

Compendium of Good Practices on OHS 2026

Safe. Smart. Sustainable. The Future of HSE Excellence





Copyright © 2026 Confederation of Indian Industry (CII) and Consultivo.

All rights reserved.

No part of this publication may be reproduced, translated, stored in a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise) without the prior written permission of CII and Consultivo. This publication must circulate strictly in its original binding and cover. Commercial sale or distribution for consideration, within or outside India, is strictly prohibited without explicit written consent and may lead to civil and criminal prosecution.

The views, opinions, and recommendations expressed herein are for informational purposes only and do not constitute professional advice or official policy of CII and Consultivo. Readers should exercise independent judgment and consult qualified professionals before taking action based on this material. While information has been sourced from reliable channels, CII and Consultivo make no guarantees regarding its accuracy or completeness and accept no liability for any loss or damage arising from its use.

Publication Date

24 September 2026

Published by

- i. Confederation of Indian Industry (CII), 6, Netaji Subhas Road, Kolkata -700001
T: +91 33 2230 7727; Web: www.cii.in
- ii. Consultivo Business Solutions Private Limited, 2 Rabindranath Tagore Road, Kolkata 700076, India
T: +91 98311 45556; Email: contact@consultivo.in; Web: consultivo.in



Table Of Contents

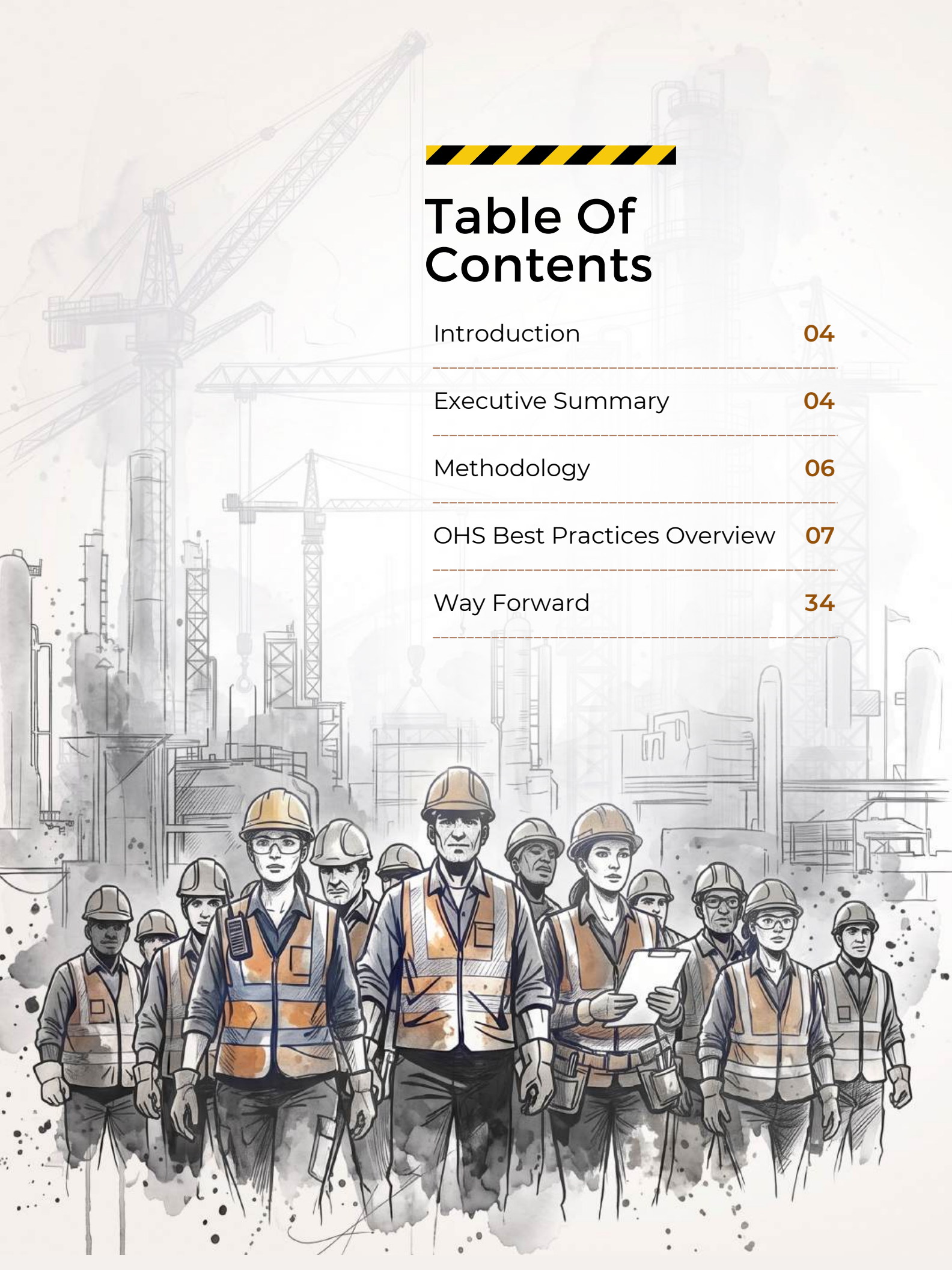
Introduction 04

Executive Summary 04

Methodology 06

OHS Best Practices Overview 07

Way Forward 34



01 Introduction

Safe. Smart. Sustainable. The Future of HSE Excellence

Health, Safety, and Environment (HSE) management is no longer a passive compliance exercise, but a strategic core of operational performance. Driven by advancing technology, stringent regulatory frameworks, and a heightened global focus on sustainability, modern safety practices are evolving rapidly. "Safe. Smart. Sustainable." captures the trajectory of this evolution: a shift towards proactive risk elimination, digital intelligence, and long-term environmental stewardship.

About This Compendium of Good Practices on OHS

This compendium showcases a strong commitment across organisations to achieve excellence in Occupational Health and Safety (OHS).

