

Compendium of Good Practices on OHS 2025





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Published by

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Table Of Contents

Introduction	04
Methodology	05
Overview	06
Best Practices	07
Way Forward	34



01

Introduction

Occupational Health and Safety (OHS): Innovate HSE, Elevate Wellness

Occupational Health and Safety (OHS) has evolved from a simple compliance requirement to a key business strategy. This shift is driven by Safety 4.0, a proactive and tech-enabled approach that uses principles from Industry 4.0.

By leveraging technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), Wearable Sensors, and Predictive Analytics, Safety 4.0 enhances workplace safety. These tools help businesses predict hazards, monitor conditions in real time, improve collaboration, and minimise human error. This digital transformation changes safety from a reactive function to a proactive one, creating a more resilient and intelligent safety culture. It fundamentally changes how data is collected, analysed, and used to improve safety.

About This Compendium of Good Practices on OHS

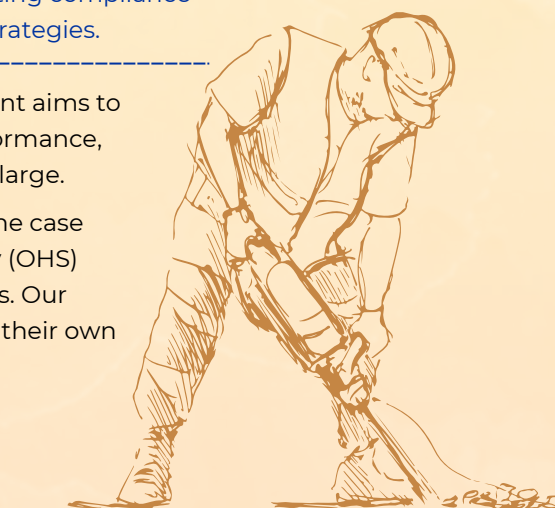
This compendium showcases the growing commitment of organisations to achieving excellence in Occupational Health and Safety (OHS).

It presents a variety of case studies that demonstrate how leading companies are not only making OHS a core component of their business strategies, but are also actively contributing to the well-being of their employees and the broader community. By highlighting these examples, the document illustrates how a strong focus on OHS can lead to a more responsible and sustainable business model, benefiting both the company and society as a whole.

This compendium serves as a testament to the growing commitment of organisations to achieving excellence in Occupational Health and Safety (OHS). It features a diverse range of case studies that demonstrate how leading companies are not just meeting compliance standards but are proactively integrating OHS into their core business strategies.

By sharing these best practices and innovative approaches, this document aims to inspire and empower other organisations to elevate their own OHS performance, ultimately fostering safer and more resilient workplaces and societies at large.

The following pages will detail the methods used to identify and select the case studies. We will then explore the diverse Occupational Health and Safety (OHS) initiatives implemented by various organisations across different facilities. Our goal is to share these best practices to help other organisations improve their own safety performance and achieve excellence in their safety journey.



02 Methodology

This compendium is a curated collection of effective Occupational Health and Safety (OHS) practices from various industries.

To create it, we conducted extensive research, identifying and analysing successful OHS initiatives from a wide range of organisations and sectors. These practices were then organised into six key themes for easy understanding and application.

For each best practice, the compendium details the specific OHS challenge, the innovative solution implemented, and the benefits achieved. We've also included supporting visuals to provide a clearer picture.

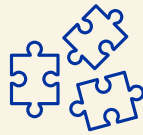
By sharing these real-world examples, this document offers practical insights and inspiration to help organisations improve their OHS performance and build safer workplaces.

The Future of Workplace Safety: Leveraging Technology



03

OHS Best Practices Overview



06

Total No. of Categories



24

Total No. of Good Practices

Aligning with Sustainable Development Goals



By integrating innovative solutions, organisations are significantly improving the well-being of their workforce and boosting operational efficiency, which in turn supports overall sustainability.

These technological advancements are directly aligned with the Sustainable Development Goals (SDGs), helping to create a safer, healthier, and more productive workforce.



04 Occupational Health and Safety (OHS)

- A Technology Intervention for Safety Management
- B Employee Wellness
- C Electrical Safety
- D Material Handling
- E Road Safety
- F Climate Action

Good practices are born from innovative approaches to managing risk.

By anticipating potential hazards and understanding effective solutions, these practices allow for proactive risk mitigation.

Furthermore, most of them can be successfully implemented across various industries.



Sl. No.	Good Practices	Company Name (Plant Location)
Category A: Technology Intervention for Safety Management / OHS Good Practice		
A1	Alert to Action: Unauthorised Entry in Hazardous Zone	Tata Steel Limited
A2	Online Purging Assistance to Eliminate Risk of Explosion	Tata Steel Limited
A3	Height Work Safety Improvement: Roof Top Work Surveillance through Drone	Tata Hitachi Construction Machinery Co Pvt Ltd, Kharagpur
A4	Integration of LED Lights with Safety Flags on LMVs for Enhanced Visibility	NTPC, Kerandari Coal Mining Project
A5	Permanent Fixing of Lights on the Load Centre in Underground Coal Mines	Gainwell Commosales Pvt Ltd
A6	High Mast Light Maintenance Activity	JSW Steel Limited, Narayanposhi Iron & Manganese Mines
A7	Advanced Technical Intervention to Enhance Dumper Operators' Visibility	NTPC, Pakri Barwadih Coal Mining
A8	Improved Safety through Substitution: TCCA (Trichloro-Isocyanuric Acid), over Chlorine	Indian Farmers Fertilizer Co-operative Limited
A9	Implementation of X-Centric Ripper for Opencast Bauxite Mines	Hindalco Industries Limited
Category B: Employee Wellness		
B1	Family Counselling as a Proactive Safety and Wellness Initiative	NTPC, Kerandari Coal Mining Project
B2	Safety EyeQ – AI-Powered Live Video Commentary for Industrial Safety	Tata Steel Limited, Meramandali
B3	POC for Face Detection and Behaviour-Based Safety	ITC Limited, India Tobacco Division, Munger

