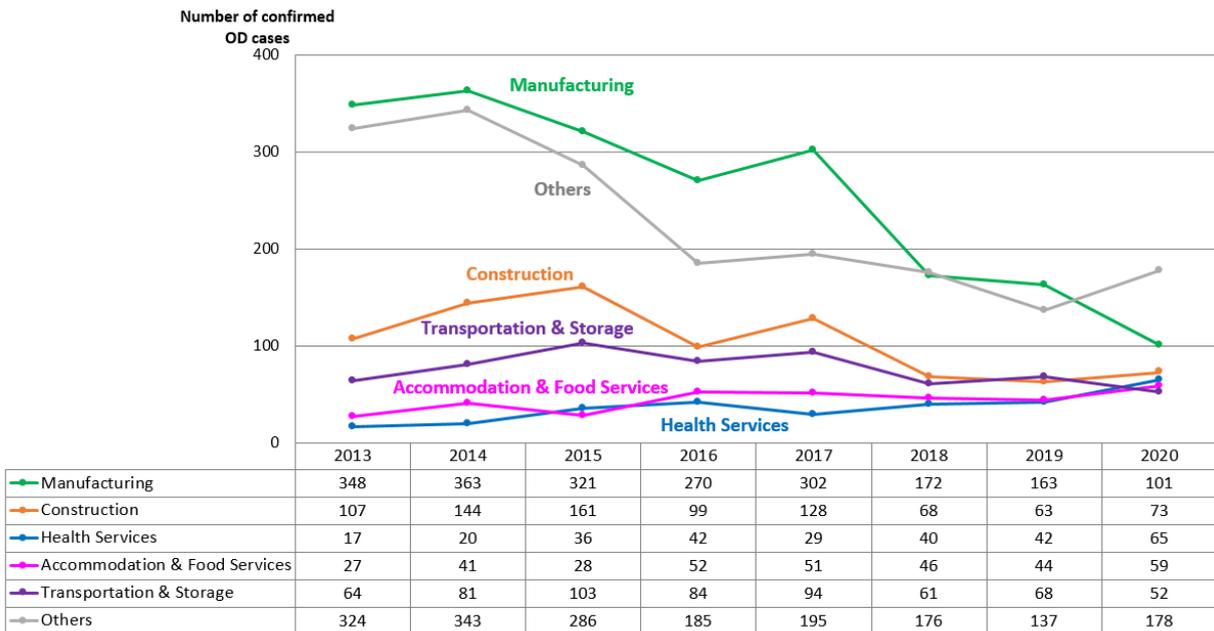
**OCCUPATIONAL DISEASES (OD)**

There were 528 cases of ODs confirmed in 2020, an increase of 11 cases compared to the 517 OD cases confirmed in 2019. The OD incidence rate consequently increased from 14.8 confirmed cases per 100,000 workers in 2019 to 16.0 per 100,000 workers in 2020.



**Figure 21: Number and rate of occupational diseases, 2013-2020**

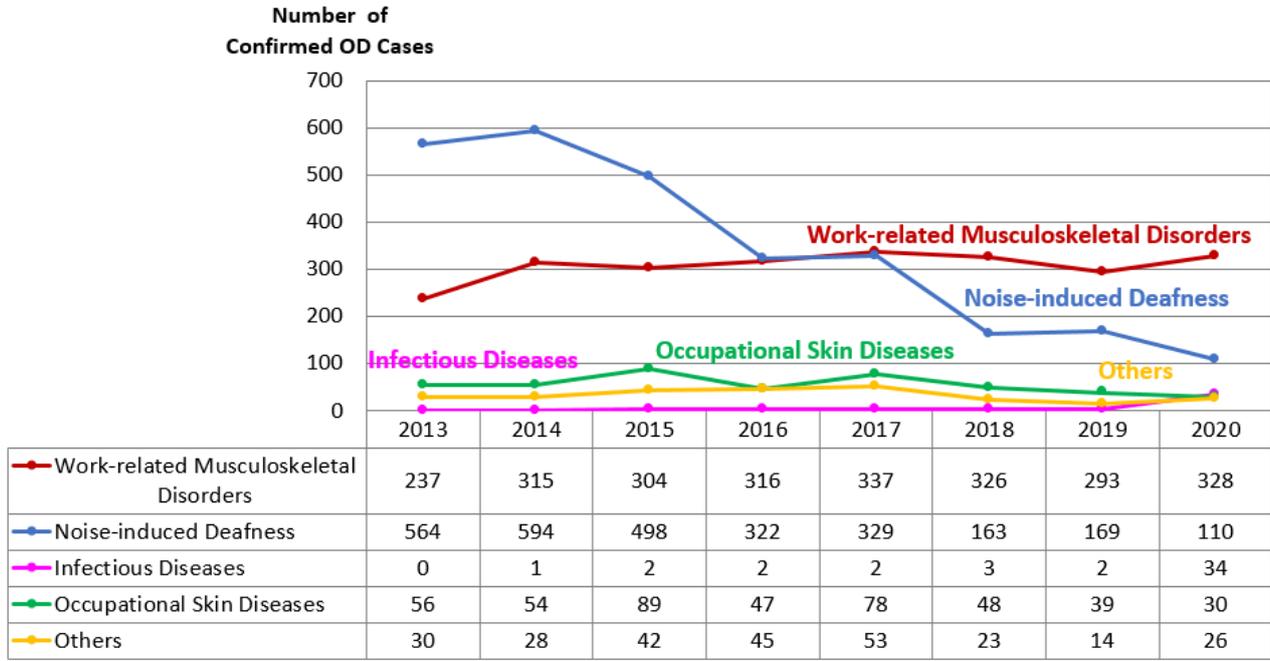
The Manufacturing sector was the top contributor in 2020 with 101 confirmed OD cases, followed by the Construction sector and the Health Services industry with 73 and 65 confirmed cases, respectively. These industries collectively accounted for 45% (239 cases) of all confirmed OD cases in 2020.



**Figure 22: Number of occupational diseases by industry, 2013-2020**

TYPES OF OCCUPATIONAL DISEASES

The top three types of OD cases confirmed were (i) Work-related Musculoskeletal Disorders<sup>16</sup>, (ii) Noise-induced Deafness and (iii) Infectious Diseases. These collectively accounted for 89% (472 cases) of all OD cases confirmed in 2020.

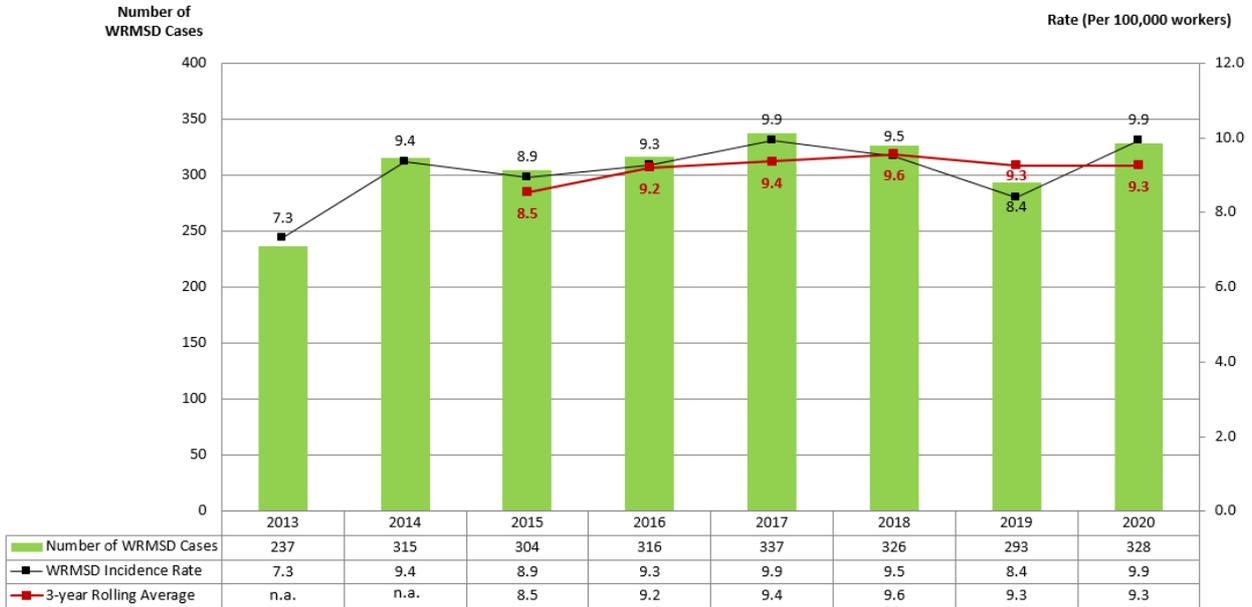


**Figure 23: Number of occupational diseases by type, 2013-2020**

<sup>16</sup> Back injuries due to ergonomic risks were considered as Work-related Musculoskeletal Disorders and included as an occupational disease since 2013.

WORK-RELATED MUSCULOSKELETAL DISORDERS (WRMSD)

WRMSD cases increased from 293 cases in 2019 to 328 cases in 2020. The Accommodation and Food Services industry was the top contributor, accounting for 16% (54 cases) of all WRMSD cases, followed by Manufacturing and Health Services industries with 49 (15%) and 45 (14%) WRMSD cases respectively.



**Figure 24: Number and rate of work-related musculoskeletal disorders, 2013-2020**

NOISE-INDUCED DEAFNESS (NID)

NID cases reduced from 169 cases in 2019 to 110 cases in 2020. The Manufacturing sector continued to be the top contributor to NID cases, accounting for 43% (47 cases) of all NID cases. This was followed by the Transportation & Storage industry and the Construction sector with 18 (16%) and 13 (12%) cases, respectively.



