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- The story of 100 years towards safer & healthier work
- Mega Trends in the world of work
- Responding to the OSH challenges and opportunities

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Introduction

- 2030 Agenda for Sustainable Development
- Sustainable Development Goals 3 and 8



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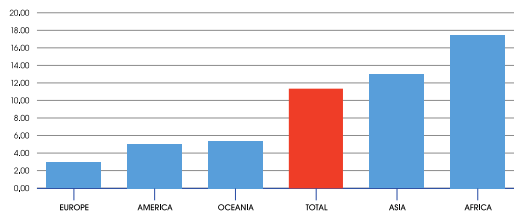
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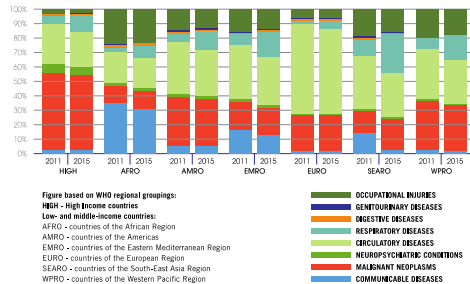
Figure 1: Accident fatality rates per 100,000 persons in the labour force, by region, 2014



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Figure 2: Comparison of fatal work-related mortality by WHO regions between 2011 and 2015



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Chapter 1  
100 years of safety and health at work

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1. Why the world needed to respond  
to accidents and diseases at work 100  
years ago

*A historical perspective*

- 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> Centuries: Industrialization
- Early 20<sup>th</sup> Century
  - 1919: creation of the League of Nations & International Labour Organization

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MAJOR DISASTERS BEFORE 1919<sup>1</sup>



**FACTORIES 1911**  
145 workers died in the fire at the Triangle Shirtwaist Factory in New York on March 25, 1911.



**MINING 1913**  
439 miners and a rescuer died in the Senghenydd colliery disaster at the Universal Colliery in Senghenydd, in South Wales (UK) on 14 October 1913.



**SHIPPING 1917**  
Approximately 2000 people were killed, and more than thousands were wounded when a vessel collided with a cargo ship carrying explosives at Halifax. It was considered to be the largest man-made explosion prior to the Atomic Bomb.

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## 2. The ILO: Founded on the concept of safe and healthy work

- The very first session of the International Labour Conference in 1919:

*Instruments of OSH and the Tripartite Structure*



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## 3. Post-Second World War: An increasingly global perspective on OSH

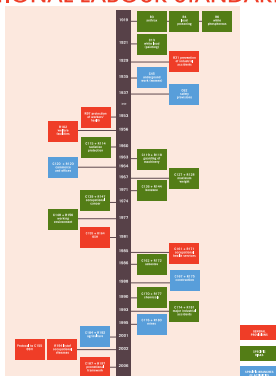
Declaration of Philadelphia, 1944 regarding the health of workers:

"The Conference recognizes the solemn obligation of the International Labour Organization to further among the nations of the world programmes which will achieve [...] **adequate protection for the life and health of workers in all occupations.**"



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## ILO INTERNATIONAL LABOUR STANDARDS ON OSH



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ILO CORE INTERNATIONAL LABOUR STANDARDS ON OSH

THE ILO HAS ADOPTED MORE THAN 40 INTERNATIONAL LABOUR STANDARDS SPECIFICALLY DEALING WITH OCCUPATIONAL SAFETY AND HEALTH. THESE STANDARDS CAN BE CLASSIFIED AS THOSE:

a) **RELATED TO SPECIFIC RISKS**  
(such as ionizing radiation, asbestos, occupational cancer and chemicals)

b) **RELATED TO SPECIFIC SECTORS OR BRANCHES OF WORK ACTIVITY**  
(such as agriculture, construction and mining)

c) **ENCOMPASSING GENERAL PRINCIPLES AND OUTCOMES**  
(such as those relating to management of OSH, labour inspection and welfare facilities)

d) **DEALING WITH THE FUNDAMENTAL PRINCIPLES OF OCCUPATIONAL SAFETY AND HEALTH:**

- Occupational Safety and Health Convention, 1981 (No. 155) and its Protocol of 2002;
- Occupational Health Services Convention, 1985 (No. 161); and
- Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187).