Sl. No.	Good Practices	Company Name (Plant Location)
Category C: Electrical Safety		
C1	Use of Intelligent Remote Racking Device (IRRD) to Rack Electrical Circuit Breakers	ArcelorMittal Nippon Steel India Pvt Ltd
C2	Elimination of Multi-Selections Type Non-Contactable Voltage Detector	Siemens Ltd., Mobility India, Kolkata Metro Rail Project
Category D: Material Handling		
D1	Big Bag Input Feeding Station Door Interlock	Hindustan Unilever Limited, Kidderpore, Kolkata
D2	Safety Tunnel – Safe Access at SMS	Godawari Power & Ispat Limited (GPIL)
D3	Shuttle-Based Multi-Racking System	ITC Limited, India Tobacco Division, Kidderpore
D4	Digitalisation and Automation of Forklift Safety	TRL Krosaki Refractories Limited, Belpahar
D5	Use of Fail-Safe Brake for Flat & Dip Trolley for Transportation of Materials	Siemens Ltd, Mobility India, Kolkata Metro Rail Project
D6	Decrease VOC Level during Solvent Dispensing and Reduction in Changes of Spillage of Solvent	Berger Paints India Limited, Howrah Works
D7	Introduction of Conveyor Belt System.	Hindustan Unilever Ltd, Cuttack Depot
Category E: Road Safety		
E1	Enhancement of Safety through Real Time Connectivity in Test Track Operation	Tata Motors Limited, Jamshedpur
E2	Benefits of HMT & LMT Simulator Training	Vedanta Ltd
Category F: Climate Action		
F1	Noise Barriers	AFCONS Infrastructure Ltd, BSRDCL Elevated Road Project, Patna

A1 Category A: Technology Intervention for Safety Management / OHS Good Practice

Alert to Action: Unauthorised Entry in Hazardous Zone

Problem Statement

Establishing full access control in hazardous zones is a significant challenge in an ecosystem with over 2,00,000 employees and geographically diverse work areas. Unauthorised entry poses serious safety risks and compromises operational integrity.

Solutions

- Tata Steel's "Alert to Action" system uses real-time location and e-permits.
- The system detects unauthorised entry into hazardous zones.
- It immediately alerts supervisors for quick intervention.
- Data is used in monthly dashboards to drive safety compliance and accountability.

BENEFITS

- ✓ Real-time alerts for unauthorised access
- ✓ Enhanced safety compliance in critical zones
- ✓ Reduced need for manual monitoring
- ✓ Improved accountability and traceability of employee movement

Tata Steel Limited



Type of Industry



Manufacturing

Connected Workforce – Invalid Permit



KPIs

- Number of alerts generated for unauthorised entry
- Reduction in unauthorised access incidents
- Percentage of hazardous zones under surveillance
- Average response time to alerts

Deployment Status

This system has been implemented at all major Tata Steel sites, including Jamshedpur, Kalinga Nagar, and Meramandali.

SDG Linkage



A2 Category A: Technology Intervention for Safety Management / OHS Good Practice

Online Purging Assistance to Eliminate Risk of Explosion

Problem Statement

Traditional purging in the steel industry is unreliable, relying on manual, human-dependent tasks. This method is also inefficient, wasting nitrogen and causing costly plant downtime. Inaccurate gas-level checks create significant safety risks.

Challenges with Traditional Purging Methods

Traditional purging methods in this industry face two main challenges: lack of reliability and inefficiency.

Unreliable Process

The process is often unreliable because it relies on manual tasks and human judgement. Technicians must manually open nitrogen valves and measure gas levels at the vent exhaust. The effectiveness of the purge is highly dependent on the operator's skill and experience, which can lead to insufficient purging and potential safety risks.

Inefficient Use of Resources

This method is also very inefficient. The volume of nitrogen used for purging is determined by a general rule of thumb: using 2.5 times the volume of the gas line. Purging continues while technicians manually check for zero parts per million (ppm) of gas at various vent points. This lack of precision results in using more nitrogen than necessary, which increases costs and extends the required downtime. The longer purging process delays the startup of plant operations after a shutdown.

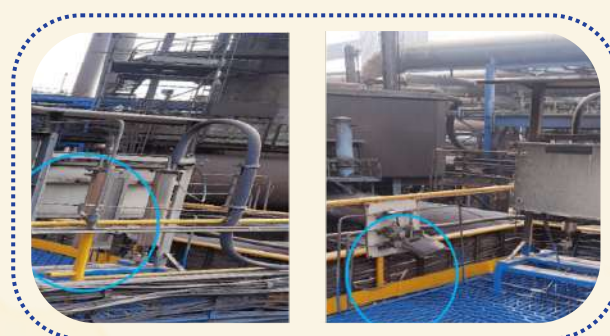
Tata Steel Limited



Type of Industry



Manufacturing



Nitrogen circuit for valve activation

Solutions

This new model automates the purging process and allows for remote operation. Remotely operated valves have been installed at strategic points along the gas line, and gas analysers are now tapped into the vents. This new setup, along with newly developed logic and interlocks, allows an operator to manage the entire purging process from the control room. This new online purging assistance system is the first of its kind in the steel industry.