**Figure 25: Number and rate of noise-induced deafness, 2013-2020**

## WORK INJURY COMPENSATION

The Work Injury Compensation Act (WICA) lets employees make claims for work-related injuries or diseases without having to file a civil suit under common law. It is a low-cost and quicker alternative to common law for settling compensation claims.

### NUMBER OF WORK INJURY CLAIMS AND PAYOUT AMOUNT AWARDED

The total number of work injury claims<sup>17</sup> awarded increased by 2.4% from 15,992 cases in 2019 to 16,371 cases in 2020. Despite the increase in number of cases, the total compensation payout awarded reduced by 17.3% from \$120.02 million in 2019 to \$99.24 million in 2020. These were mainly contributed by the reduction in the numbers for both Fatal and Permanent Incapacity cases.

**Table 3: Number of TI and PI workplace injuries compensation claims and amount awarded, 2018-2020**

Year	Temporary Incapacity (TI) <sup>18</sup>		Permanent Incapacity (PI) <sup>19</sup>		
	No. of cases	MC Wages (\$million)	No. of cases	MC Wages (\$million)	PI Compensation (\$million)
2018	10,170	\$9.48	4,304	\$12.41	\$73.88
2019	11,496	\$11.22	4,370	\$14.92	\$76.26
2020	12,599	\$10.20	3,664	\$14.39	\$60.01

**Table 4: Number of Fatal and Total workplace injuries compensation claims and amount awarded, 2018-2020**

Year	Fatal		Total		
	No. of cases	Death Compensation (\$million)	No. of cases	MC Wages (\$million)	PI/Death Compensation (\$million)
2018	111	\$15.96	14,585	\$21.89	\$89.84
2019	126	\$17.62	15,992	\$26.14	\$93.88
2020	108	\$14.64	16,371	\$24.59	\$74.65

<sup>17</sup> Work injury compensation data excludes cases that were withdrawn, cases with No-Further-Action required and cases that were not admitted under WICA.

<sup>18</sup> Temporary incapacity claims arise from non-permanent work injuries where an injured employee is temporarily unable to perform work and earn his usual wages after being placed on medical leave.

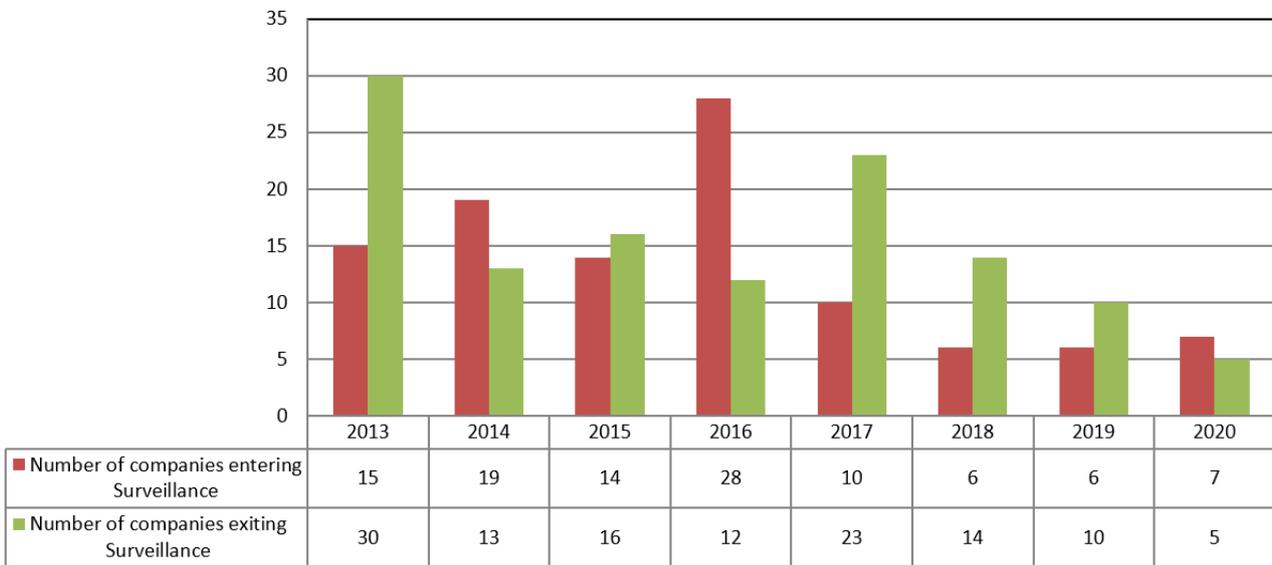
<sup>19</sup> Permanent incapacity claims arise from injuries which cause permanent injuries or loss of bodily functions to an injured employee.

## BUSINESS UNDER SURVEILLANCE

Proactive surveillance of high risk workplaces enables preventive measures to be taken early. The Business Under Surveillance (BUS) programme focuses on improvement of WSH management systems.

### BUSINESS UNDER SURVEILLANCE

More than 300 companies had been placed under the programme since its inception in 2007. Companies on the BUS programme included those with (i) serious accidents, (ii) issued with Stop Work Orders (SWO) for poor WSH management, or (iii) accumulated a substantial number of demerit points. Companies exit the programme when their WSH standards have improved to a level where they can effectively manage their WSH risks. In 2020, 7 companies entered the BUS programme. They were all from the Construction sector. For the 5 companies which exited the programme in 2020, they were under surveillance for an average of 18 months.



**Figure 26: Number of companies entering and exiting surveillance, 2013-2020**

## MEDICAL AND HYGIENE SURVEILLANCE

Hygiene and Medical surveillance programmes monitor workers’ exposure and health effects from exposure to the list of hazards under the Workplace Safety and Health (General Provisions) Regulations, Workplace Safety and Health (Noise) Regulations and the Workplace Safety and Health (Medical Examinations) Regulations.

### MEDICAL SURVEILLANCE

Workplaces with hazards listed in the Schedule of the WSH (Medical Examinations) Regulations are required to send their exposed workers for pre-placement and periodic medical examinations. The number of workers under surveillance have dropped from 133,740 in 2019 to 107,069 in 2020. Similarly, the number of workplaces under medical surveillance has also decreased from 2,156 in 2019 to 2,125 in 2020.