It presents real-world case studies demonstrating how leading companies embed OHS directly into their core business strategies to safeguard employees and support local communities.

By highlighting these practical solutions, the document illustrates how prioritising workforce safety drives a responsible, sustainable business model that delivers lasting value for both industry and society.

02 Executive Summary

HSE Good Practices Compendium

This handbook provides a comprehensive overview of 24 benchmarked Good Practices across key Indian industrial sectors, including Steel, Cement, FMCG, Chemicals, Mining, Real Estate, and Infrastructure. The analysis highlights key trends in technical innovation, deployment maturity, and sustainable safety transformation.

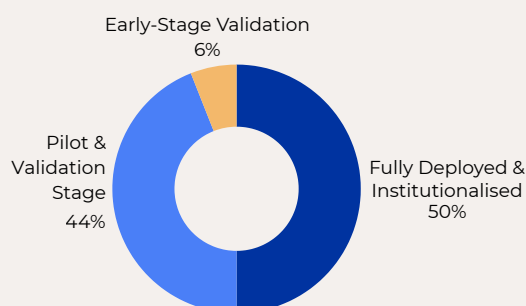
Key Analytical Observations

Dominance of Engineering Controls

Most initiatives focus on higher-tier controls that eliminate the man-machine interface rather than relying on administrative procedures.

Deployment Maturity Spectrum

The evaluated practices demonstrate clear implementation stages across all entries:



Environmental Circularity & Decarbonisation

Safety initiatives align closely with sustainability goals to boost overall HSE performance through:

- 
Waste Conversion
 Transforming hazardous emissions into reusable industrial materials.
- 
Resource Conservation
 Driving circular economy programmes across supply chains.
- 
Emissions Abatement
 Eliminating fugitive leaks and lowering operational carbon intensity.



Primary SDG Contributions



Protects personnel by eliminating fall hazards, high-risk mechanical nip points, and toxic chemical exposure.



Advances operational safety using PLC and SCADA automation, Cat 3 PL d machine upgrades, real-time radar monitoring, and AR/VR training platforms.



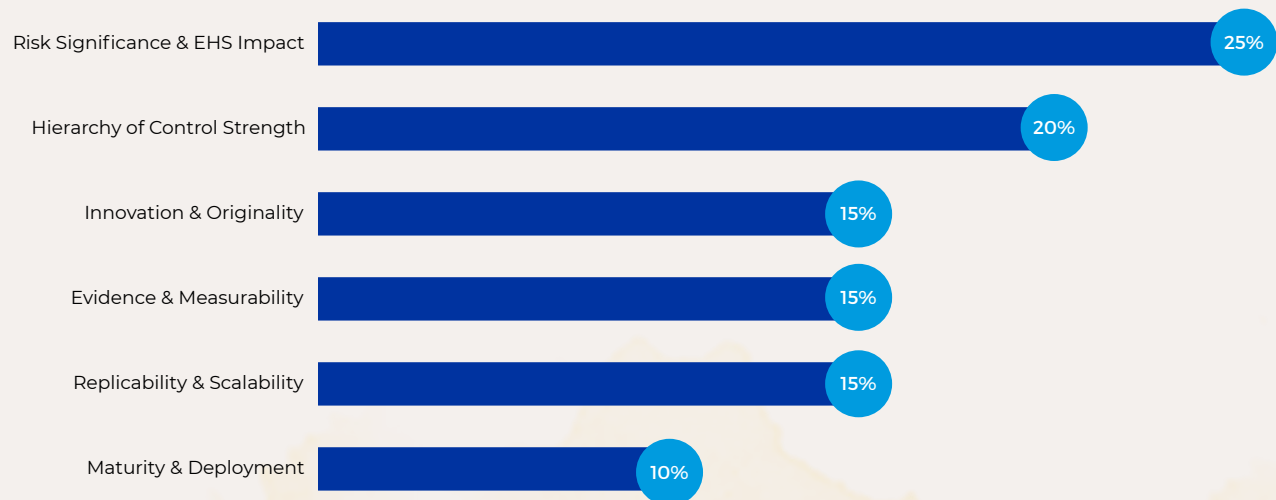
Drives sustainability through circular manufacturing, zero-leak pumps, and large-scale mine activity modifications.

Core Pillars of Modern HSE Excellence

- **Safe (Engineering Out the Risk):** Modern standards prioritise engineering controls, mechanical interlocks, and physical isolation to eliminate high-risk exposure at the source. Key industry applications include:
 - **Motorised C-Hook:** Enables coil handling from a safe operational distance.
 - **Automatic Coil Packaging:** Eliminates man-machine interface hazards through automated strapping.
 - **EOT Crane Locking:** Applies mechanical arrangements to stabilise cranes under high-wind conditions.
 - **Silic/HAG Entry Interlocks:** Prevents unauthorised or unsafe access to Clinker Silos and HAG Ash Extraction points.
 - **Machine Safety Architecture:** Upgrades safety systems under the "Risk to Reliability" transformation initiative.
 - **Design-Based Risk Elimination:** Utilises 3-way signal poles and hinge-based CBTC antenna poles to eliminate work-at-height and track access risks.
 - **Smart (Digital & Automated Operations):** Integrating PLCs, SCADA, artificial intelligence, and automated sensors converts reactive safety into predictive, data-driven management. Key industry applications include:
 - **Automated Material Discharge:** Uses PLC time-controlled chute systems for remote batch charging.
 - **Wagon Loading Machine (WLM) Anti-Collision System:** Prevents equipment contact through sensor tracking.
 - **AI/VR & Digitalisation:** Leverages virtual reality for immersive safety training and digital EHS management.
 - **Generative AI for Risk Monitoring:** Deploys in-house generative AI applications for real-time hazard detection.
 - **Real-Time Geotechnical Slope Stability Radar (SSR):** Monitors structural shifts in high-risk mining terrain.
 - **Single-Point Auto-Lubrication:** Enhances bearing performance on non-reachable conveyor GTU pulleys.
 - **Interactive Safety Awareness Parks:** Engages workforces using technology-enabled safety scenarios.
 - **Sustainable (Resource Efficiency & Stewardship):** Sustainable HSE management focuses on circular waste practices, emission abatement, and ecosystem protection. Key industry applications include:
 - **GCP Dust Pelletiser:** Converts loose gas cleaning plant dust into recyclable pellets, eliminating fugitive emissions.
 - **In-Pit Crushing and Conveyor (IPCC) System:** Reduces haulage emissions and lowers operational carbon footprints.
 - **Pallet Recovery and Recycling:** Drives material circularity across supply chain operations.
 - **Sulphuric Acid Plant Innovations:** Implements eco-friendly processing to boost environmental performance.
 - **Installation of Canned Pumps:** Eliminates toxic fluid leaks in chemical transport systems.
 - **Technology-Enabled Dolphin Conservation:** Integrates technology to protect Ganges River Dolphin habitats.
- By sharing these best practices and innovative approaches, this handbook aims to inspire organisations to elevate their Occupational Health and Safety performance, fostering safer and more resilient workplaces. The following pages outline the evaluation framework used to select these case studies, followed by a detailed exploration of the HSE initiatives implemented across various facilities. Highlighting these practical solutions provides a benchmark for organisations striving to advance their own safety performance and achieve operational excellence.