BENEFITS

- ✓ Real-time alerts on the purging process
- ✓ Reduced downtime due to increased operational efficiency and enhanced safety
- ✓ Elimination of purging-related incidents due to the removal of manual intervention

SDG Linkage



A3 • Category A: Technology Intervention for Safety Management / OHS Good Practice

Height Work Safety Improvement: Roof Top Work Surveillance Through Drone

Problem Statement

Practical training is not possible for high work, especially for new contract employees. Chances are there to fall from height while working. It is not possible to monitor height work safety protocol adherence from ground level (roof top work).

Tata Hitachi Construction Machinery Co. Pvt. Ltd.

TATA HITACHI

Reliable solutions

Type of Industry



Manufacturing

Solutions

Drone surveillance by the EHS team to monitor the height work safety protocol adherence.

BENEFITS

- ✓ Real-time oversight of work at height



SDG Linkage



A4 Category A: Technology Intervention for Safety Management / OHS Good Practice

Integration of LED Lights with Safety Flags on LMVs for Enhanced Visibility

Problem Statement

In large open-pit mines, light motor vehicles (LMVs) and heavy earth-moving machinery (HEMM) often operate in the same areas. However, the height difference between these two types of vehicles creates a significant visibility problem. LMVs are less visible to the operators of HEMMs, especially in challenging conditions like low light, dust, or fog. This lack of visibility dramatically increases the risk of collisions and near-misses.

Solutions

To solve the visibility problem, a safety flag with a high-intensity LED light was introduced. This new safety device is mounted on a flexible pole that is tall enough to be seen above the wheels of heavy earth-moving machinery (HEMM). The built-in LED light ensures the flag is visible to HEMM operators at all times—whether it's day or night, or during adverse weather conditions. This innovation makes sure that light motor vehicles (LMVs) are always identifiable from a safe distance.

KPIs

- Percentage reduction in near-miss incidents between light motor vehicles (LMVs) and heavy earth-moving machinery (HEMM) after the new system was implemented
- The number of LMVs equipped with the safety flags and LED lights
- Positive safety feedback collected from both HEMM operators and LMV drivers

SDG Linkage



NTPC, Kerandari
Coal Mining Project



Type of Industry



Mining

BENEFITS

- Improved Visibility
- Fewer Incidents
- Increased Confidence
- Better Road Safety
- The new safety flag system provides lasting benefits that go beyond immediate risk reduction:
 - Sustainable Safety Culture
 - Reduced Accident Probability
 - Improved Compliance

This innovation can be easily replicated and implemented across all mine vehicles and contractor fleets, creating a safer environment for everyone.

Deployment Status

- This indigenously developed safety solution is fully deployed at the mine.
- Its simple, cost-effective design has proven successful.
- The project has shown clear safety improvements.
- It's now recommended for replication in other projects.



A5 Category A: Technology Intervention for Safety Management / OHS Good Practice

Permanent Fixing of Lights on the Load Centre in Underground Coal Mines

Problem Statement

In underground coal mines, a load centre (LC) supplies 1.1 KV power to machines in continuous miner sections. For proper illumination, lights were traditionally hung from roof bolts above the LC.

Since the LC is not in a fixed position—it moves as the coal face advances—the lights had to be uninstalled and reinstalled with every shift. This process required additional manpower and forced workers to operate at heights, posing a significant safety risk.

Solutions

Attached permanent lights to two-inch diameter pipe poles on both sides of the load centre (LC) frame. Now, whenever the LC is moved, the lights move with it since they are mounted directly on the frame.

BENEFITS

This change has significantly reduced the risk of working at heights in underground mines. Workers no longer need to remove and reinstall lights from the roof bolts.

As an added benefit, the new setup has improved illumination around the load centre. Previously, there was a delay in reinstalling the lights after the load centre was shifted, which left the area poorly lit. Now, the lights move with the load centre, ensuring consistent and immediate illumination.

Gainwell Commosales Pvt Ltd

GAINWELL

Type of Industry



Mining



KPIs

The new lighting system has directly improved illumination near the load centre.

Deployment Status

Initiated at sites

SDG Linkage



A6 • Category A: Technology Intervention for Safety Management / OHS Good Practice

High Mast Light Maintenance Activity

JSW Steel Limited,
Narayanposhi Iron &
Manganese Mines



Type of Industry



Mining

Problem Statement

Previously, maintaining high mast lights posed a significant safety risk. The lights were raised and lowered using a winch assembly at the base; if the wire rope snapped or the mechanical system failed, the heavy light fixture could fall, exposing workers below to danger.



BENEFITS

- ✓ The remote-controlled system eliminates the risk of falling objects during maintenance.
- ✓ It improves personnel safety by removing the need to work under the mast.
- ✓ Reliability is enhanced by reducing mechanical strain on components.
- ✓ The system ensures compliance with all height-related safety standards.

Solutions

Instead of the traditional winch system, a remote-controlled system is now used to raise and lower the lights. This change completely removes the risk of objects falling during maintenance, making the process much safer for personnel.