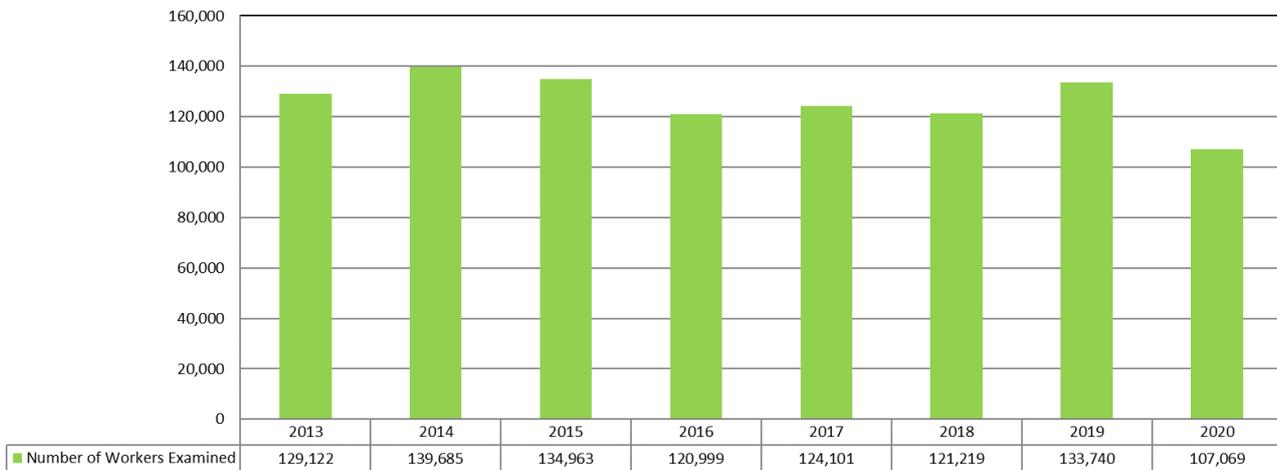


Figure 27: Number of workers under medical surveillance, 2013-2020

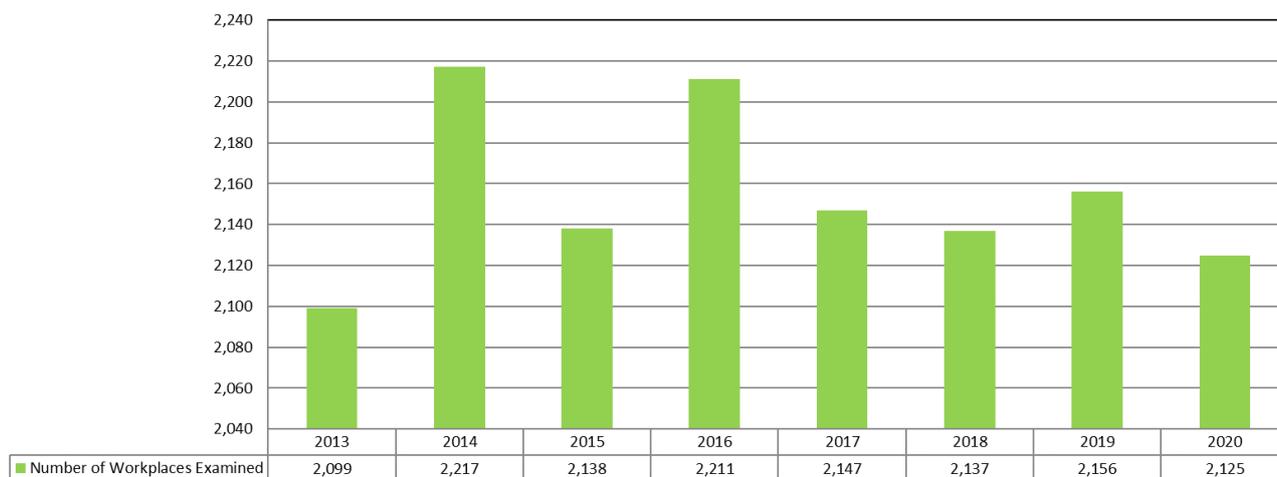


Figure 28: Number of workplaces under medical surveillance, 2013-2020

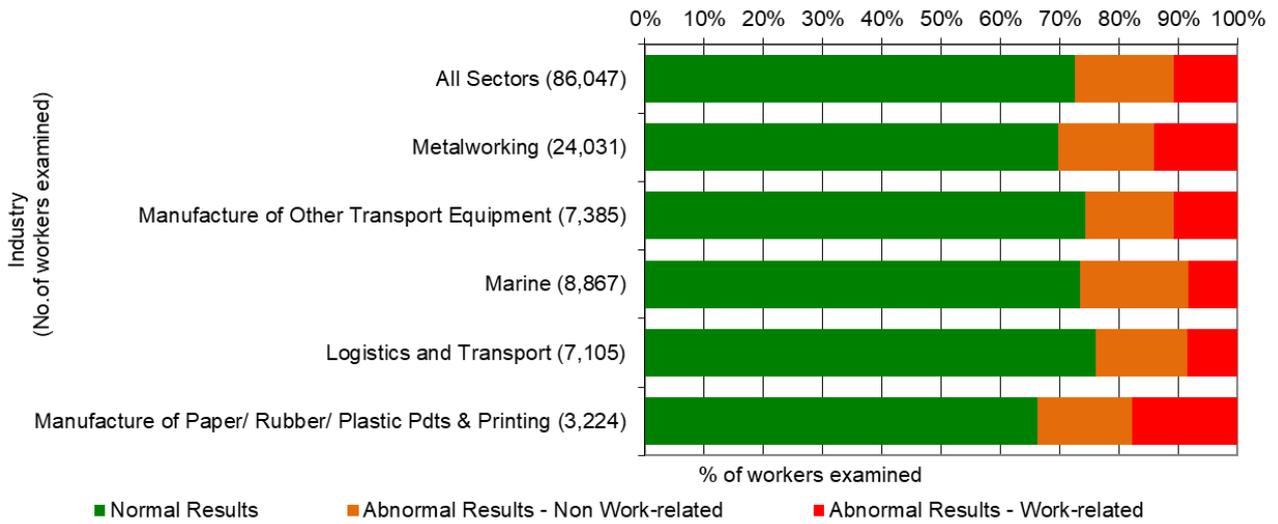


Figure 29: Medical monitoring for noise exposure by Top 5 industries, 2020

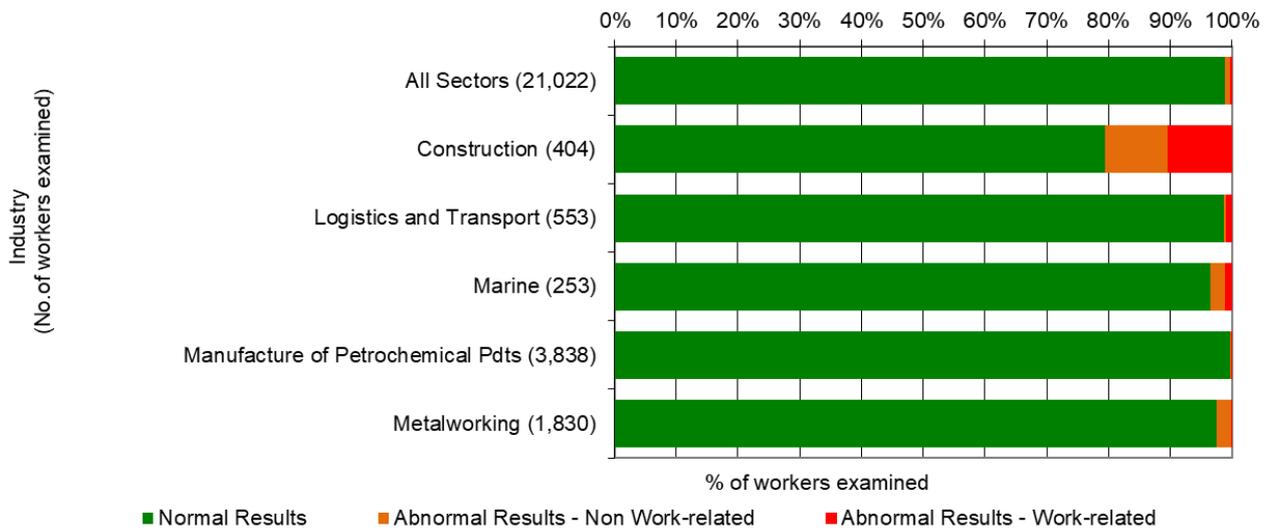


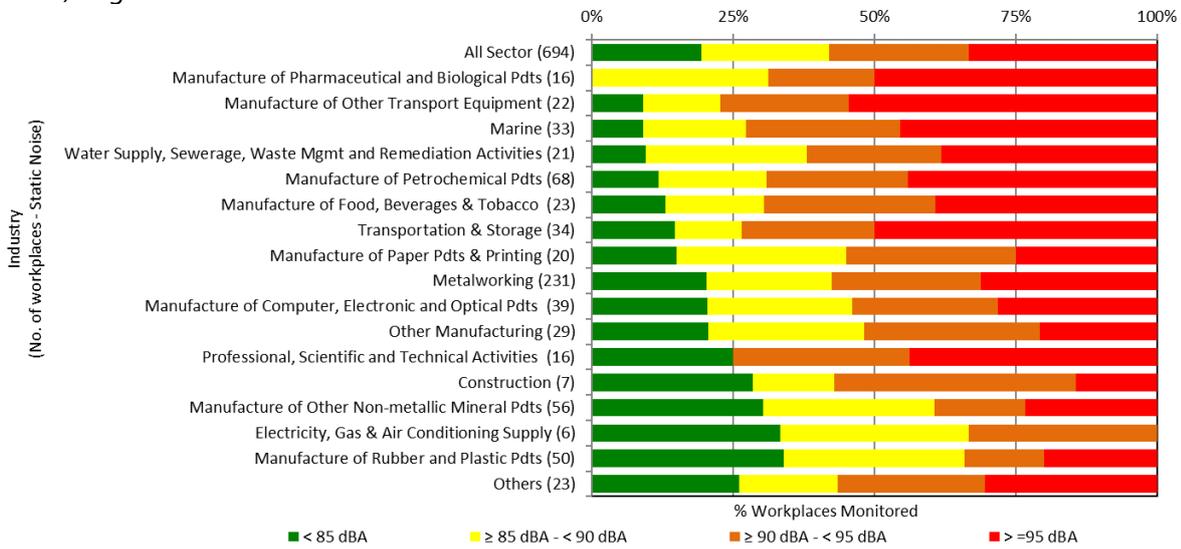
Figure 30: Medical monitoring for chemical exposure by Top 5 industries, 2020

**HYGIENE SURVEILLANCE**

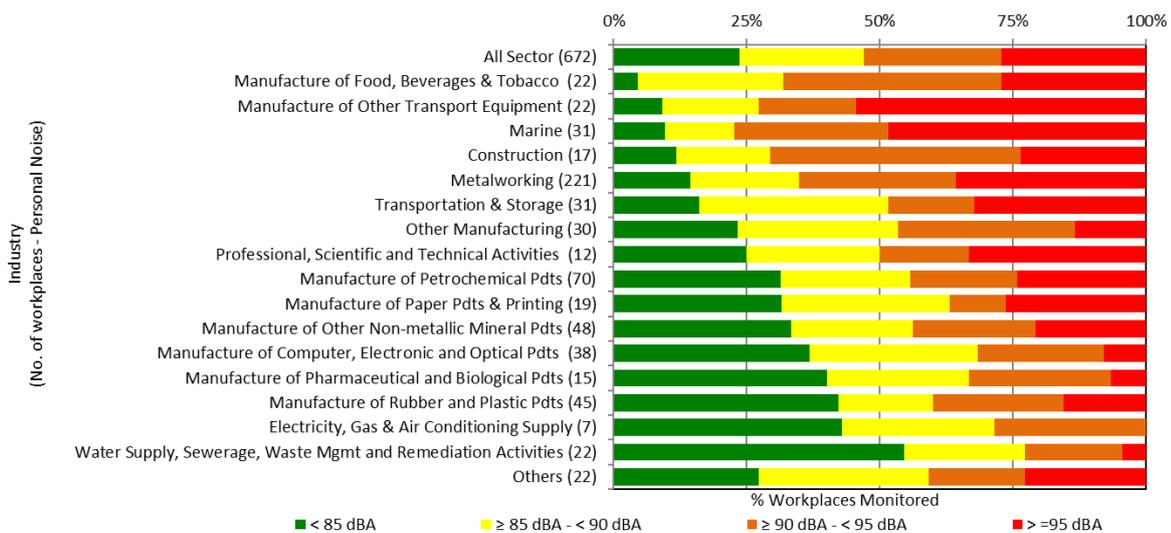
Workplaces where persons are likely to be exposed to excessive noise or toxic substances are required to conduct regular hygiene monitoring to measure their workers' exposure to noise and chemicals under the WSH (Noise) Regulations and the WSH (General Provisions) Regulations respectively.