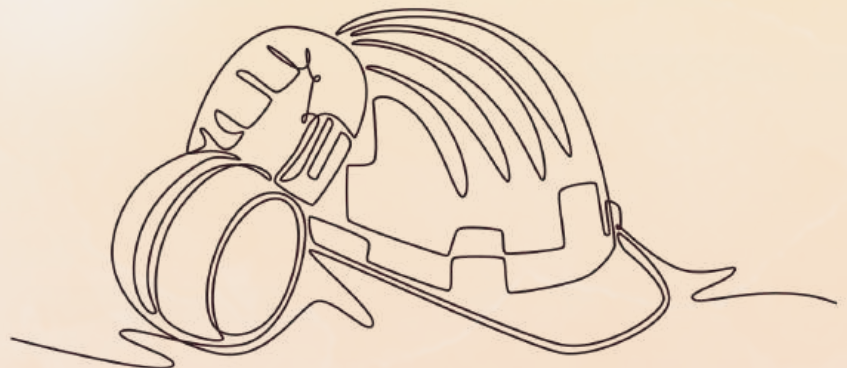
03 Methodology

This compendium compiles high-impact Occupational Health and Safety (OHS) practices across diverse industrial sectors. Every featured initiative underwent a rigorous comparative assessment against six weighted criteria:



The top 24 initiatives are selected for inclusion based on their final weighted scores and standardised tie-breaking rules. Each selected case study provides structured visual insights into the specific operational challenge, the engineering or digital solution applied, and the measurable safety and environmental outcomes achieved.

By sharing these benchmarked practices, this document delivers a practical framework to help organisations elevate their safety performance and accelerate their journey towards HSE excellence.



04 OHS Best Practices Overview



07

Total No. of Categories



24

Total No. of Good Practices

Grouped by Good Practice Category

Category A: Technology Intervention for Safety Management / OHS Good Practice (10 entries)

Category B: Material Handling (4 entries)

Category C: Climate Action (4 entries)

Category D: Engineering, Industrial Equipment & Technology (2 entries)

Category E: Employee Wellness: Training and Awareness (2 entries)

Category F: Electrical Safety / OHS Good Practice (1 entries)

Category G: Integrated In-House and Customised Digital Solutions (1 entries)

Grouped by Type of Industry



Steel & Metals Processing: 4 entries



Cement & Building Materials: 4 entries



Fast-Moving Consumer Goods (FMCG): 4 entries



Chemicals & Fertilisers: 3 entries



Mining & Natural Resources: 2 entries



Real Estate & Infrastructure: 2 entries



Infrastructure Development: 2 entries



Information Technology & Software Services: 1 entry



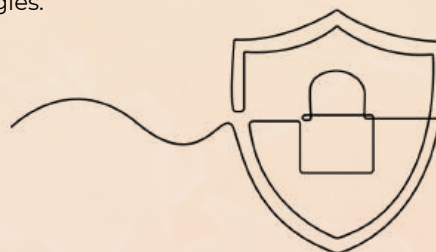
Service Industry: 1 entry



Power & Energy Generation: 1 entry

Good practices stem from innovative risk management strategies.

By forecasting hazards and applying targeted solutions, organisations achieve proactive risk mitigation with scalable applications across various industrial sectors.



Sl. No.	Good Practices	Company Name (Plant Location)
Category A: Technology Intervention for Safety Management / OHS Good Practice		
A1	Automatic Coil Packaging: Elimination of Man-Machine Interface Through Automated Coil Strapping	Tata Steel Downstream Products Limited
A2	EOT Crane Locking – Mechanical Arrangement	UltraTech Cement Limited
A3	Interlock Systems at Clinker Silo and HAG Ash Extraction Entry Points	UltraTech Cement Limited
A4	Wagon Loading Machine (WLM) Anti-Collision System	UltraTech Cement Limited (Cuttack Cement Works)
A5	Risk to Reliability: A Machine Safety Transformation Initiative	ITC Limited - Spices
A6	Enhancement of Machine Safety Through Upgraded Safety Architecture	ITC Limited ICMF-ULUBERIA
A7	Physical Verification Audit Without People Working at Height	Hindustan Unilever Ltd. - Cuttack DC
A8	Real-Time Geotechnical Slope Stability Radar (SSR)	Adani Enterprises Limited (Natural Resources - Mine Operations)
A9	In-House Generative AI Application for Operational Safety Monitoring & Risk Detection	Godrej Enterprises Group - Kolkata Order Fulfilment Centre (KOFC)
A10	Enhancement of the Efficiency / Performance of the “Bearings of Conveyor GTU Pulley” at a Non-Reachable Critical Location, Using a Single-Point Auto-Lubrication System	HALDIA ENERGY LIMITED
Category B: Material Handling		
B1	Motorised C-Hook: Handling of Coils with C-Hook from a Safe Distance	Tata Steel Downstream Products Limited
B2	Automated Material Discharge	TATA STEEL LTD, Ferrochrome Plant, Gopalpur
B3	Pallet Recovery and Recycle Programme	ITC Limited
B4	Operationalisation of the In-Pit Crushing and Conveyor (IPCC) System	Pakri Barwadih Coal Mining Project, NTPC Mining Ltd.

