

Exhibition Visit Report

Name of College: - K. K. Wagh Polytechnic, Nashik

Department: - Advance Diploma in Industrial Safety

Exhibition Visited: - OSH India Expo 2025, Bombay Exhibition Centre (Hall 6)

Date: - 17th September 2025

Faculty Accompanied: - Prof. P. T. Kadave, Prof. P. M. Pathak

Students Visited: -

1. Ganesh Sonawane
2. Pratik Dixit
3. Nitesh Deore
4. Rohit Pawar



1. Introduction & Objectives

The Occupational Safety & Health (OSH) India Expo 2025 is one of South Asia's largest exhibitions dedicated to workplace safety, industrial health, and risk management. The exhibition was organized at the Bombay Exhibition Centre, Mumbai. The event provided a platform for safety professionals, manufacturers, and industrial experts to showcase the latest technologies in occupational safety.

More than 170 exhibitors and 300+ brands participated in the exhibition and showcased around 1500 safety products and solutions. The exhibition attracted thousands of safety professionals, industrial managers, and safety students.

As students of the Advanced Diploma in Industrial Safety (ADIS), a technical visit to the Occupational Safety & Health (OSH) 2025 Exhibition was organized to bridge the gap between theoretical safety management systems and contemporary industrial practices. The OSH 2025 exhibition is one of the premier global events showcasing the latest advancements in workplace safety, health at work, and environmental protection. For safety professionals and students, it serves as a critical platform to witness firsthand the evolution of PPE, Fire Protection Systems, Industrial Hygiene Equipment, and Digital Safety Solutions (EHS Software).

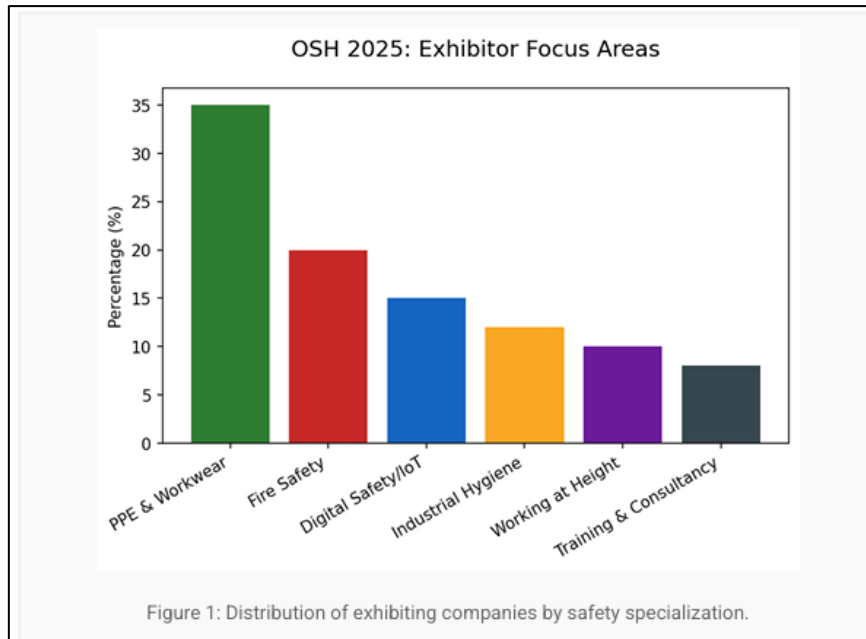
Key Objectives:

- To study the latest developments in industrial safety equipment.
- To understand different types of Personal Protective Equipment (PPE).
- To observe modern fire protection and gas detection technologies.
- To interact with safety experts and exhibitors.
- To gain practical knowledge relevant to ADIS safety studies.
- To understand implementation of occupational safety standards in industries.
- To study the latest trends in the Hierarchy of Controls (especially Technical Controls).
- To interact with exhibitors regarding compliance with international standards (ISO 45001, ANSI, EN).
- To understand the integration of Industry 4.0 (AI/IoT) in safety monitoring.
- To evaluate fire suppression technologies and ergonomic solutions

2. About the Exhibition

The OSH India Expo focuses on promoting workplace safety awareness and introducing new safety technologies to industries. The exhibition included several sections such as PPE, fire safety systems, gas detection equipment, ergonomics solutions, and digital safety monitoring.