**NOISE EXPOSURE LEVELS**

Based on the noise monitoring results submitted over the past three years, 81% of the workplaces had noisy processes exceeding 85dBA. 76% of the workplaces that conducted personal exposure monitoring had workers who were exposed to excessive noise (above an equivalent sound pressure level of 85dBA over an eight-hour workday). Workplaces with noisy processes or workers who are exposed to excessive noise will need to implement additional control measures to reduce or control the noise generated from machinery or equipment so as to reduce workers' exposure to below the permissible limits as stipulated in the Schedule of the WSH (Noise) Regulations.



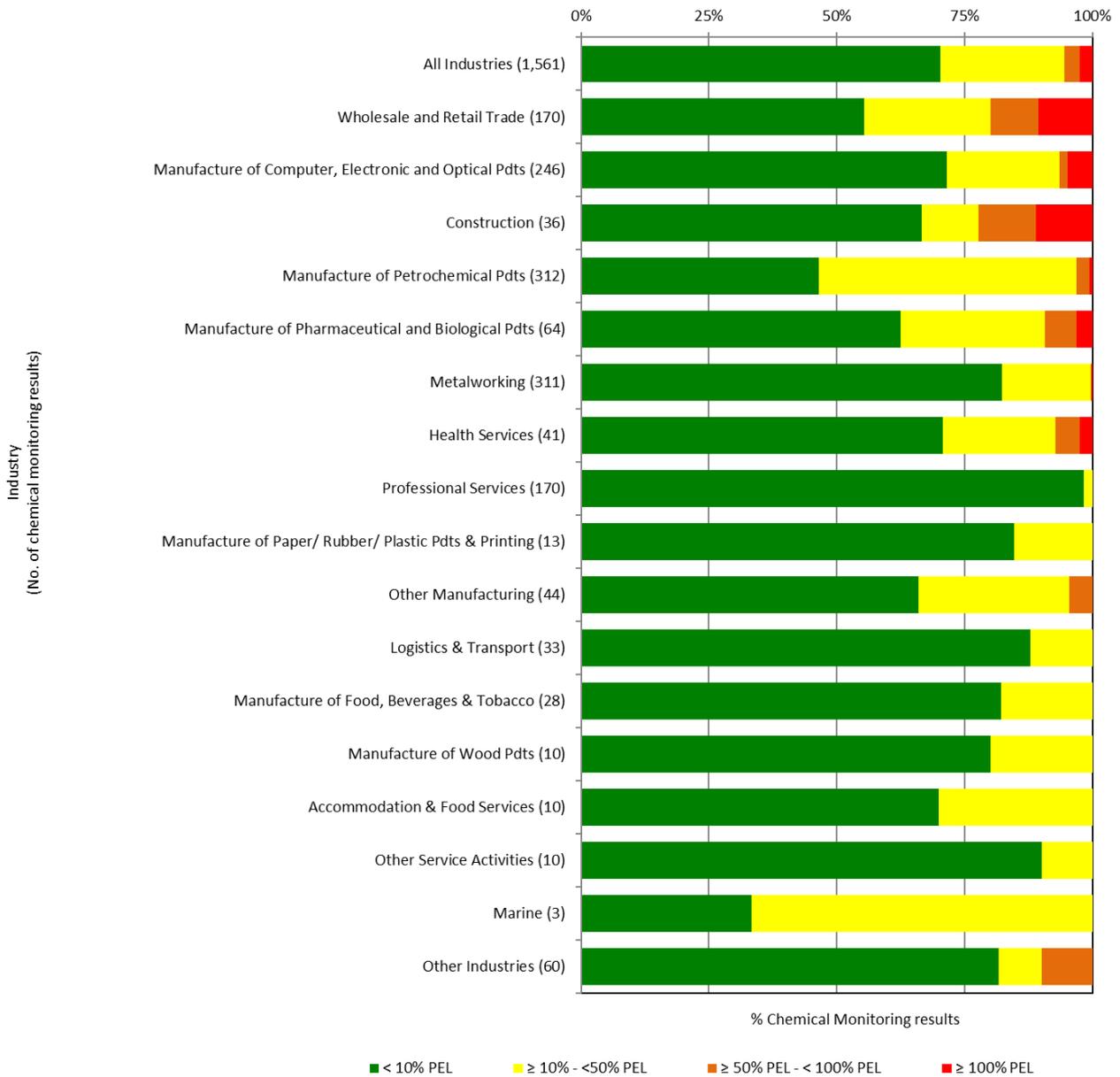
**Figure 31: Static noise monitoring results by industry, 2018-2020**



**Figure 32: Personal noise exposure results by industry, 2018-2020**

**CHEMICAL EXPOSURE LEVELS**

A total of 1,561 chemical monitoring results were received in 2020, of which 40% of the results were from the Manufacture of Petrochemical Products industry and Metalworking industry (20% each). Workplaces with chemical exposure levels higher than permissible exposure level (PEL<sup>20</sup>) will require implementation of additional engineering control measures to eliminate or reduce workers' exposure to below the PEL.



**Figure 33: Chemical exposure results by industry, 2020**

<sup>20</sup> Permissible Exposure Level (PEL) refer to the maximum time weighted average concentration of a toxic substance to which any person may be exposed.

## ANNEX A

## STATISTICAL TABLES

Table 5: Number of workplace fatal injuries by industry, 2019 and 2020

Industry	2019	2020
<b>All Industries</b>	<b>39</b>	<b>30</b>
Construction	13	9
Manufacturing	4	6
<i>Manufacture of Petrochemical Products</i>	1	3
<i>Metalworking</i>	3	1
<i>Manufacture of Furniture</i>	0	1
<i>Manufacture of Rubber &amp; Plastic Products</i>	0	1
Transportation & Storage	8	5
<i>Logistics &amp; Transport</i>	3	4
Water Supply; Sewerage, Waste Management & Remediation Activities	1	3
Marine	4	2
Wholesale & Retail Trade	2	2
<i>Wholesale Trade</i>	2	2
Administrative & Support Service Activities	2	1
<i>Cleaning &amp; Landscape Maintenance Activities</i>	0	1
<i>Rental &amp; Leasing Activities</i>	2	0
Real Estate Activities	1	1
Gambling & Betting Activities	0	1
Accommodation & Food Service Activities	2	0
Social Services Without Accommodation	1	0
Electricity, Gas & Air-Conditioning Supply	1	0

**Table 6: Workplace fatal injury rates by industry, 2019 and 2020**

Per 100,000 workers

Industry	2019	2020
<b>All Industries</b>	<b>1.1</b>	<b>0.9</b>
Construction	2.9	2.2
Manufacturing	1.0	1.5
<i>Manufacture of Petrochemical Products</i>	1.9	6.1
<i>Metalworking</i>	2.8	1.0
<i>Manufacture of Furniture</i>	0	10.8
<i>Manufacture of Rubber &amp; Plastic Products</i>	0	9.3
Transportation & Storage	3.1	2.0
<i>Logistics &amp; Transport</i>	2.7	3.8
Water Supply; Sewerage, Waste Management & Remediation Activities	n.a.	n.a.
Marine	5.9	3.3
Wholesale & Retail Trade	0.4	0.4
<i>Wholesale Trade</i>	0.6	0.6
Administrative & Support Service Activities	0.8	0.4
<i>Cleaning &amp; Landscape Maintenance Activities</i>	0	1.3
<i>Rental &amp; Leasing Activities</i>	n.a.	n.a.
Real Estate Activities	1.2	1.3
Gambling & Betting Activities	n.a.	n.a.
Accommodation & Food Service Activities	0.8	0
Social Services Without Accommodation	n.a.	n.a.
Electricity, Gas & Air-Conditioning Supply	n.a.	n.a.

Table 7: Number of workplace fatal injuries by incident type and incident agent, 2019 and 2020

Incident Type	Incident Agent	2019	2020
<b>Total Workplace Fatal Injuries</b>		<b>39</b>	<b>30</b>
Falls	Total	10	11
Falls from Height	Total	7	8
	<i>Physical Workplace - Structures</i>	4	4
	<i>Means of Access - Ladders</i>	1	2
	<i>Physical Workplace - Floors/Level Surfaces</i>	0	1
	<i>Physical Workplace - Formwork</i>	0	1
	<i>Means of Access - Others</i>	1	0
	<i>Other Incident Agents</i>	1	0
Slips, Trips & Falls	Total	3	3
	<i>Physical Workplace - Floors/Level Surfaces</i>	2	1
	<i>Means of Access - Stairs or Steps</i>	0	1
	<i>Animals, Plants &amp; Insects</i>	0	1
	<i>Goods/Cargo</i>	1	0
Caught in/ between Objects	Total	4	4
	<i>Industrial Machines</i>	2	2
	<i>Lifting Equipment - Mobile Work Platform</i>	0	1
	<i>Vehicles - Industrial Trucks</i>	0	1
	<i>Lifting Equipment - Lifts &amp; Hoists</i>	1	0
	<i>Other Incident Agents</i>	1	0
Fires & Explosion	Total	1	3
	<i>Material &amp; Substances - Explosives/Flammable</i>	0	3
	<i>Pressurised Equipment</i>	1	0
Struck by Falling Objects	Total	2	3
	<i>Material &amp; Substances - Metal Items</i>	2	1
	<i>Goods/Cargo</i>	0	1
	<i>Physical Workplace - Formwork</i>	0	1
Traffic Accidents	Total	4	3
	<i>Vehicles - Transport Equipment</i>	4	3
Collapse/Failure of Structure & Equipment	Total	7	2
	<i>Material &amp; Substances - Metal Items</i>	0	1
	<i>Pressurised Equipment</i>	0	1
	<i>Physical Workplace - Structures</i>	3	0
	<i>Lifting Equipment - Cranes</i>	1	0
	<i>Lifting Equipment - Mobile Work Platform</i>	1	0
	<i>Means of Access - Scaffold</i>	1	0
	<i>Goods/Cargo</i>	1	0