KPIs

- **Zero Falling Object Incidents:** The target was zero incidents of objects falling during maintenance.
- **Reduction in Manual Handling:** A 50% reduction in manual intervention compared to the old process.
- **Personnel Exposure Hours Saved:** A 50% reduction in the number of man-hours spent in the high-risk zones near the mast.
- **Maintenance Safety Compliance:** 100% of all maintenance activities were to be carried out using the remote-controlled system.
- **Near-Miss Reporting:** The goal was zero near-misses related to mast operation.
- **System Reliability:** The remote-controlled mechanism was expected to have a 99% uptime without failure.
- **Training Coverage:** 100% of the maintenance staff were to be trained in the safe use of the new system.

Deployment Status

The solution is an indigenous, in-house innovation that has reached a highly mature stage. It's already fully operational across all relevant sites and is available for wider, horizontal deployment.

SDG Linkage



A7 • Category A: Technology Intervention for Safety Management / OHS Good Practice

Advanced Technical Intervention to Enhance Dumper Operators' Visibility

Problem Statement

Even with the safety features on dumpers with a capacity of 240 tonnes or more, a significant blind zone was still present. This highlighted the need for a more advanced solution.

Solutions

To improve operator visibility and eliminate the blind zone, we implemented several advanced systems:

- Replaced the standard rear-view camera with a 360-degree camera
- Installed dual proximity sensors with an audio alarm
- Added extra blind-spot mirrors
- Provided training and feedback for all operators

NTPC, Pakri Barwadih Coal Mining



Type of Industry



Mining

BENEFITS

- ✓ The successful integration of the 360-degree camera, dual proximity sensors, and additional blind-spot mirrors significantly improved operator visibility and completely eliminated blind zones. Operators reported positive feedback, confirming the effectiveness of the new systems.

Deployment Status

Implemented.



SDG Linkage



A8 Category A: Technology Intervention for Safety Management / OHS Good Practice

Improved Safety Through Substitution: TCCA (Trichloro-Isocyanuric Acid), Over Chlorine

Problem Statement

Chlorine Gas/Liquid: While highly effective, chlorine poses significant risks, including toxic inhalation, corrosion, and leakage. Its use also requires pressurised storage, adding another layer of hazard.

Indian Farmers Fertilizer
Co-operative Limited



Type of Industry



Manufacturing

Solutions

Safer Alternative: Trichloro-Isocyanuric Acid (TCCA)

Substituted chlorine with TCCA, a more stable, solid compound available in powder, granular, or tablet form. TCCA is much easier to handle, transport, and store, while still effectively releasing "available chlorine" when dissolved in water.

BENEFITS

- ✓ Replacing chlorine is both an advantage and a safer option.

Deployment Status

Implemented



SDG Linkage



A9 Category A: Technology Intervention for Safety Management / OHS Good Practice

Implementation of X-Centric Ripper for Opencast Bauxite Mines

Problem Statement

Conventional drilling and blasting, the standard method for excavating bauxite in opencast mines, comes with significant drawbacks. This approach poses safety risks to workers from fly rock, vibration, dust, and potential misfires. Operations also face delays due to the need for blasting permissions, and the environmental impact includes noise, dust, and vibrations. The lack of selectivity in this method often results in ore dilution, and the direct involvement of personnel at the excavation face increases their risk exposure.

Solutions

An X-Centric Ripper attachment for hydraulic excavators is being piloted as a safer and more efficient alternative to conventional bauxite excavation. This adapted technology, currently in a testing phase, can achieve a production rate of 90–130 tonnes per hour (TPH). It eliminates the need for blasting in medium-hard strata, enabling selective mining for improved grade control and ensuring continuous excavation. This method also reduces manpower at the excavation face and allows for easy equipment shifting.

KPIs

- TPH Productivity (90–130)
- Reduction in Ore Dilution (80%)
- Reduction in Manpower at Face (100%)
- Blasting Frequency Reduction
- Safety Incident Rate (Target: Zero)
- Downtime Reduction (80%)

SDG Linkage



Hindalco Industries Limited



Type of Industry



Mining



BENEFITS

- ✓ This method improves safety by eliminating blasting and reducing workers at the excavation face.
- ✓ It ensures continuous excavation, improving efficiency.
- ✓ The new ripper reduces noise, vibration, and dust, lowering environmental impact.
- ✓ It also provides cost savings by removing the need for drilling and blasting.

Deployment Status

Implemented



B1 Category B: Employee Wellness

Family Counselling as a Proactive Safety and Wellness Initiative

Problem Statement

Even with extensive training, near-misses and unsafe behaviours were still being reported at the mine. A key finding was that an employee's personal stress, family issues, or emotional state often led to lack of focus, which compromised their safety on the job.

Solutions

To address the underlying personal issues that lead to unsafe behaviour, the mine initiated a Family Counselling Programme. This programme offers counselling sessions to employees involved in near-misses or other unsafe incidents. The sessions include family members to help identify and address personal or family-related challenges. The main goal is to provide professional guidance and build a stronger support system for employees, ultimately helping them stay focused and safe at work.

BENEFITS

- ✓ Improved emotional health leads to better focus and resilience at work.
- ✓ Employees show higher compliance with safety regulations.
- ✓ The mine has seen a reduction in incidents and unsafe behaviours.
- ✓ Trust between management and employees has been strengthened.

SDG Linkage



NTPC, Kerandari
Coal Mining Project



Type of Industry



Mining



KPIs

To measure the effectiveness of the Family Counselling Programme, the following KPIs were tracked:

- **Reduction in Near-miss Incidents:** This was measured as the percentage decrease in near-miss cases over the past six months.
- **Participation Rate:** The number of employees who chose to participate in the counselling sessions was a key metric.
- **Employee Satisfaction:** Feedback scores from employees after their counselling sessions helped gauge the programme's success and identify areas for improvement.