The exhibition featured over 300+ international and domestic exhibitors. The layout was strategically divided into zones, emphasizing different stages of safety management.



3. Glimpses of Exhibition Stalls

The exhibition hall contained multiple stalls showcasing industrial safety solutions including PPE kits, gas detectors, helmets, safety harnesses, and fire protection systems. Visitors could interact with manufacturers and observe live demonstrations of safety equipment.



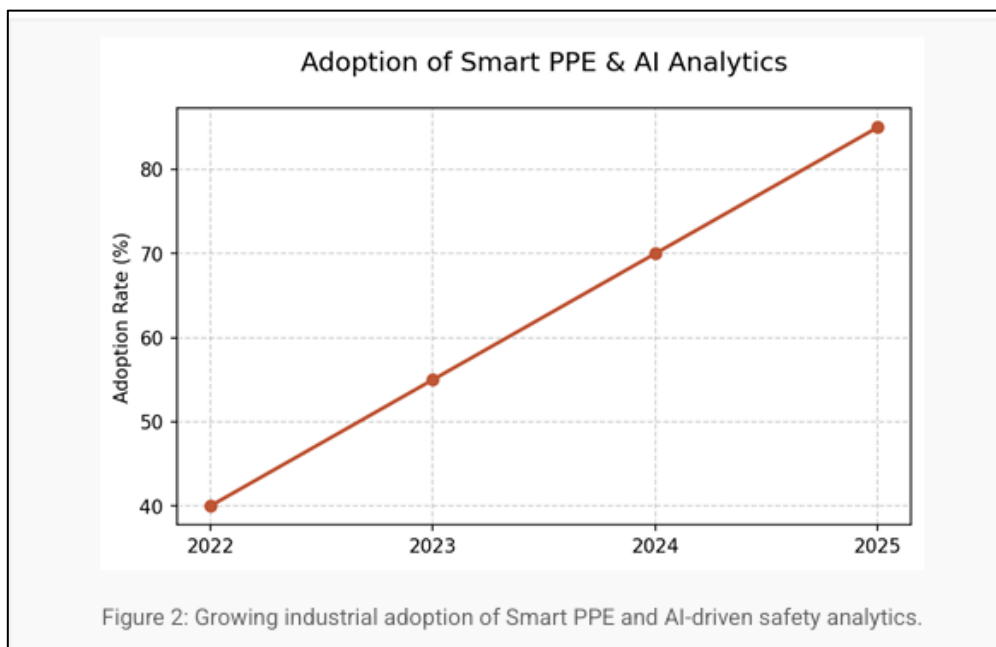
4. Technical Observations & Findings

4.1 Personal Protective Equipment (PPE) - Next Gen

The PPE section demonstrated a shift from passive protection to Active/Smart Protection.

Notable observations included:

- Smart Helmets: Equipped with proximity sensors to alert workers of approaching moving machinery (Forklifts/Cranes) and built-in fatigue monitoring.
- Exoskeletons: Passive and active exoskeletons designed for manual material handling were tested by our team. These devices are critical in reducing Musculoskeletal Disorders (MSDs), a major focus area in Ergonomics.
- Advanced Respirators: PAPR (Powered Air Purifying Respirators) with real time filter saturation indicators.



4.2 Fire Safety and Emergency Response

From an ADIS perspective, the fire safety wing provided insights into advanced suppression systems. We observed:

- Clean Agent Systems: Demonstration of FM-200 and Novec 1230 systems for data centres and sensitive electrical rooms.
- AI-Based Smoke Detection: Cameras that use computer vision to detect smoke and fire in large open areas (warehouses) faster than traditional spot detectors.
- Drones for Firefighting: Specialized UAVs equipped with thermal imaging for SAR (Search and Rescue) operations in hazardous industrial chemical zones.

4.3 Industrial Hygiene & Environmental Monitoring

Our focus was on equipment used for 'Recognition and Evaluation' of hazards.

Parameter	Equipment Observed	Application
Noise Monitoring	Digital Dosimeters & Sound Level Meters	Mapping Noise Zones as per OSH Standards.
Gas Detection	Multi-Gas Detectors (PID Sensors)	Confined space entry and VOC monitoring.
Illumination	LED-compatible Lux Meters	Ensuring adequate lighting for precision work.