(Continued) Table 7: Number of workplace fatal injuries by incident type and incident agent, 2019 and 2020

Incident Type	Incident Agent	2019	2020
<b>Total Workplace Fatal Injuries</b>		<b>39</b>	<b>30</b>
Struck by Moving Objects	Total	5	1
	<i>Material &amp; Substances - Metal Items</i>	0	1
	<i>Lifting Equipment - Lifting appliances/gears</i>	1	0
	<i>Other Incident Agents</i>	1	0
	<i>Vehicles - Forklifts</i>	1	0
	<i>Vehicles - Industrial Trucks</i>	1	0
	<i>Vehicles - Transport Equipment</i>	1	0
Drowning	Total	3	1
	<i>Other Incident Agents</i>	3	1
Exposure to/contact with extreme temperatures (heat/cold)	Total	1	1
	<i>Other Incident Agents</i>	0	1
	<i>Material &amp; Substances - Hot scalding liquid/steam</i>	1	0
Exposure to/contact with harmful substances	Total	0	1
	<i>Material &amp; Substances - Dust, Gas, Liquid/Chemicals</i>	0	1
Crane-related	Total	1	0
	<i>Lifting Equipment - Cranes</i>	1	0
Electrocution	Total	1	0
	<i>Electrical Equipment</i>	1	0

Table 8: Number of workplace fatal injuries by industry and incident type, 2020

Industry	All	Construction	Manufacturing	Transportation & Storage	Water Supply, Sewerage & Waste Management
<b>Total</b>	<b>30</b>	<b>9</b>	<b>6</b>	<b>5</b>	<b>3</b>
Falls - Falls from Height	8	4	2	0	0
Falls – Slips, Trips & Falls	3	0	0	0	1
Caught In/Between Objects	4	1	0	1	1
Fires & Explosion	3	0	2	0	1
Struck by Falling Objects	3	1	1	1	0
Traffic Accidents	3	0	0	2	0
Collapse/Failure of Structure & Equipment	2	2	0	0	0
Exposure to/contact with harmful substances	1	0	1	0	0
Struck by Moving Objects	1	0	0	1	0
Other Incident Types - Drowning	1	0	0	0	0
Other Incident Types - Exposure to/contact with extreme temperatures (heat/cold)	1	1	0	0	0

(Continued) Table 8: Number of workplace fatal injuries by industry and incident type, 2020

Industry	Marine	Wholesale & Retail Trade	Cleaning and Landscape Maintenance Activities	Gambling & Betting Activities	Real Estate Activities
<b>Total</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>
Falls - Falls from Height	1	0	1	0	0
Falls – Slips, Trips & Falls	0	0	0	1	1
Caught In/Between Objects	0	1	0	0	0
Fires & Explosion	0	0	0	0	0
Struck by Falling Objects	0	0	0	0	0
Traffic Accidents	0	1	0	0	0
Collapse/Failure of Structure & Equipment	0	0	0	0	0
Exposure to/contact with harmful substances	0	0	0	0	0
Struck by Moving Objects	0	0	0	0	0
Other Incident Types - Drowning	1	0	0	0	0
Other Incident Types - Exposure to/contact with extreme temperatures (heat/cold)	0	0	0	0	0

Table 9: Number of workplace major injuries by selected industry, 2019 and 2020

Industry	2019	2020
<b>All Industries</b>	<b>629</b>	<b>463</b>
Manufacturing	143	110
<i>Metalworking</i>	47	39
<i>Manufacture of Food, Beverages &amp; Tobacco</i>	26	29
<i>Manufacture of Furniture</i>	5	8
<i>Manufacture of Petrochemical Products</i>	10	8
<i>Manufacture of Other Non-metallic Mineral Products</i>	6	7
Construction	135	74
Accommodation & Food Service Activities	65	50
<i>Food &amp; Beverage Service Activities</i>	51	42
Accommodation	14	8
Transportation & Storage	62	50
<i>Logistics &amp; Transport</i>	43	38
Wholesale & Retail Trade	46	28
<i>Wholesale Trade</i>	23	12
<i>Retail Trade</i>	23	16
Administrative & Support Service Activities	36	27
<i>Cleaning &amp; Landscape Maintenance Activities</i>	13	15
<i>Security &amp; Investigation Activities</i>	11	7
Marine	16	13
Real Estate Activities	18	13
Professional, Scientific & Technical Activities	14	10
Community, Social & Personal Services	76	73
<i>Health &amp; Social Services</i>	26	21
<i>Education</i>	17	18
<i>Other Services Activities</i>	19	16

Table 10: Workplace major injury rates by selected industry, 2019 and 2020

Per 100,000 workers

Industry	2019	2020
<b>All Industries</b>	<b>18.1</b>	<b>14.0</b>
Manufacturing	34.1	28.0
<i>Metalworking</i>	44.2	38.2
<i>Manufacture of Food, Beverages &amp; Tobacco</i>	49.5	59.5
<i>Manufacture of Furniture</i>	48.5	86.0
<i>Manufacture of Petrochemical Products</i>	18.9	16.4
<i>Manufacture of Other Non-metallic Mineral Products</i>	n.a.	n.a.
Construction	29.7	17.9
Accommodation & Food Service Activities	24.7	21.4
<i>Food &amp; Beverage Service Activities</i>	22.5	20.3
Accommodation	38.1	29.9
Transportation & Storage	23.8	19.8
<i>Logistics &amp; Transport</i>	38.3	36.3
Wholesale & Retail Trade	9.5	6.1
<i>Wholesale Trade</i>	7.1	3.9
<i>Retail Trade</i>	14.3	10.6
Administrative & Support Service Activities	14.2	11.1
<i>Cleaning &amp; Landscape Maintenance Activities</i>	16.3	19.5
<i>Security &amp; Investigation Activities</i>	22.2	14.3
Marine	23.6	21.2
Real Estate Activities	21.5	17.0
Professional, Scientific & Technical Activities	5.5	3.9
Community, Social & Personal Services	8.9	9.1
<i>Health &amp; Social Services</i>	15.4	12.1
<i>Education</i>	n.a.	n.a.
<i>Other Services Activities</i>	n.a.	n.a.

Table 11: Types of workplace major injuries, 2019 and 2020

Workplace Major Injury Types	2019	2020
<b>Total</b>	<b>629</b>	<b>463</b>
Crushing, Fractures & Dislocations	368	253
Amputations	132	87
Burns, with more than 20 MC days	57	58
Multiple Injuries	38	36
Concussion, with more than 20 MC days	13	11
Exposure to/ contact with Electric Current	14	9
Mosquito Borne	1	6
Blindness	3	1
Paralysis	1	0
Others	2	2

Table 12: Number of workplace major injuries by key incident type and key incident agent, 2019 and 2020

Incident Type	Incident Agent	2019	2020
<b>Total Workplace Major Injuries</b>		<b>629</b>	<b>463</b>
Falls	Total	278	210
Slips, Trips & Falls	Total	216	159
	<i>Physical Workplace - Floors/Level Surfaces</i>	113	92
	<i>Means of Access - Stairs or Steps</i>	29	19
Falls from Height	<i>Vehicles</i>	25	23
	Total	62	51
	<i>Means of Access - Ladders</i>	29	25
	<i>Physical Workplace - Structure</i>	15	12
Caught in/ between Objects	<i>Physical Workplace - Roof</i>	1	7
	Total	59	48
	<i>Industrial Machines</i>	24	23
	<i>Metal Items (excluding knives/needles)</i>	13	6
Struck by Moving Objects	<i>Vehicles</i>	2	6
	Total	86	47
	<i>Vehicles</i>	22	18
	<i>Industrial Machines</i>	13	9
Exposure to/ contact with Extreme Temperatures	<i>Metal Items (excluding knives/needles)</i>	14	4
	Total	34	37
	<i>Hot scalding liquid/Steam</i>	31	25
Struck by Falling Objects	<i>Welding Equipment</i>	0	4
	Total	35	28
	<i>Metal Items (excluding knives/needles)</i>	8	11
Cut/Stabbed by Objects	<i>Goods/Cargo</i>	4	10
	Total	30	22
	<i>Industrial Machines</i>	22	13
Exposure to Electric Current	<i>Industrial Hand Tools</i>	5	7
	Total	23	14
	<i>Electrical Installation</i>	11	4
Traffic Accident	<i>Industrial Machines</i>	8	7
	Total	17	12
Over-exertion/ Strenuous Movements	<i>Motor vehicles</i>	17	12
	Total	21	8
	<i>Human Factors</i>	10	4
	<i>Goods/Cargo</i>	8	2