Deployment Status

- This pilot Family Counselling Programme is an internal wellness initiative.
- It is in its early stages of evaluation.
- Based on the pilot's success, the programme may be rolled out horizontally to other projects.
- The focus is on assessing effectiveness before wider deployment.

B2 • Category B: Employee Wellness

Safety EyeQ – AI-Powered Live Video Commentary for Industrial Safety

Problem Statement

Traditional video analytics systems in industrial settings have significant limitations. They typically use rigid, rule-based detection, which makes them unable to adapt to new or changing safety situations. This lack of contextual understanding and flexibility prevents them from effectively managing safety in high-risk zones, such as steel manufacturing units where hazards like hot metal transport and overhead crane operations are common.

Solutions

Safety EyeQ is an AI-powered solution that uses live camera feeds to provide real-time safety insights. Unlike older systems, it uses prompt-based learning to understand complex situations and offer contextual observations.

This system identifies unsafe behaviours and environmental risks, like being too close to hot metal ladles or moving overhead cranes. It then provides live commentary with clear, actionable recommendations to improve safety.

BENEFITS

- ✓ The system uses real-time AI to improve situational awareness.
- ✓ It reduces manual monitoring, allowing staff to focus on critical tasks.
- ✓ The system ensures consistent adherence to safety protocols.
- ✓ Timely alerts enable proactive incident prevention and data-driven decisions.

SDG Linkage



Tata Steel Limited
TATA STEEL
WeAlsoMakeTomorrow

Type of Industry



Manufacturing



KPIs

- **High-Risk Observations:** The total number of high-risk situations detected by the system.
- **Proximity Violations:** The reduction in instances where personnel came too close to hazardous areas or equipment.
- **Response Time:** The speed at which safety alerts were addressed by the team.
- **SOP Adherence:** The improvement in how consistently employees followed standard operating procedures.
- **Unsafe Behaviour Recurrence:** A decrease in the frequency of repeated unsafe behaviours from the same individuals.

Deployment Status

Safety EyeQ is currently deployed at the SMS-II facility in Tata Steel Meramandali. The plan is to expand its use to other similar processes, with priority given to the areas with the highest risk.

B3 • Category B: Employee Wellness

POC for Face Detection and Behaviour-Based Safety

Problem Statement

During forklift operations, both drivers and the vehicles themselves are susceptible to unsafe acts and conditions. These are often the result of behavioural safety concerns and can lead to accidents and incidents.

Solutions

To enhance safety, AI camera system has been provided to ensure 24/7 operator authorisation and behaviour-based safety monitoring.

Deployment Status

The project is currently a pilot initiative, with testing and evaluation underway.

ITC Limited, India
Tobacco Division, Munger



Type of Industry



Manufacturing

BENEFITS

- ✓ An AI-based system verifies that only trained personnel can operate forklifts.
- ✓ The system monitors driver behaviour in real time, detecting unsafe actions like using a phone, not wearing a seatbelt, or signs of drowsiness.
- ✓ This ensures safer and more compliant operation of heavy machinery.



SDG Linkage



C1 Category C: Electrical Safety / OHS Good Practice

Use of Intelligent Remote Racking Device (IRRD) to Rack Electrical Circuit Breakers

Problem Statement

Manually racking heavy circuit breakers poses significant risks.

Physical strain from the task can cause serious injuries.

Proximity to live equipment increases the danger of a deadly arc flash.

These incidents can lead to extensive downtime and high costs.

Solutions

An Intelligent Remote Racking Device (IRRD) is an advanced tool that allows technicians to remotely rack circuit breakers from a safe distance. This eliminates the need for operators to be near live electrical equipment, which significantly reduces their risk of exposure to arc flash incidents.

ArcelorMittal Nippon Steel India Pvt Ltd

AM/NS INDIA
ArcelorMittal Nippon Steel India

Type of Industry



Manufacturing

BENEFITS

- ✓ The Intelligent Remote Racking Device (IRRD) enhances safety and efficiency.
- ✓ It allows remote operation of switchgear from a safe distance.
- ✓ This removes technicians from hazardous conditions like arc flash zones.
- ✓ The system is easy to use and includes safety interlocks for added protection.



SDG Linkage



C2 Category C: Electrical Safety / OHS Good Practice

Elimination of Multi-Selections Type Non-Contactable Voltage Detector

Problem Statement

The induction went undetected because the selection-type voltage detector was used incorrectly; specifically, the wrong voltage range was chosen by the operator.

Siemens Ltd., Mobility
India, Kolkata Metro
Rail Project

SIEMENS

Type of Industry



Solutions

This highly sensitive voltage detector uses an electric field to identify the presence of any AC voltage from a distance.

BENEFITS

- ✓ This device is a safe and reliable way to detect AC voltage. It can sense any voltage between 230 V and 132 KV from an AC high voltage system. Since there is no need to manually select a voltage range, it completely eliminates the risk of human error.



Deployment Status

The horizontal deployment is complete.

SDG Linkage



D1 • Category D: Material Handling

Big Bag Input Feeding Station Door Interlock

Problem Statement

Operators face a potential safety hazard during crane lifting. The 550-Kg big bags could fall, posing a severe risk of a fatal or serious injury.

Solutions

A safety mesh cage with a locking interlock mechanism was installed.