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Some ILO Codes of Practice on OSH >

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3. Post-Second World War:  
An increasingly global perspective on  
OSH

Major Industrial Accidents after 1919

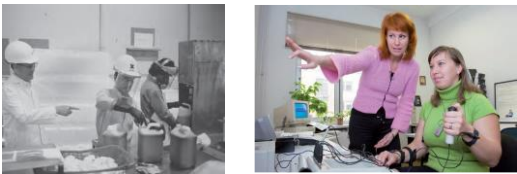
1. Flixborough Disaster 1974
2. Seveso 1976
3. Bhopal 1984
4. The Philips Disaster 1985
5. Chernobyl 1986
6. Chile Mining Rescue 2010
7. Fukushima 2011
8. Rana Plaza 2013
9. The Vale Dam Disaster 2019



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4. Towards a culture of prevention

- After Chernobyl: New emerging concept of Safety Culture



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5. ILO and safety and health at work in the new millennium



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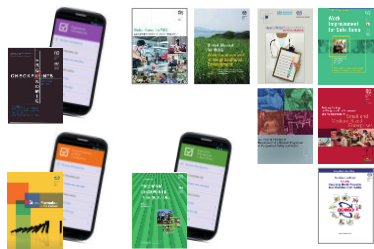
WORLD DAY FOR SAFETY AND HEALTH AT WORK



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THE ILO SUPPORTS ITS CONSTITUENTS THROUGH  
THE DEVELOPMENT OF NUMEROUS PUBLICATIONS AND  
TRAINING PACKAGES ON OSH



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WORLD CONGRESS ON SAFETY AND  
HEALTH AT WORK



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Chapter 2  
A safe and healthy future of work:  
Challenges and opportunities

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## 2.1 Technology



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## Digitalization and ICT

- Replicating human thinking: AI
- Virtualization of work
- Telework, working remotely
- Human-machine interfaces
- Smart technology and wearable smart devices
- Increasing OSH skills, training and inspection



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## Digitalization and ICT

### Opportunities

- Possible reduction in some psychosocial risks
- Removing people from hazardous environments
- Health promotion
- Improved prevention measures
- Reducing inequality

### Challenges

- Possible Increase in some psychosocial risk
- Increased risk to security and privacy
- Exposure to new chemical or biological risks or electromagnetic fields
- Increased risk of incidents and exposures
- OSH management and outcome challenges

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Government	Percentage
Current government	80%
Previous government	20%

- Removing people from hazardous environments;
- Robotics and exoskeletons can reduce need for workers to carry out dangerous or mundane tasks which can cause stress or MSDs;
- Improved automated prevention measures;
- Increased understanding of risk-taking behaviour.

- Increased ergonomic risk from new forms of human-machine interaction
- Exposure to new risks:
  - Electromagnetic fields
  - Accidents as a result of loss of understanding, control and knowledge of work processes, over-confidence in robot/AI infallibility, particularly where humans and robots interact closely
- OSH management and outcome challenges related to:
  - A more diverse (because of widened access to employment) and dispersed (because of remote working) workforce
  - Job replacement and job transformation,

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Government	Percentage
Current government	85%
Previous government	15%

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Government	Percentage
Current government	85%
Previous government	15%



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Migrant workers

- Accounted for 164 million of the world’s approximately 277 million international migrants.
- 86.5 per cent of migrants are between 20 to 64 years of age.
- The complexity and diversity of circumstances throughout the various dimensions of the migration cycle may render them highly vulnerable to poor physical and mental health outcomes.
- High skilled jobs vs. “D” jobs (dirty, dangerous and demeaning)

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2.3 Sustainable development and OSH

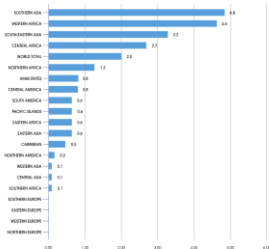


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Climate change, air pollution and environmental degradation

- Effects: 4 billion are among the poorest and also work outdoors, in agriculture.
- Southern Asia and Western Africa
- Exposure to sun is a risk

Figure 4: Projected working hours lost due to heat stress under a 1.5 degree scenario, 2030