Sl. No.	Good Practices	Company Name (Plant Location)
Category C: Climate Action		
C1	GCP Dust Pelletiser	TATA STEEL LTD, Ferrochrome Plant Gopalpur
C2	An Innovative Solution in a Sulphuric Acid Plant to Improve Environmental Sustainability Practices	Indorama India Pvt. Ltd.
C3	Installation of Canned Pumps	Berger Paints India Ltd. - Howrah
C4	Technology-Enabled Conservation of Ganges River Dolphin	Larsen & Toubro Ltd.
Category D: Engineering, Industrial Equipment & Technology		
D1	Design-Based Reduction of Work-at-Height and Track Access Risks Through 3-Way Signal Pole Improvements	Siemens Ltd., Mobility India
D2	Design-Based Elimination of Work-at-Height Risk Through Hinge-Based CBTC Antenna Pole	Siemens Ltd., Mobility India
Category E: Employee Wellness: Training and Awareness		
E1	Digitalisation of Safety Using AI/VR	Indorama India Pvt. Ltd.
E2	Interactive Safety Awareness Park	Ambuja Neotia
Category F: Electrical Safety / OHS Good Practice		
F1	Fireproof Doors with Interlocked Audio Alerts and CCTV Monitoring	UltraTech Cement Limited (Cuttack Cement Works)
Category G: Integrated In-House and Customised Digital Solutions		
G1	Digitalisation & Automation for Smart EHS Management	Technocomplex (TCPX) Cognizant Technology Solutions India Private Limited

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

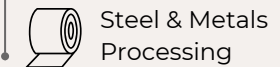
Automatic Coil Packaging

Elimination of Man-Machine Interface Through Automated Coil Strapping

Tata Steel Downstream Products Limited



Type of Industry



Problem Statement

During coil packaging operations, packaging personnel are required to position themselves directly underneath heavy suspended loads. Working directly beneath unanchored overhead coils creates a critical safety hazard with high fatality potential. The absence of physical isolation barriers or automated positioning controls exposes operators to severe crush injuries, structural hoist failures, and accidental load drops.

SOLUTION

An Automatic Coil Packaging Machine was installed to completely automate the wrapping and securing process.

SDG Linkage



BENEFITS / OUTCOMES

- Installing the Automatic Coil Packaging Machine eliminates direct human contact with heavy machinery and suspended loads during wrapping. Removing personnel from beneath unanchored coils prevents the risk of severe crush injuries, hoist failure hazards, and fatal load drops. This automation streamlines the packaging process while establishing a physically isolated, safer working environment.

Deployment Status

The Automatic Coil Packaging Machine was successfully installed and integrated into the production line.

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

EOT Crane Locking Mechanical Arrangement



UltraTech Cement Limited



Type of Industry



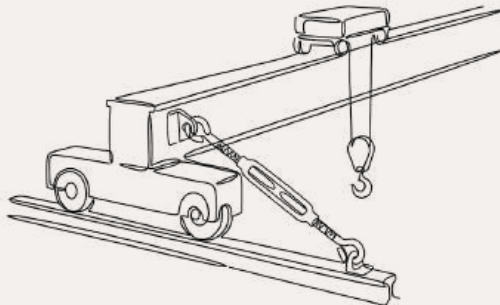
Cement &
Building Materials

Problem Statement

Electric Overhead Travelling (EOT) cranes parked outdoor or at exposed bays experienced unintentional movement during high-wind conditions, even while completely powered down and out of operation. This uncontrolled, wind-induced displacement created severe safety risks for personnel working nearby or underneath the crane runway. The absence of automatic physical anchoring exposed surrounding equipment to impact damage, structural compromise, and potential derailment during extreme weather events.

SOLUTION

A mechanical locking arrangement using heavy-duty turnbuckles was installed to physically anchor the EOT crane. Operation and maintenance teams were briefed on mandatory procedures to secure the turnbuckles during high winds and planned shutdowns. This manual locking protocol prevents wind-induced displacement, ensuring the crane remains completely immobilised when not in use.



SDG Linkage



BENEFITS / OUTCOMES

- Installing the mechanical turnbuckle locking arrangement provides reliable physical anchoring for the EOT crane during idle periods and high winds. Eliminating unintentional movement protects personnel from impact hazards and prevents costly structural damage to the crane and runway rails. This low-cost engineering control delivers immediate risk reduction while extending equipment service life and minimising storm-related maintenance costs in the long term.

Deployment Status

The system is currently operating as a pilot initiative, with live testing and field evaluation underway to validate access control reliability prior to full operational sign-off.

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

Interlock Systems at Clinker Silo and HAG Ash Extraction Entry Points



UltraTech Cement Limited



Type of Industry



Cement & Building Materials

Problem Statement

Personnel can enter the Clinker Silo and Hot Air Generator (HAG) Ash Extraction areas without mandatory energy isolation or formal access authorisation. Uncontrolled entry into these hazardous zones exposes workers to severe confined space risks, material engulfment, atmospheric hazards, and unexpected equipment startup. The absence of physical access controls and strict isolation protocols creates a critical safety vulnerability, significantly elevating the potential for fatal incidents and regulatory non-compliance.