BENEFITS

- ✓ This system prevents the cage door from being opened until the bag-shifting process is fully complete, which ensures the operator is protected from the risk of a falling bag.



1. Open State
2. Closed and locked State

SDG Linkage



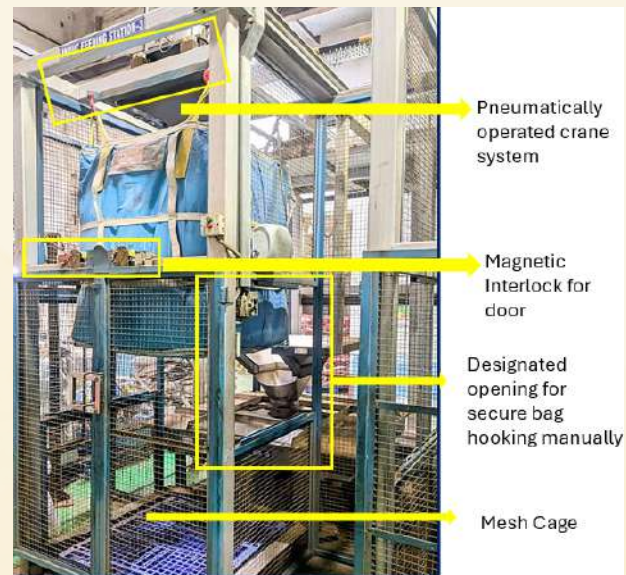
Hindustan Unilever
Ltd., Kidderpore



Type of Industry



Manufacturing



Deployment Status

Initiated in January 2025

Execution completed in April 2025

D2 • Category D: Material Handling

Safety Tunnel – Safe Access at SMS

Problem Statement

In the Steel Melting Shop (SMS), heavy-duty cranes are constantly moving ladles, scrap, and raw materials overhead. This created a significant safety risk for workers who often had to walk directly beneath the crane's operating path.

This practice exposed them to severe hazards, including falling materials, swinging loads, and near-misses. Traditional administrative measures, such as caution signs and restricted entry zones, were not enough to provide complete protection.

Solutions

- GPIL implemented a concrete Safety Tunnel for a protected walkway.
- The tunnel provides a designated, safe route for workers.
- It physically separates personnel from overhead crane loads.
- Proper lighting and ventilation ensure a secure passage for all workers.

BENEFITS

- ✓ The new tunnel completely eliminates overhead crane hazards for workers.
- ✓ There has been a significant drop in near-misses and unsafe behaviours.
- ✓ This "Safety by Design" solution provides a permanent, engineered safeguard.
- ✓ The visibly safer workplace has boosted employee confidence and morale.

SDG Linkage



Godawari Power & Ispat Limited (GPIL)



Type of Industry



Manufacturing



KPIs

- **Worker Compliance:** 100% of workers must use the tunnel for movement, ensuring no one is exposed to overhead crane hazards.
- **Incident Reduction:** Zero incidents related to overhead crane hazards were reported after the tunnel's implementation.
- **Utilisation Rate:** The number of workers using the tunnel daily to confirm its adoption and effectiveness.

Deployment Status

Implemented

D3 • Category D: Material Handling

Shuttle-Based Multi-Racking System

Problem Statement

Loading and unloading on a multi-level rack is risky. Not only does it require clear access for a high-reach truck (HRT), but it also creates a significant risk of collision. The truck may hit personnel or even the structure itself, especially while making multiple turns in hidden areas between the racks.

Solutions

In a shuttle-based multi-racking system, the pallet is placed on a "shuttle", which then automatically carries it to the correct location.

BENEFITS

- ✓ Reduces the risk of collision by minimising the movement of high-reach trucks (HRTs).
- ✓ Increases storage capacity by eliminating the need for space between racks.
- ✓ Lowers the chance of falling pallets since movement is handled by a rail-guided shuttle.

Deployment Status

Implemented

ITC Limited, India Tobacco Division, Kidderpore



Type of Industry



Manufacturing



SDG Linkage



D4 • Category D: Material Handling

Digitalisation and Automation of Forklift Safety

Problem Statement

On the shop floor, a key challenge is managing the interface between workers and forklifts. This includes overseeing forklift operations and manually monitoring vehicle health using paper-based tracking systems.

Solutions

Use of QR code-based checklist system and proximity sensors with audio alarm system and front view camera with LED display for the operators in EV forklifts.

BENEFITS

- ✓ **Improved Safety:** The risk associated with the man-machine interface has been significantly reduced.
- ✓ **Enhanced Visibility:** Operator vision has been improved.
- ✓ **Paperless Workflow:** By replacing paper checklists, a more environmentally friendly process has been established.

Deployment Status

Implemented

SDG Linkage



TRL Krosaki Refractories Limited, Belpahar



Type of Industry



Manufacturing



D5 • Category D: Material Handling

Use of Fail-Safe Brake for Flat & Dip Trolley for Transportation of Materials

Problem Statement

Without a proper braking system, loaded trolleys on the track could move unexpectedly, which may lead to serious incidents and accidents.

Siemens Ltd, Mobility
India, Kolkata Metro
Rail Project

SIEMENS

Type of Industry



Construction

Solutions

Engineering Control:

A braking system has been installed on all four wheels. The trolley can be moved by releasing the brake on one side using a locking lever.

BENEFITS

- ✓ **Accidental Release of Brake Lever:** If the brake lever is accidentally released, the trolley will stop moving.
- ✓ **Four-Wheel Locking:** The four-wheel locking mechanism prevents any unwanted movement while the trolley is loaded.