5. AI and IoT in EHS (Environment, Health, and Safety)

A significant takeaway for ADIS students was the 'Digital Safety Zone'. The exhibition highlighted how data-driven safety is replacing reactive safety measures.

- Predictive Analytics: Software that predicts high-risk days based on historical accident data, weather conditions, and work pressure.
- Digital Permit to Work (e-PTW): Systems that ensure no high-risk job starts without verifying all safety checklists and isolations (LOTO) via mobile apps.
- VR Safety Training: Virtual Reality modules for 'Working at Height' and 'Hazard Identification' were explored, showcasing an immersive way to train workers without physical risk

6. Types of Safety Equipment Observed

6.1 Personal Protective Equipment (PPE)

- Safety helmets
- Safety goggles
- Safety gloves
- Respiratory masks
- Safety shoes
- Safety harnesses
- Reflective jackets

6.2 Fire Safety Equipment

- Fire extinguishers
- Fire detection sensors

- Automatic sprinkler systems
- Fire alarm systems
- Fire resistant clothing

6.3 Gas Detection Systems

Gas detection systems were demonstrated to detect hazardous gases such as carbon monoxide, hydrogen sulphide, methane and other toxic gases. These systems are widely used in chemical plants, oil & gas industries, and confined space operations.

6.4 Working at Height Safety Equipment

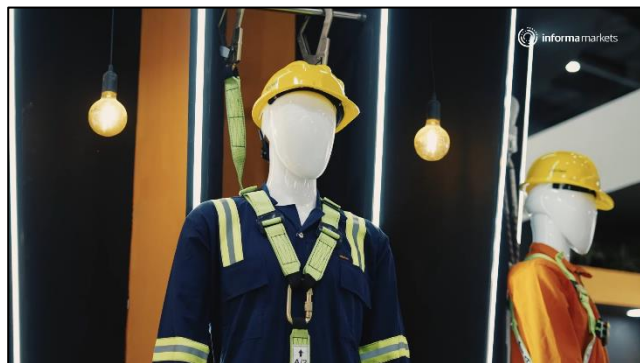
- Full body harness
- Fall arrest systems
- Lifelines
- Safety hooks
- Anchor points

7. Innovation Zones Observed

The exhibition also showcased innovative safety technologies including AI based monitoring systems, smart PPE equipment, and digital safety management tools. These technologies help industries improve safety performance and reduce workplace accidents.

8. Safety Fashion Walk

One unique feature of the exhibition was the Safety Fashion Walk where modern protective clothing such as fire-resistant suits, chemical protective suits, industrial workwear, and high visibility clothing were demonstrated.



9. Interaction with Industry Experts

We interacted with safety auditors and equipment manufacturers. Key discussions centered on:

1. Compliance Issues: How companies are transitioning from OHSAS 18001 to ISO 45001:2018.

2. Sustainability in Safety: Recyclable PPE materials and energy-efficient ventilation systems.
3. Behavioural Based Safety (BBS): The role of leadership in fostering a "Safety First" culture beyond just providing equipment



10. Key Learning from the Visit

- Importance of PPE in preventing industrial accidents.
- Role of advanced fire protection systems in industries.
- Application of gas detection technology in hazardous environments.
- Importance of strong safety culture in organizations.
- Adoption of modern safety technologies such as AI monitoring.

11. Importance for ADIS Students

This visit provided practical exposure to safety technologies and industrial safety practices. It helped students understand real industrial safety equipment and the importance of safety regulations and workplace safety culture.

12. Conclusion & Learning Outcomes

The visit to OSH 2025 provided a macroscopic view of the safety industry. For us as ADIS students, the following points are the key takeaways:

1. **Technology Integration:** Safety is no longer just about hard hats; it's about data, sensors, and real-time monitoring.
2. **Ergonomics:** There is a massive trend towards reducing worker fatigue through design and wearable tech.
3. **Proactive Approach:** Modern safety systems focus more on Leading Indicators (preventive actions) rather than Lagging Indicators (accident rates).

In conclusion, the exhibition reinforced the importance of continuous learning in the safety profession. The innovations witnessed will definitely inform our upcoming project work and future professional roles as Safety Officers/Managers.

13. Exhibition Visit – Photo Gallery