SOLUTION

An engineered interlock system was installed at the access points of the Clinker Silo and HAG Ash Extraction areas. The system physically restricts entry to these hazardous zones until all predefined safety conditions and isolation protocols are fully met. This automated control ensures that personnel cannot access the area while machinery is operational or under unsafe atmospheric conditions.

SDG Linkage



BENEFITS / OUTCOMES

- Integrating interlock systems with access controls at the Clinker Silo and HAG Ash Extraction entry points prevents unauthorised access by enforcing mandatory safety protocols. This engineering control eliminates human error, ensures full confined space compliance, and significantly reduces injury risks in hazardous areas. In the long term, automatically restricting entry safeguards personnel, maintains regulatory compliance, and secures operational reliability.



Deployment Status

The Clinker Silo and HAG Ash Extraction interlock system is currently operating as a pilot initiative, with live testing and field evaluation underway to validate access control reliability prior to full operational sign-off.

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

Wagon Loading Machine (WLM) Anti-Collision System



UltraTech Cement Limited



Type of Industry



Cement &
Building Materials

Problem Statement

The facility currently lacks an automated system to detect and prevent collisions between Wagon Loading Machines (WLMs) operating in the same workspace. This creates a high risk of Wagons entering dangerous proximity during simultaneous movements, particularly during periods of poor visibility or communication failure when operators may struggle to maintain safe operating distances. Consequently, these unmanaged interactions expose equipment to structural failure and severe damage while creating high risks of personal injury to machine operators and nearby personnel.

SOLUTION

An anti-collision system was developed using a dedicated Security System Switch (BSS) arrangement. When Wagons enter dangerous proximity, the striker of the adjacent machine triggers the BSS switch. This action immediately generates a trip command to halt movement and prevent equipment impact.

BENEFITS / OUTCOMES

- ✓ The anti-collision system successfully eliminates collision risks during wagon loading, significantly enhancing safety for both operators and nearby personnel. By preventing physical impacts, the system reduces equipment damage, lowers maintenance costs, and minimises unplanned operational downtime. These improvements streamline loading operations and strengthen compliance with industry safety standards and operational best practices.
- ✓ In the long term, this intervention secures sustained equipment reliability and boosts overall site productivity. An automated collision prevention creates a safer working environment while institutionalising a scalable model for machine safety across material handling operations.

SDG Linkage



Deployment Status

The anti-collision system is currently deployed as a pilot initiative, with live operational testing and field evaluation underway to validate detection reliability before plant-wide implementation.

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

Risk to Reliability

A Machine Safety Transformation Initiative



ITC Limited
Spices - Sankrail

Type of Industry



Fast-Moving Consumer Goods (FMCG)

SDG Linkage



Problem Statement

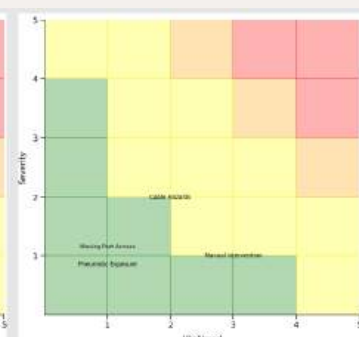
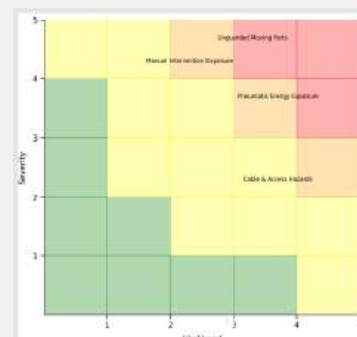
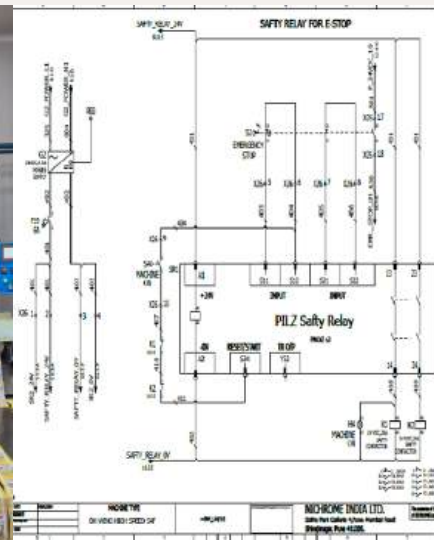
A total of 31 legacy production machines across the facility lacked adequate physical guarding and modern safety protection systems. This shortfall exposed operators to severe nip points, entanglement, crushing, shearing hazards, and moving parts during routine operations, cleaning, setup, and maintenance. Furthermore, the absence of robust safeguarding, reliable emergency stop mechanisms, and controlled maintenance access created high machine safety risks, elevating the potential for serious workplace injuries and failing to meet current safety standards.

SOLUTION

To eliminate hazardous machine exposures across 31 legacy units, a Machine Safety Transformation Programme implemented expert risk assessments, upgraded physical guards, Cat 3 PL d interlocks, and strategic Emergency Stops. Engineered control logic removed unsafe bypasses, while 11 Lockout-Tagout (LOTO) stations ensured secured energy isolation during maintenance. Complemented by procedure development, workforce training, updated OEM procurement standards, and periodic safety audits, the initiative fully standardised machine safety and long-term compliance.

BENEFITS / OUTCOMES

- The Machine Safety Transformation Programme achieved 100% guarding and interlocking compliance across 31 legacy machines, driving an estimated 85% reduction in safety exposure risk. Retrofitting Cat 3 Performance Level D (PL d) interlocks, emergency stops, and 11 LOTO stations eliminated access to hazardous moving parts, nip points, and bypassed safeguards. Additionally, removing maintenance-mode bypasses, upskilling workforce competency, and setting standardised OEM procurement guidelines established a safer operational environment and a sustainable, scalable model for horizontal deployment.