Deployment Status

The horizontal deployment is complete.

SDG Linkage



D6 • Category D: Material Handling

Decrease VOC Level during Solvent Dispensing and Reduction in **Changes of Spillage of Solvent**

Problem Statement

Solvent spillage and VOC generation during decanting of solvent.

Solutions

The special container prevents spills and the generation of volatile organic compounds (VOCs) when decanting the solvent.

BENEFITS

- ✓ This new method reduces VOC levels during solvent dispensing and minimises the chance of spills.

KPIs

Reduce indirect costs by minimising the spillage of solvent during decanting.

Deployment Status

The horizontal deployment is complete.

SDG Linkage



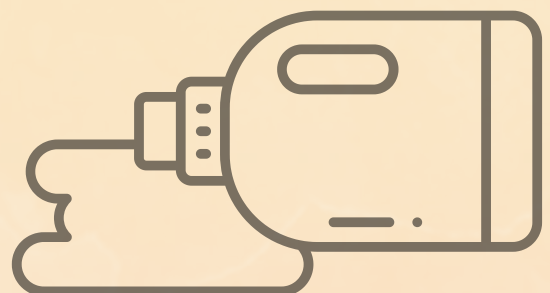
Berger Paints India Limited, Howrah Works



Type of Industry



Manufacturing



D7 Category D: Material Handling

Introduction of Conveyor Belt System

Problem Statement

Movement of stocks from the factory to the depot was done manually through the tunnel, which was a risky process.

Hindustan Unilever Ltd, Cuttack Depot



Type of Industry



Ware House

Solutions

Factory-to-Depot Conveyor System

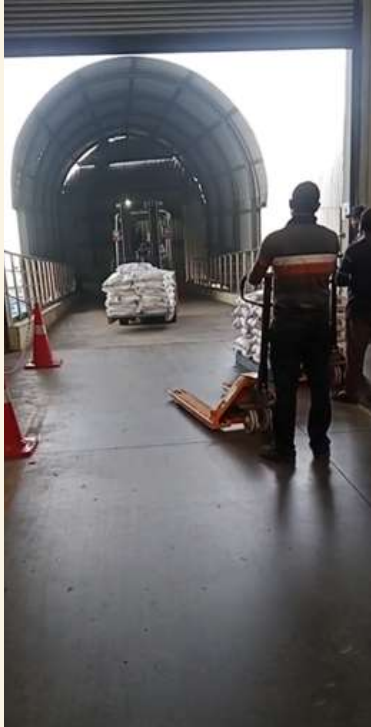
Deployment Status

Implemented

BENEFITS

- ✓ Installation of the Conveyor Belt System reduced the risk of accidents.

▼ Before



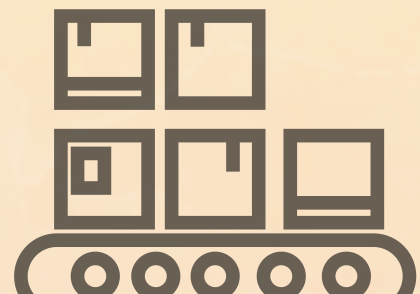
▼ Current Situation



▼ Current Situation



SDG Linkage



E1 Category E: Road Safety / OHS Good Practice

Enhancement of Safety Through Real-Time Connectivity in Test Track Operation

Problem Statement

The lack of monitoring for human-vehicle interaction creates a significant safety hazard.

Solutions

AI-Based Surveillance: AI-powered cameras are used for human detection and general surveillance. Controlled vehicle movement eliminated vehicle-to-vehicle contact by controlling all movement on the test track.

#	System Description	Symbol
1	Automated access control (entry/exit) w	
2	Test Track Controller room	
3	Live tracking of testing vehicle	
4	Live video feed of test track both at Controller room and Central Security Office	
5	Centralized Hooter for Test Track operation abortion.	
6	Driver SOS button for immediate communication	
7	Real-time detection of persons in test track	

Tata Motors Limited,
Jamshedpur

TATA MOTORS

Type of Industry



Manufacturing

BENEFITS

- ✓ A new SOS system detects and addresses abnormalities in real time.
- ✓ Online access control restricts test track entry to authorised personnel.
- ✓ GPS and AI-powered cameras provide comprehensive tracking and human detection.
- ✓ These tools work together to ensure a safer test environment.



SDG Linkage



Deployment Status

Horizontally deployed at all the seven locations of Tata Motors

E2 Category E: Road Safety / OHS Good Practice

Benefits of HMTV & LMTV Simulator Training

Problem Statement

Some opportunities to improve the training and awareness for HMTV and LMTV drivers were observed.

Solutions

The simulator training enables evaluation of a driver's skills throughout the entire process. Drivers are assessed on their vehicle and driving module performance and will have a physical touch of the vehicle after completing the defensive driving training.

BENEFITS

- ✓ A 3D simulator evaluates driver skills in a safe environment.
- ✓ Training covers clinical tests (reaction time, vision), basic maneuvers (narrow lanes, reversing), and advanced skills (merging).
- ✓ It also teaches defensive driving in varied conditions like rain and fog.

KPIs

Main focus is on completing the training of employees who have vehicle passes. Currently, 50% of the target has been reached.

Vedanta Ltd.



Type of Industry



Manufacturing



Deployment Status

As of March 31, 2025, the LMTV and HMTV Simulator Training Centre has completed a total of 2,488 training sessions, with 927 for light motor vehicles (LMTV) and 1,561 for heavy motor vehicles (HMTV).