Table 13: Top 3 incident types for workplace major injuries by industry, 2020

Industry	Top 3 Incident Types		
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>
<b>All Industries</b>	<b>STF</b>	<b>FFH</b>	<b>CIBO</b>
Construction	FFH	STF	SBFO
Marine	STF, CIBO, SBMO, ETET	-	-
Manufacturing	STF	CIBO	CSBO
<i>Metalworking</i>	CIBO	STF	SBMO, SBFO
<i>Manufacture of Food, Beverages &amp; Tobacco</i>	STF, CIBO	-	CSBO, ETET
<i>Manufacture of Furniture</i>	CSBO	STF, CIBO, SBFO, OESM	-
<i>Manufacture of Petrochemical Products</i>	STF	FFH	CSBO, ETHS
<i>Manufacture of Other Non-metallic Mineral Products</i>	STF, FFH	CIBO, CSBO, OESM	-
Accommodation & Food Service Activities	ETET	STF	CIBO, TA, SBMO
<i>Food &amp; Beverage Service Activities</i>	ETET	STF	TA
<i>Accommodation</i>	STF	ETET, CSBO, CIBO, SBMO, SBFO, OTH	-
Transportation & Storage	STF	FFH	SBMO
<i>Logistics &amp; Transport</i>	STF	FFH	SBMO, SBFO
Wholesale & Retail Trade	STF	SBMO	FFH
<i>Wholesale Trade</i>	STF	SBMO	SBFO, ETEC, ETBM, SAO, OTH
<i>Retail Trade</i>	STF, SBMO	-	FFH
Administrative & Support Service Activities	STF	SBMO	FFH
<i>Cleaning &amp; Landscape Maintenance Activities</i>	STF	CIBO	
<i>Security &amp; Investigation Activities</i>	STF	FFH, SBMO, TA	-
Real Estate Activities	STF	FFH	CIBO, ETET, ETHS, SAO
Professional, Scientific & Technical Activities	CIBO	STF	ETBM, ETEC, FFH, SBMO
Community, Social & Personal Services	STF	SBMO	FFH
<i>Health &amp; Social Services</i>	STF	ETEC, ETET	FFH, TA, SBMO
<i>Education</i>	STF	SAO	ETEC, FFH, OESM, SBMO, OTH
<i>Other Services Activities</i>	STF	CIBO, ETBM, SBFO, SBMO	ETET, FFH, SAO

Legend:

CIBO	Caught In/Between Objects	ETBM	Exposure to/ Contact with Biological Materials	OTH	Other Incident Types
CSBO	Cut/Stabbed by Objects	ETHS	Exposure to/ Contact with Hazardous Substances	SAO	Strike Against Objects
CFOS	Collapse/Failure of Structures	FE	Fires & Explosion	SBFO	Struck by Falling Objects
ETEC	Exposure to/ Contact with Electric Current	FFH	Falls from Height	SBMO	Struck by Moving Objects
ETET	Exposure to/ Contact with Extreme Temperature	OESM	Over-exertion and Strenuous Movements	STF	Slips, Trips and Falls
				TA	Traffic Accidents

Table 14: Number of workplace minor injuries by selected industry, 2019 and 2020

Industry	2019	2020
<b>All Industries</b>	<b>13,111</b>	<b>10,857</b>
Manufacturing	2,777	2,330
<i>Metalworking</i>	1,169	939
<i>Manufacture of Food, Beverages &amp; Tobacco</i>	554	505
<i>Manufacture of Paper / Rubber / Plastic Products &amp; Printing</i>	190	155
<i>Manufacture of Computer, Electronic &amp; Optical Products</i>	158	150
Construction	2,387	1,674
Accommodation & Food Service Activities	1,571	1,245
<i>Food &amp; Beverage Service Activities</i>	1,116	944
<i>Accommodation</i>	455	301
Transportation & Storage	1,185	971
<i>Logistics &amp; Transport</i>	892	704
Administrative & Support Service Activities	882	850
<i>Cleaning &amp; Landscape Maintenance Activities</i>	414	404
<i>Security &amp; Investigation Activities</i>	215	203
Wholesale & Retail Trade	824	764
<i>Wholesale Trade</i>	384	360
<i>Retail Trade</i>	440	404
Professional, Scientific & Technical Activities	496	365
Marine	337	234
Real Estate Activities	316	276
Water Supply; Sewerage, Waste Management & Remediation Activities	140	169
Financial & Insurance Services	195	136
Community, Social & Personal Services	1,846	1,656
<i>Health &amp; Social Services</i>	705	807
<i>Education</i>	444	314
<i>Other Services Activities</i>	415	310
<i>Arts, Entertainment &amp; Recreation</i>	196	140

Table 15: Workplace minor injury rates by selected industry, 2019 and 2020

Per 100,000 workers

Industry	2019	2020
<b>All Industries</b>	<b>376</b>	<b>329</b>
Manufacturing	663	594
<i>Metalworking</i>	1,099	921
<i>Manufacture of Food, Beverages &amp; Tobacco</i>	1,055	1,037
<i>Manufacture of Paper / Rubber / Plastic Products &amp; Printing</i>	662	585
<i>Manufacture of Computer, Electronic &amp; Optical Products</i>	178	178
Construction	525	404
Accommodation & Food Service Activities	597	533
<i>Food &amp; Beverage Service Activities</i>	492	456
<i>Accommodation</i>	1,240	1,123
Transportation & Storage	455	384
<i>Logistics &amp; Transport</i>	794	673
Administrative & Support Service Activities	348	349
<i>Cleaning &amp; Landscape Maintenance Activities</i>	520	524
<i>Security &amp; Investigation Activities</i>	433	413
Wholesale & Retail Trade	170	166
<i>Wholesale Trade</i>	119	117
<i>Retail Trade</i>	274	267
Professional, Scientific & Technical Activities	196	143
Marine	498	382
Real Estate Activities	377	361
Water Supply; Sewerage, Waste Management & Remediation Activities	n.a.	n.a.
Financial & Insurance Services	98	67
Community, Social & Personal Services	217	207
<i>Health &amp; Social Services</i>	419	464
<i>Education</i>	n.a.	n.a.
<i>Other Services Activities</i>	n.a.	n.a.
<i>Arts, Entertainment &amp; Recreation</i>	340	333

Table 16: Types of workplace minor injury, 2019 and 2020

Workplace Minor Injury Types	2019	2020
<b>Total</b>	<b>13,111</b>	<b>10,857</b>
Cuts and Bruises	4,500	3,895
Crushing, Fractures and Dislocations	3,107	2,577
Sprains & Strains	1,982	1,791
Burns	459	394
Multiple Injuries	276	182
Puncture Wounds	168	150
Bites and Stings	102	82
Concussions	85	56
Mosquito Borne	14	55
Others	2,418	1,675

Table 17: Number of workplace minor injuries by key incident type and key incident agent, 2019 and 2020

Incident Type	Incident Agent	2019	2020
<b>Total Workplace Minor Injuries</b>		<b>13,111</b>	<b>10,857</b>
Falls	Total	4,313	3,711
Slips, Trips & Falls	Total	3,694	3,318
	<i>Physical Workplace - Floors/Level Surfaces</i>	2,008	1,899
	<i>Means of Access - Stairs or Steps</i>	604	501
Falls from Height	<i>Vehicles</i>	282	235
	Total	619	393
	<i>Means of Access - Ladders</i>	431	307
	<i>Means of Access - Scaffold</i>	55	40
Struck by Moving Objects	<i>Physical Workplace - Structure</i>	47	29
	Total	2,207	1,773
	<i>Metal Items (excluding knives/needles)</i>	452	381
	<i>Industrial Hand Tools</i>	455	330
Cut/Stabbed by Objects	<i>Vehicles</i>	339	280
	Total	1,452	1,115
	<i>Knives &amp; Needles</i>	625	491
	<i>Industrial Hand Tools</i>	277	222
Struck by Falling Objects	<i>Industrial Machines</i>	305	220
	Total	1,093	869
	<i>Metal Items (excluding knives/needles)</i>	335	305
	<i>Furniture &amp; Fittings</i>	166	123
Over-exertion/Strenuous Movements	<i>Goods/Cargo</i>	143	113
	Total	902	790
	<i>Human Factors</i>	561	466
	<i>Goods/Cargo</i>	186	179
Caught in/between Objects	<i>Metal Items (excluding knives/needles)</i>	18	22
	Total	934	768
	<i>Industrial Machines</i>	269	240
	<i>Metal Items (excluding knives/needles)</i>	207	172
Striking against Objects	<i>Furniture &amp; Fittings</i>	112	80
	Total	784	638
	<i>Others - Furniture &amp; Fittings</i>	184	181
	<i>Others - Metal Items (excluding knives/needles)</i>	241	175
Exposure to Extreme Temperatures	<i>Industrial Machines</i>	71	57
	Total	398	351
	<i>Hot scalding liquid / Steam</i>	320	274
	<i>Industrial Machines</i>	24	23
	<i>Metal Items (excluding knives/needles)</i>	6	10

Table 18: Top 3 incident types for workplace minor injuries by industry, 2020

Industry	Top 3 Incident Types		
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>
<b>All Industries</b>	<b>STF</b>	<b>SBMO</b>	<b>CSBO</b>
Construction	SBMO	STF	SBFO
Marine	SBMO	STF	CIBO
Manufacturing	SBMO	STF	CSBO
<i>Metalworking</i>	SBMO	STF	CIBO
<i>Manufacture of Food, Beverages &amp; Tobacco</i>	STF	CSBO	SBMO
<i>Manufacture of Paper / Rubber / Plastic Products &amp; Printing</i>	CIBO	SBMO	STF
<i>Manufacture of Computer, Electronic &amp; Optical Products</i>	STF	SBMO	CIBO
Accommodation & Food Service Activities	STF	CSBO	ETET
<i>Food &amp; Beverage Service Activities</i>	CSBO	STF	ETET
<i>Accommodation</i>	STF	CSBO	SBMO
Transportation & Storage	STF	SBMO	TA
<i>Logistics &amp; Transport</i>	STF	SBMO	SBFO
Administrative & Support Service Activities	STF	SBMO	CSBO
<i>Cleaning &amp; Landscape Maintenance Activities</i>	STF	SBMO	SBFO
<i>Security &amp; Investigation Activities</i>	STF	OESM	SBMO
Wholesale & Retail Trade	STF	SBMO	CSBO
<i>Wholesale Trade</i>	STF	SBMO	CSBO
<i>Retail Trade</i>	STF	CSBO	SBMO
Professional, Scientific & Technical Activities	STF	SBMO	CSBO
Real Estate Activities	STF	SBMO	SAO
Water Supply; Sewerage, Waste Management & Remediation Activities	STF	SBMO	CIBO
Financial & Insurance Services	STF	OESM	SAO, SBMO
Community, Social & Personal Services	STF	OESM	SBMO
<i>Health &amp; Social Services</i>	STF	OESM	SBMO
<i>Education</i>	STF	SAO, SBMO	OESM
<i>Other Services Activities</i>	STF	SBMO	OESM
<i>Arts, Entertainment &amp; Recreation</i>	STF	CSBO, OESM	SBFO