Deployment Status

Already deployed

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

Enhancement of Machine Safety Through Upgraded Safety Architecture



ITC Limited
ICMF-ULUBERIA

Type of Industry

 Fast-Moving Consumer Goods (FMCG)

Problem Statement

The existing safety architecture on the Mother Mould's moulder and taping machines leaves operators exposed to hazardous zones during automatic and residual machine motion. The current setup lacks the dual-channel monitoring, pneumatic isolation, and fault-tolerant circuitry required to satisfy Category 3, Performance Level d (PL d) safety compliance. Furthermore, the absence of device-level diagnostics increases the risk of unexpected machine start-ups while creating prolonged troubleshooting downtime during safety system faults.

SOLUTION

An upgraded safety system was implemented to provide dual-channel, fault-tolerant protection for all safety-critical functions on the moulder and taping machines. This installation isolates both electrical and pneumatic circuits to reliably block unexpected start-ups and prevent access during hazardous motion. Continuous monitoring and device-level diagnostics enable rapid fault identification, which significantly minimises troubleshooting downtime. Consequently, the enhanced safety-system compliance reduces device failures, bypass conditions, and procedural deviations across operations.

SDG Linkage



BENEFITS / OUTCOMES

- From an operational standpoint, implementing the CAT 3, Performance Level d safety architecture enables continuous monitoring and quick device fault diagnostics. This fast fault identification lowers the mean time to repair and cuts down on overall production downtime. In the end, the upgraded architecture protects long-term machine health, improves safety system reliability, and keeps equipment running as much as possible.

Deployment Status

The solution has reached a high level of maturity following rigorous testing and evaluation. Adapted from an established operational model, the finalised practice is now fully prepared for horizontal deployment across remaining facilities and operational nodes.

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

Physical Verification Audit Without People Working at Height



Hindustan Unilever Ltd.
Cuttack DC

Type of Industry



Fast-Moving Consumer Goods (FMCG)

Problem Statement

Traditional physical verification audits require personnel to inspect racked inventory at heights exceeding 7.5 meters, exposing workers to severe fall hazards and high-risk elevated work environments. Additionally, relying on manual inspection creates operational bottlenecks, as the audit process remains strictly dependent on physical access to the racking systems.

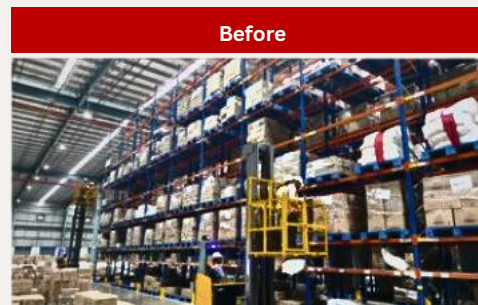
SDG Linkage



SOLUTION

A digital inspection system captures multiple views and streams live data directly to a workstation. This arrangement enables complete physical verification audits without placing personnel at elevated heights. Remote observation and real-time streaming allow auditors to review evidence quickly and safely from the ground.

PV Audit Without People Working at Height - Safety Kaizen



The traditional PV audit method requires auditors to physically enter the RT cage and perform verification at height. This introduces **significant safety hazards** and operational inefficiencies



HUL CUTTACK DC leveraged **digital technology** to innovate the PV audit process by implementing **cage-based camera systems**. This solution enables to conduct inventory verification remotely without entering the cage

BENEFITS/OUTCOMES

- ✓ The digital inspection system completely removes the need for personnel to work at height during physical verification audits, thereby eliminating fall hazards entirely. It significantly improves inventory visibility by capturing comprehensive top, front, left, and right camera views. Live desk-based monitoring supports a much safer, faster, and more efficient auditing workflow from the ground.
- ✓ By establishing a repeatable remote inspection framework, this system strengthens prevention-focused safety auditing and creates a scalable model for other elevated inspection areas across the facility. Ongoing trials with AI-based image recognition are expected to enable automated case counting per bin and real-time inventory matching with SAP data directly through the live feed.

Deployment Status

The HUL logistics engineering team successfully developed and implemented a highly mature safety Kaizen at the Cuttack distribution centre. Following its operational success, this scalable safety solution has been deployed across multiple HUL distribution centres to enhance safety standards network-wide.



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

Real-Time Geotechnical Slope Stability Radar (SSR)

adani Adani Enterprises Limited
(Natural Resources - Mine Operations)
Technology Intervention for Safety Management

Type of Industry
Mining & Natural Resources

Problem Statement

Open-cast coal mining operations face ongoing structural hazards due to potential slope instability across overburden dumps and working benches. Traditional monitoring methods rely on physical pillars, pegs, and weekly surveys, which fail to provide real-time data on ground movement. These monitoring delays slow down critical safety communications and prevent early detection of structural shifts. Consequently, undetected slope movements increase the risk of catastrophic ground failures, exposing site personnel, heavy equipment, and daily mining operations to severe safety hazards.

SDG Linkage



3 GOOD HEALTH AND WELL-BEING

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

SOLUTION

To overcome conventional surveying limitations, the project team deployed an advanced Slope Stability Radar system for continuous, real-time monitoring. The radar covers expansive mine areas up to 3,500 metres with sub-millimetre precision. Operating 24/7, it scans wide horizontal and vertical angles using interferometric radar and visual capture technology. The system divides monitored slopes into precise pixels to track deformation, movement, and signal shifts continuously. Completing full scans every four to nine minutes, it generates instant graphical data that enables engineers to detect slope instability early and take immediate preventive action before ground failure occurs.