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## HIGHER TEMPERATURES AND OSH

HIGHER TEMPERATURES CAN AFFECT WORK AND WORKERS, ESPECIALLY IN HOT AREAS

- Reduction in areas where work is possible
- Increase in related health effects
- Heat related health effects
- Heat related OSH risks
- The performance of physically demanding work
- Migrant workers, informal workers and day-labourers
- The health burden related to climate change
- Extreme weather events also affect workers involved in emergency, rescue and clean-up work

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The green economy

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## GREEN TECHNOLOGIES AND OSH

Health and safety aspects of green technologies arise in all stages of their lifecycle: from the extraction of the necessary raw materials, the manufacturing of technological devices, to their transport, installation, operation, decommissioning and disposal. They can occur across different countries and regions, involving many different groups of workers.

**WORKERS IN 'GREEN' INDUSTRIES MAY FACE RISKS :**

- In the wind turbine sector
- In the solar energy industry and the later recycling of its parts
- In the manufacture of fluorescent light bulbs
- In recycling
- Risks as a result of substitution for more environmentally friendly substances

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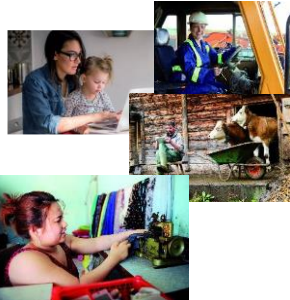
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## 2.4 Changes in work organization

- Excessive hours of work
- Non-standard forms of employment
- Working time arrangements
- The informal economy
- The example of digital labour platforms



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## OSH RISK FACTORS IN NON-STANDARD EMPLOYMENT ARRANGEMENTS



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## OSH OPPORTUNITIES AND CHALLENGES IN PLATFORM WORK

## OPPORTUNITIES

- Removing people from hazardous environments.
- Greater control over work-life balance.
- Shift of work previously carried out in the informal economy into the formal sector.

## CHALLENGES

- Reduced security, decreased regulatory visibility and increased risks
- Atypical employment and working arrangements
- Challenges in applications of OSH and employment regulations
- Little or no access to traditional contractual benefits
- Poor workplace OSH management
- Lack of clarity and specificity in tasks
- Non-appropriate certification, knowledge etc.

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Chapter 3

Responding to the safety and health challenges and opportunities of the future of work

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RESPONDING TO THE SAFETY AND HEALTH CHALLENGES AND OPPORTUNITIES OF THE FUTURE OF WORK



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Anticipation of new OSH risks

- New and emerging work-related safety and health risks
- New trends in work organization = autonomous work or away
- Concept of well-being, safety and health at work
- Traditional risks across the world should be kept in mind still



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Multidisciplinarity  
in managing OSH

- OSH professionals in the future = multidisciplinary
- Consideration and application of new skill sets in the field.

Building  
competence on OSH

- Continuing education
- Lifelong learning

In the 2019 report, *Work for a brighter future*, the ILO's Global Commission on the Future of Work proposes "a universal entitlement to **lifelong learning** that enables people to acquire skills and to reskill and up skill" (ILO, 2019a).

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Widening the Horizon: The Link to Public  
Health



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International labour standards and other  
instruments on OSH

- National OSH legislation and management
- Governance of OSH



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Reinforcing the role of governments and social partners and expanding partnerships



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Concluding remarks



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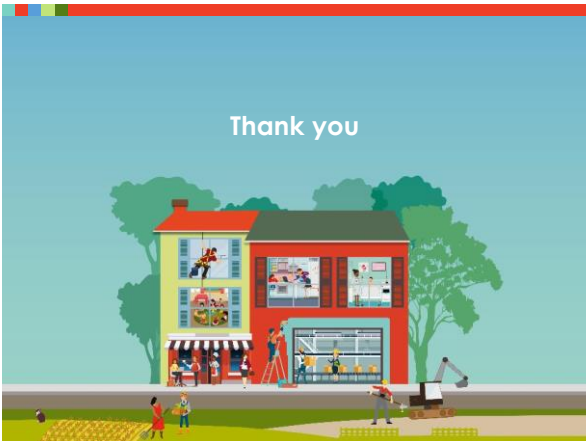
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Thank you



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