## Legend:

CIBO	Caught In/Between Objects	ETBM	Exposure to/ Contact with Biological Materials	OTH	Other Incident Types
CSBO	Cut/Stabbed by Objects	ETHS	Exposure to/ Contact with Hazardous Substances	SAO	Strike Against Objects
CFOS	Collapse/Failure of Structures	FE	Fires & Explosion	SBFO	Struck by Falling Objects
ETEC	Exposure to/ Contact with Electric Current	FFH	Falls from Height	SBMO	Struck by Moving Objects
ETET	Exposure to/ Contact with Extreme Temperature	OESM	Over-exertion and Strenuous Movements	STF	Slips, Trips and Falls
				TA	Traffic Accidents

Table 19: Number of dangerous occurrences by industry, 2019 and 2020

Industry	2019	2020
<b>All Industries</b>	<b>21</b>	<b>10</b>
Construction	10	5
<i>Manufacturing</i>	3	2
<i>Manufacture of Petrochemical Products</i>	1	1
<i>Manufacture of Other Transport Equipment excl Building &amp; Repairing of Ships &amp; Boats</i>	0	1
<i>Manufacture of Computer, Electronic &amp; Optical Products</i>	1	0
<i>Printing &amp; Reproduction of Recorded Media</i>	1	0
Transportation & Storage	1	1
<i>Logistics &amp; Transport</i>	1	1
Administrative & Support Service Activities	0	1
<i>Cleaning &amp; Landscape Maintenance Activities</i>	0	1
Water Supply; Sewerage, Waste Management & Remediation Activities	0	1
Marine	4	0
Wholesale & Retail Trade	2	0
<i>Retail Trade</i>	2	0
Accommodation & Food Service Activities	1	0
<i>Food &amp; Beverage Service Activities</i>	1	0

Table 20: Types of dangerous occurrences, 2019 and 2020

Incident Type	Incident Agent	2019	2020
<b>Total Dangerous Occurrences</b>		<b>21</b>	<b>10</b>
Collapse/Failure of Structure & Equipment	Total	13	7
	<i>Lifting Equipment - Cranes</i>	8	6
	<i>Lifting Equipment - Mobile Work Platform</i>	2	1
	<i>Lifting Equipment - Piling Machines</i>	1	0
	<i>Lifting Equipment - Lifts &amp; Hoists</i>	1	0
	<i>Physical Workplace – Formwork</i>	1	0
Fires & Explosion	Total	8	3
	<i>Explosives/ Flammable Substances</i>	1	2
	<i>Dust, Gas, Liquid &amp; Chemicals</i>	2	1
	<i>Pressurised Equipment</i>	2	0
	<i>Goods/Cargo</i>	1	0
	<i>Other Incident Agents</i>	2	0

**Table 21: Number of confirmed occupational diseases cases by selected industry, 2019 and 2020**

Industry	2019	2020
<b>All Industries</b>	<b>517</b>	<b>528</b>
Manufacturing	163	101
<i>Metalworking</i>	43	36
<i>Manufacture of Food, Beverages &amp; Tobacco</i>	24	20
<i>Manufacture of Petrochemical Products</i>	53	16
Construction	63	73
Accommodation & Food Service Activities	44	59
<i>Food &amp; Beverage Service Activities</i>	26	39
<i>Accommodation</i>	18	20
Transportation & Storage	68	52
<i>Logistics &amp; Transport</i>	44	31
Wholesale & Retail Trade	26	26
<i>Wholesale Trade</i>	17	12
<i>Retail Trade</i>	9	14
Administrative & Support Service Activities	17	25
<i>Cleaning &amp; Landscape Maintenance Activities</i>	5	8
<i>Security &amp; Investigation Activities</i>	1	12
Professional, Scientific & Technical Activities	22	21
Marine	10	11
Financial & Insurance Services	11	10
Water Supply; Sewerage, Waste Management & Remediation Activities	4	5
Real Estate Activities	4	6
Electricity, Gas & Air-Conditioning Supply	6	7
Community, Social & Personal Services	74	129
<i>Health &amp; Social Services</i>	48	95
<i>Other Services Activities</i>	12	22
<i>Education</i>	10	8
<i>Arts, Entertainment &amp; Recreation</i>	3	4

Table 22: Occupational diseases incidence rates by selected industry, 2019 and 2020

Per 100,000 workers

Industry	2019	2020
<b>All Industries</b>	<b>14.8</b>	<b>16.0</b>
Manufacturing	38.9	25.7
<i>Metalworking</i>	40.4	35.3
<i>Manufacture of Food, Beverages &amp; Tobacco</i>	45.7	41.1
<i>Manufacture of Petrochemical Products</i>	100.0	32.8
Construction	13.9	17.6
Accommodation & Food Service Activities	16.7	25.2
<i>Food &amp; Beverage Service Activities</i>	11.5	18.8
<i>Accommodation</i>	49.0	74.6
Transportation & Storage	26.1	20.6
<i>Logistics &amp; Transport</i>	39.2	29.6
Wholesale & Retail Trade	5.4	5.6
<i>Wholesale Trade</i>	5.3	3.9
<i>Retail Trade</i>	5.6	9.3
Administrative & Support Service Activities	6.7	10.3
<i>Cleaning &amp; Landscape Maintenance Activities</i>	6.3	10.4
<i>Security &amp; Investigation Activities</i>	2.0	24.4
Professional, Scientific & Technical Activities	8.7	8.2
Marine	14.8	18.0
Financial & Insurance Services	5.5	4.9
Water Supply; Sewerage, Waste Management & Remediation Activities	n.a.	n.a.
Real Estate Activities	4.8	7.8
Electricity, Gas & Air-Conditioning Supply	n.a.	n.a.
Community, Social & Personal Services	8.7	16.1
<i>Health &amp; Social Services</i>	28.5	54.6
<i>Other Services Activities</i>	n.a.	n.a.
<i>Education</i>	n.a.	n.a.
<i>Arts, Entertainment &amp; Recreation</i>	5.2	9.5

Table 23: Number of confirmed occupational diseases cases by type, 2019 and 2020

Occupational Diseases by Types	2019	2020
<b>Total</b>	<b>517</b>	<b>528</b>
Work-related Musculoskeletal Disorders	293	328
<i>Back injuries due to ergonomic risks</i>	279	307
<i>Tendinitis</i>	6	11
<i>Trigger Finger/Thumb</i>	4	4
<i>Nerve Disorder such as Carpal Tunnel Syndrome, Cubital Tunnel Syndrome</i>	3	4
<i>Others</i>	0	2
<i>Tenosynovitis</i>	1	0
Noise Induced Deafness	169	110
<i>NID (E) - Early</i>	163	108
<i>NID (A) - Advanced</i>	6	2
Occupational Skin Disease	39	30
<i>Eczema</i>	36	29
<i>Others</i>	3	1
Infectious Disease	2	34
Barotrauma	2	6
<i>Aural</i>	0	5
<i>Sinus</i>	2	1
Occupational Lung Disease	4	5
<i>Occupational Asthma</i>	3	3
<i>Silicosis</i>	1	2
Compressed Air Illness	2	5
<i>CAI Type 1</i>	2	5
Heat Disorder	2	5
Poisoning	0	3
Cancers	2	2
<i>Mesothelioma</i>	2	1
<i>Occupational Lung Cancer</i>	0	1
Others	2	0

Table 24: Number of confirmed WRMSD cases by industry, 2019 and 2020

Industry	2019	2020
<b>All Industries</b>	<b>293</b>	<b>328</b>
Accommodation & Food Service Activities	39	54
<i>Food &amp; Beverage Service Activities</i>	23	34
<i>Accommodation</i>	16	20
Manufacturing	43	49
<i>Metalworking</i>	9	18
<i>Manufacture of Food, Beverages &amp; Tobacco</i>	8	12
<i>Other Manufacturing</i>	9	4
<i>Manufacture of Other Transport Equipment excluding Building &amp; Repairing of Ships &amp; Boats</i>	3	4
<i>Manufacture of Paper / Rubber / Plastic Products &amp; Printing</i>	3	3
Construction	37	35
Transportation & Storage	45	32
<i>Logistics &amp; Transport</i>	34	23
Wholesale & Retail Trade	21	25
<i>Wholesale Trade</i>	13	11
<i>Retail Trade</i>	8	14
Administrative & Support Service Activities	14	16
<i>Cleaning &amp; Landscape Maintenance Activities</i>	5	7
<i>Security &amp; Investigation Activities</i>	0	5
Professional, Scientific & Technical Activities	11	9
Financial & Insurance Services	10	7
Electricity, Gas & Air-Conditioning Supply	2	5
Marine	2	5
Information & Communications	2	2
Community, Social & Personal Services	60	83
<i>Health &amp; Social Services</i>	39	61
<i>Other Services Activities</i>	8	10
<i>Education</i>	9	8
<i>Arts, Entertainment &amp; Recreation</i>	3	4