BENEFITS / OUTCOMES

- ✓ The deployment of the Slope Stability Radar system delivers safety, operational, and strategic benefits in high-risk mining environments.
- ✓ The high-precision early warning system provides 24/7 monitoring that enables the proactive evacuation of personnel and heavy machinery well before potential ground movements occur, achieving zero slope failure fatalities and injuries since implementation. Specialised software automatically updates deformation data every four to nine minutes, triggering immediate alerts when pre-set displacement limits are breached. To maintain accuracy during severe weather like rain or fog, the system continuously adjusts for atmospheric refractivity while tracking signal coherence to flag sudden structural shifts instantly.
- ✓ In the long term, this technology establishes a predictive geotechnical safety baseline for deep pit mining operations. Using continuous, real-time data strengthens risk management and supports a proactive safety culture across the organisation.

Deployment Status

Fully customised real-time Radar System deployed for opencast slope stability



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

In-House Generative AI Application for Operational Safety Monitoring & Risk Detection



**Godrej Enterprises Group –
Kolkata Order Fulfilment Centre (KOFC)
Technology Intervention for Safety
Management**

Type of Industry



SDG Linkage



Problem Statement

Traditional safety observation methods fail to provide a complete picture of operational risks due to the fundamental limitations of existing tools. A standard Gemba walk covers only a single route for a small fraction of one shift, leaving most daily activities entirely unobserved. CCTV cameras record continuous footage across a warehouse, but this footage is rarely monitored in real time to actively identify and correct unsafe behaviours. Meanwhile, incident registers rarely document accidents that too after they have occurred, making them ineffective at preventing risk exposures before harm occurs. Ultimately, although facilities utilise security cameras and standard operating procedures, no existing system continuously compares live camera footage against written safety rules at operational speed to proactively mitigate risks.

SOLUTION

The company built EyeOn360, an in-house Generative AI application that closes safety gaps using existing CCTV infrastructure. The system automatically captures a camera frame every 30 seconds and processes it through an internal AI engine called EyeSense. EyeSense evaluates each frame against written standard operating procedures to classify hazards and specific safety behaviours. The application then scores the risk across technical, operational, financial, and compliance areas. Finally, it automatically drafts corrective actions, alerts an assigned owner by email, and records the event in the hazard register without requiring manual data entry. Six internal AI engines power the entire application, using company safety standards as the basis for real-time risk prevention.

BENEFITS/OUTCOMES

- During its initial 16-day observation period spanning 2025 and 2026, EyeOn360 achieved significant operational and safety results. The application analysed 1,552 safety events, extracted 21,521 observation attributes, and automatically drafted 98,438 risk and corrective action lines. It successfully classified 100% of safety events, auto-assigned 99% of cases to named owners, and linked nearly 88% of detections directly to standard operating procedure violations. Developing the application in-house saved an estimated ₹2.75 lakh to ₹4.40 lakh over outsourced alternatives while replacing approximately 517 hours of manual safety writing.
- In the long-term, EyeOn360 shifts safety monitoring from periodic manual checks to continuous, shift-wide oversight across all connected cameras. Live evidence powers monthly review committees and continuous improvement pipelines, eliminating reliance on memory.

How EyeOn360 works

A closed-loop from camera frame to actionable action – with no manual data entry in between.



What the machine saw

Detections involve the overall number of violations, SOP-based themes – SOPs is what makes them a violation.



Deployment Status

The system is currently live as a proven single-site pilot at KOFC, with plans for expansion across the East Zone and nationally.



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

Enhancement of the Efficiency/Performance of the “Bearings of Conveyor GTU pulley” at a Non-Reachable Critical Location, Using Single Point Auto Lubrication System



HALDIA ENERGY LIMITED

Type of Industry



Power & Energy Generation

SDG Linkage



Problem Statement

Routine maintenance of the equipment bearing is currently difficult and unsafe because its location requires full equipment isolation and scaffolding assembly. This manual process causes significant operational friction, maintenance delays, unpredictable access, and a severe waste of labour and time.

Two main physical factors complicate this setup: the bearing position changes whenever workers adjust the belt length and the upside-down installation makes manual bottom-up greasing extremely awkward.

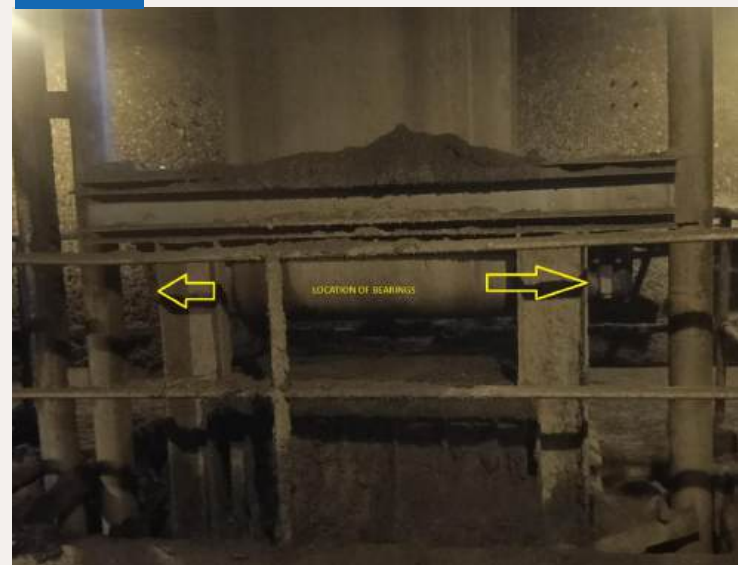
SOLUTION

Installing a pre-programmed single-point automatic lubrication system on each bearing addresses these operational challenges simultaneously. This system delivers precise, automated greasing directly to the bearings without requiring manual access or bottom-point application. It also operates continuously regardless of belt length adjustments or bearing position changes.

BENEFITS/OUTCOMES

- Installing the automatic lubrication system delivers significant operational, environmental, and financial benefits across the plant. The automated system extends bearing lifespan, improves maintenance standards, and drastically reduces downtime. Finally, the upgrade yields major cost savings by increasing part durability. Bearing consumption per conveyor fell from two bearings annually to two every five years. Across all 14 conveyors (28 bearings), total annual maintenance costs dropped from ₹9,24,000 to ₹1,40,000, delivering ₹7,84,000 in direct annual savings.