SDG Linkage



F1 Category F: Climate Action

Noise Barriers

Problem Statement

Vehicle traffic creates noise pollution in nearby residential areas.

Solutions

4.2 kilometers of noise barriers were installed on both sides of the four-lane elevated roads and ramp access areas.

Deployment Status

Implemented

AFCONS
Infrastructure Ltd,
BSRDCL Elevated
Road Project, Patna



Type of Industry



Construction

BENEFITS

- ✓ Noise barriers reduce sound by either absorbing or reflecting sound waves. They work by blocking the direct path of sound from its source to nearby sensitive areas, forcing the waves to travel over or around the barrier, which reduces their intensity.



SDG Linkage



05

Way Forward

It is crucial for organisations to study the Occupational Health and Safety (OHS) practices presented in this compendium and discern which ones are most pertinent to their unique operational needs. By judiciously adapting and implementing these exemplary practices, companies can significantly elevate their OHS performance, thereby cultivating a more secure and protected work environment for all.

To nurture a culture of perpetual improvement, the proactive exchange of knowledge and insights is paramount. We therefore urge organisations to join this collaborative endeavour by submitting their own OHS triumphs and best practices. Through this collective sharing of expertise, we can collectively advance OHS benchmarks and move closer to our shared objective of achieving zero harm.

This compendium catalyses change. By adopting similar best practices, organisations can enhance their Occupational Health and Safety (OHS) excellence. In doing so, they can link these activities directly to sustainable growth and positive impact.

As we move forward, it's crucial to remember that Occupational Health and Safety (OHS) is an evolving field. By staying informed about new trends and best practices, organisations can get ahead of challenges and make the most of opportunities.

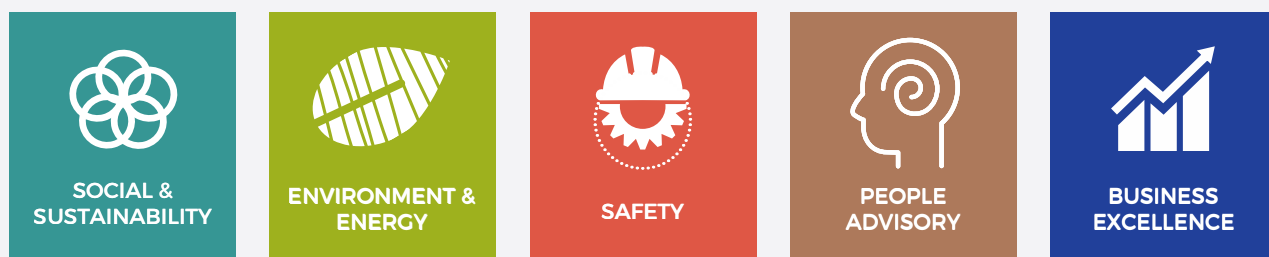
We encourage continued collaboration and knowledge sharing to create a safer, healthier workplace for everyone.

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ESG and Sustainability solutions include the development of sustainability/ESG strategy, voluntary sustainability standard (VSS), sustainability reporting as per GRI standard, materiality assessment & study, stakeholder engagement, water sustainability management, carbon footprint, energy audit & conservation, ethical supply chain management, business and human rights, due diligence and related services.



Metal & Mining	Engineering	Cement	Oil & Gas	Chemical	Construction
Hospital	Mall & Hypermarket	Technology & Telecom	FMCG	Supply Chain	Agribusiness

Consultivo works with 200+ National and International codes, standards and guidelines.

Partnership with academic institutions, research organisations & industrial associations is a significant activity to create powerful business solutions bespoke to customer needs.

- Approved ESG consultant of International Finance Corporation (World Bank Group)
- Approved Social Impact Assessment (SIA) Agency of Govt. of Jharkhand, India
- Global Approved Auditor of Pharmaceutical Supply Chain Initiative (PSCI), UK
- Approved Audit Body for CORE (Code of Responsible Extraction)
- Knowledge & Technical Partner of Confederation of Indian Industry (CII), Training & Knowledge Partner of Indian Chamber of Commerce (ICC)
- Approved Audit and Monitoring Partner of Ethical Tea Partnership (ETP), UK

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Confederation of Indian Industry

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering Industry, Government and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organisation, with around 9,700 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 365,000 enterprises from 318 national and regional sectoral industry bodies

For 130 years, CII has been engaged in shaping India's development journey and works proactively on transforming Indian Industry's engagement in national development. CII charts change by working closely with the Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness, and business opportunities for industry through a range of specialised services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Through its dedicated Centres of Excellence and Industry competitiveness initiatives, promotion of innovation and technology adoption, and partnerships for sustainability, CII plays a transformative part in shaping the future of the nation. Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes across diverse domains, including affirmative action, livelihoods, diversity management, skill development, empowerment of women, and sustainable development, to name a few.

For 2025-26, CII has identified "Accelerating Competitiveness: Globalisation, Inclusivity, Sustainability, Trust" as its theme, prioritising five key pillars. During the year, CII will align its initiatives to drive strategic action aimed at enhancing India's competitiveness by promoting global engagement, inclusive growth, sustainable practices, and a foundation of trust.

With 70 offices, including 12 Centres of Excellence, in India, and 9 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK, and USA, as well as institutional partnerships with about 250 counterpart organisations in almost 100 countries, CII serves as a reference point for Indian industry and the international business community.

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