Table 25: Number of confirmed NID cases by industry, 2019 and 2020

Industry	2019	2020
<b>All Industries</b>	<b>169</b>	<b>110</b>
Manufacturing	107	47
<i>Metalworking</i>	29	17
<i>Manufacture of Petrochemical Products</i>	50	13
<i>Manufacture of Food, Beverages &amp; Tobacco</i>	14	6
<i>Manufacture of Transport Equipment excluding Building &amp; Repairing of Ships &amp; Boats</i>	6	5
Transportation & Storage	19	18
<i>Logistics &amp; Transport</i>	7	7
Construction	20	13
Professional, Scientific & Technical Activities	7	10
Marine	5	4
Administrative & Support Service Activities	0	4
Water Supply; Sewerage, Waste Management & Remediation Activities	0	4
Financial & Insurance Services	0	3
Electricity, Gas & Air-Conditioning Supply	4	2
Wholesale & Retail Trade	3	1
Information & Communications	1	0
Community, Social & Personal Services	3	4
<i>Other Services Activities</i>	2	4
<i>Education</i>	1	0

**Table 26: Number of confirmed OSD cases by industry, 2019 and 2020**

Industry	2019	2020
<b>All Industries</b>	<b>39</b>	<b>30</b>
Construction	3	3
Manufacturing	12	2
<i>Manufacture of Food, Beverages &amp; Tobacco</i>	2	1
<i>Manufacture of Petrochemical Products</i>	0	1
<i>Metalworking</i>	4	0
<i>Manufacture of Transport Equipment excluding Building &amp; Repairing of Ships &amp; Boats</i>	4	0
Accommodation & Food Service Activities	5	1
Administrative & Support Service Activities	1	1
Professional, Scientific & Technical Activities	1	1
Marine	2	0
Transportation & Storage	2	0
<i>Logistics &amp; Transport</i>	1	0
Wholesale & Retail Trade	1	0
Others	2	0
Community, Social & Personal Services	10	22
<i>Health &amp; Social Services</i>	8	18
<i>Other Service Activities</i>	2	4

**Table 27: Top Causative Agents of Occupational Skin Diseases, 2020**

Causative Agents	No. of Cases
<b>All Occupational Skin Diseases</b>	<b>30</b>
Alcohol	11
Wet work and Occlusion	9

Table 28: Number of man-days lost to workplace incidents in selected industries, 2019 and 2020

Industry	2019	2020
<b>All Industries</b>	544,664	417,063
Construction	148,319	92,704
Marine	34,680	16,887
Manufacturing	90,649	94,612
<i>Metalworking</i>	46,369	31,549
<i>Manufacture of Food, Beverages &amp; Tobacco</i>	11,707	11,570
<i>Manufacture of Petrochemical Products</i>	7,956	21,351
Water Supply; Sewerage, Waste Management & Remediation Activities	8,597	24,335
Wholesale & Retail Trade	32,349	27,605
<i>Wholesale Trade</i>	21,473	19,675
<i>Retail Trade</i>	10,876	7,930
Transportation & Storage	80,678	54,605
<i>Logistics &amp; Transport</i>	43,572	42,557
Accommodation & Food Service Activities	35,705	19,206
<i>Accommodation</i>	8,256	4,892
<i>Food &amp; Beverage Service Activities</i>	27,449	14,314
Information & Communications	1,302	767
Financial & Insurance Services	4,456	4,367
Real Estate Activities	12,864	10,831
Professional, Scientific & Technical Activities	10,005	8,232
Administrative & Support Service Activities	31,474	21,497
<i>Cleaning &amp; Landscape Maintenance Activities</i>	8,758	13,230
<i>Security &amp; Investigation Activities</i>	5,195	3,599
Community, Social & Personal Services	45,164	39,361
<i>Health &amp; Social Services</i>	21,577	14,461
<i>Education</i>	9,279	6,226
<i>Other Services Activities</i>	8,816	8,373
<i>Arts, Entertainment &amp; Recreation</i>	3,437	8,494

## ANNEX B

### **BUSINESS UNDER SURVEILLANCE**

The Business under Surveillance (BUS) programme consists of two phases – Assessment and Surveillance.

The Assessment phase involves rigorous and methodical review on companies that are of concern to ascertain the effectiveness of their Risk Management programme as well as the strength of their WSH Management Systems.

Companies that fail the Assessment phase would be placed under the Surveillance phase. During the Surveillance phase, the Occupational Safety and Health Division (OSHD) of Ministry of Manpower (MOM) works closely with the senior management and WSH personnel of these BUS companies to carry out a gap analysis and to develop outcome-based action plans.

OSHD then conducts frequent inspections to verify the progress of the companies' implementation of their action plans and closely monitors the companies' WSH performance. BUS companies can only exit from the programme upon successful implementation of their Action Plan, achieved satisfactory audit outcomes, and have plans to build a strong WSH culture within the company.

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## ANNEX C

### HYGIENE AND MEDICAL SURVEILLANCE

#### HYGIENE SURVEILLANCE

Measuring the exposure levels of specific workplace chemical hazards provide a good indication on whether the conditions in the work environment are within the Permissible Exposure Levels (PEL), as stipulated under the WSH (General Provisions) Regulations. Companies with chemical exposures exceeding 10% PEL are required to monitor the exposure levels at least annually, conducted by a competent person.

Under the WSH (Noise) Regulations, workplaces with 10 or more workers who are exposed to excessive noise are required to monitor their workers' noise exposure at least once every three years, or earlier when there are changes to the processes. The monitoring must be conducted by a competent person using calibrated equipment to ensure accuracy of results.

Industrial hygiene data from assessments conducted by MOM and results submitted by companies with in-plant monitoring are maintained within a National Database for Noise and Chemical Exposure. This enables MOM to proactively identify high-risk workplaces, evaluate trends in exposure levels and advise employers on control measures and appropriate monitoring programmes.

#### MEDICAL SURVEILLANCE

The Medical Surveillance Programme serves to monitor workers' exposure to specific hazards and to identify early and possibly reversible changes in health effects. The programme aims to prevent overt occupational diseases through early detection of cases with excessive occupational exposure to specific health hazards. It involves monitoring of workers' health and implementation of measures to minimise the risks. High-risk workplaces would be monitored more rigorously to ensure control measures are put in place.

This monitoring assesses the "internal dose" of the worker and the effects from exposure by determining:

- a) The concentrations of the chemicals or their metabolites in biological samples (measuring the absorption or body burden) indirectly via blood, urine, and/or end-exhaled air.
- b) The indicators of health effect related to the internal dose so as to identify early and reversible changes, such as degree of hearing loss, and effects on liver and kidney.

Central to the Medical Surveillance Programme is the WSH (Medical Examinations) Regulations which prescribe a list of 19 hazards requiring medical examinations which can only be conducted by Designated Workplace Doctors (DWDs) registered with MOM. In addition, Occupational Safety and Health Division (OSHD) of the MOM may also recommend the implementation of medical surveillance programmes for non-prescribed hazards if the health risk is significant and where biological indicators are available. Some of these hazards include toluene, trinitrotoluene, xylene, fluoride and hexane.

Based on the findings of the medical examinations, workers who are medically unfit or who are over-exposed to chemicals are suspended, either on a temporary or permanent basis. The objective is to ensure that all exposed workers remain healthy and fit for work while exposed to the hazards. Medical monitoring is conducted once every six months for lead and organophosphate, and annually for all other hazards.

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## ANNEX D

### **SOURCE OF DATA**

Data on workplace and work-related traffic injuries, dangerous occurrences and occupational diseases were collated from incident reports made by employers, occupiers and medical practitioners in fulfilment of their obligations under the Workplace Safety and Health Act and Workplace Safety and Health (Incident Reporting) Regulations.

Medical and Hygiene Surveillance data were collated from reports submitted to OSHD, MOM as well as industrial hygiene data from assessments conducted by OSHD, MOM. Business Under Surveillance information was obtained from OSHD, MOM.

Employment data used in the computation of workplace fatal, injury and occupational disease incidence rates and data on the average weekly hours worked used in the estimation of man-hours worked were extracted from records within the Ministry of Manpower.

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## ANNEX E

### **DATA COVERAGE**

The types of workplace and work-related traffic injuries and occupational diseases covered in the reported statistics include the following:

- Workplace and work-related traffic injuries sustained by employees and resulting in more than three days of medical leave, regardless of whether these were consecutive days;
  - Workplace and work-related traffic injuries sustained by employees and resulting in at least 24 hours of hospitalisation;
  - Workplace and work-related traffic incidents resulting in the death of employees and self-employed persons;
  - Workplace and work-related traffic incidents resulting in the injury of self-employed persons who have to be taken to the hospital for treatment; and
  - Occupational diseases listed in the Second Schedule of the Workplace Safety and Health Act and Work Injury Compensation Act.
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## ANNEX F

### CONCEPTS AND DEFINITIONS

**Incident Type** refers to the type of event which resulted in the injury of a victim. Where the event involves a chain of incidents, the incident type should be the one that triggered the chain of other incidents.

**Incident Agent** refers to the object or physical environment, which due to its hazardous nature/condition, leads to the occurrence of a particular type of incident. It is related to the incident, not injury.

**Major Injuries** refer to non-fatal injuries which are more severe in nature. Major injuries are defined using a combination of factors, including the nature of injury, part of the body injured, incident type and duration of medical leave. These include:

- amputation
  - blindness
  - deafness
  - paralysis
  - crushing, fractures and dislocations: head, back, chest, neck and hip
  - exposure to electric current
  - asphyxia/drowning
  - burns with more than 20 days of medical leave
  - concussion with more than 20 days of medical leave
  - mosquito borne diseases with more than 20 days of medical leave
  - virus outbreak with more than 20 days of medical leave
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