Before



After



Deployment Status

The project has been successfully implemented.

B1 • Category B: Material Handling

Motorised C-Hook Handling of Coils with C-Hook from a Safe Distance

TATA STEEL
WeAlsoMakeTomorrow
Tata Steel Downstream
Products Limited

Type of Industry
Steel & Metals
Processing

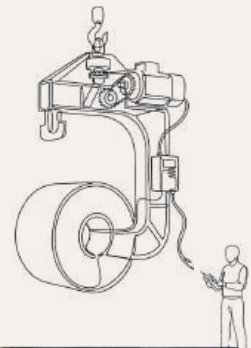
Problem Statement

Operators had to stand close to heavy hanging loads when positioning coils with a standard C-hook, which created a risk of fatal accidents. Manually turning the C-hook by hand also caused operator fatigue.

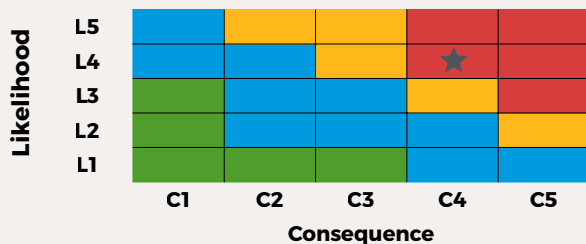
SOLUTION

Motorised C-Hook, which can be rotated with a remote from a safe distance.

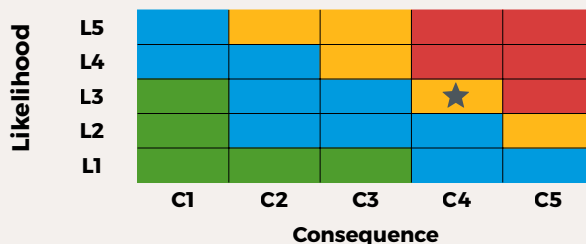
SDG Linkage



Risk Category - Before



Risk Category - After



BENEFITS/OUTCOMES

✓ Automated machinery now handles the coils without human intervention. Operators no longer experience physical fatigue from manually turning the equipment.

✓ In the long term, this setup completely removes the safety hazard and consistently keeps operators at a safe working distance.

Deployment Status

It is currently at a medium level of maturity.

B2 Category B: Material Handling

Automated Material Discharge

TATA STEEL

WeAlsoMakeTomorrow

TATA STEEL LTD.
Ferrochrome Plant Gopalpur

Type of Industry

 Steel & Metals Processing

SDG Linkage



Problem Statement

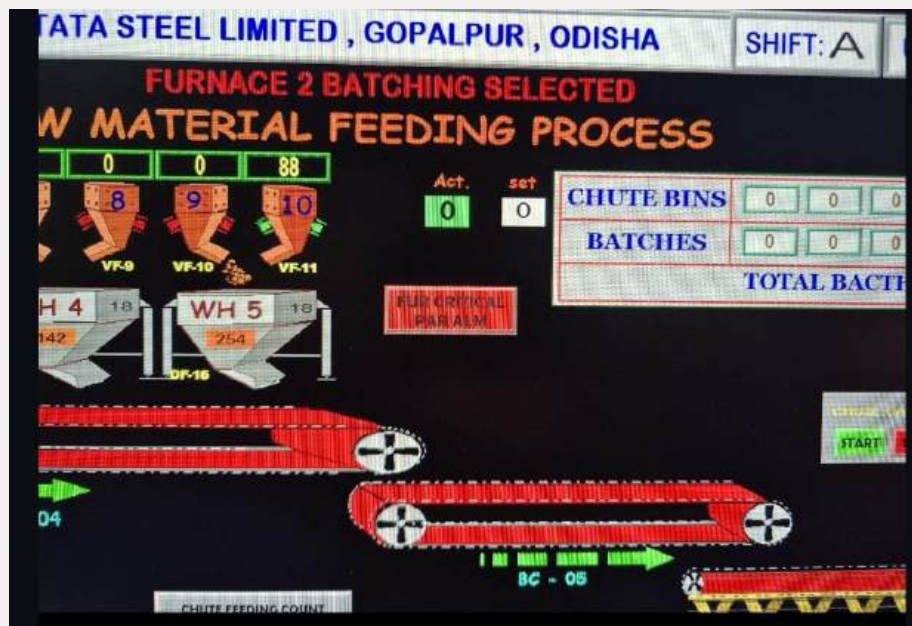
A worker manually operated the chute gate to discharge bulk material, standing directly in the discharge zone. This manual opening procedure exposed the operator to sudden material eruptions, severe man-machine interface hazards, and unexpected compressed-pressure releases. The lack of an automated isolation or remote operation controls created a critical safety vulnerability, placing personnel at immediate risk of severe impact injuries, chemical or thermal exposure, and mechanical pinch-point accidents during material discharge.

SOLUTION

A time-controlled, PLC-driven system was installed to open and close the chute automatically. Operators now initiate batch charging remotely using the SCADA interface inside the control room.

BENEFITS/OUTCOMES

- Automating the chute system via PLC and SCADA control removes personnel from high-risk discharge zones, allowing safe remote batch charging. This eliminates manual gate operation, protecting workers from material eruptions, high-pressure leaks, and pinch points while optimising cycle times. In the long term, remote operation significantly lowers workplace injury risks, reduces mechanical wear from pressure spikes, and maintains consistent safety compliance.



Deployment Status

The automated chute control system is currently operating as a pilot initiative, with testing and evaluation underway to validate remote SCADA performance and cycling reliability before full operational deployment.

B3 Category B: Material Handling

Pallet Recovery and Recycle Programme



Type of Industry



Fast-Moving Consumer Goods (FMCG)

SDG Linkage



Problem Statement

Wooden pallets are essential for storing, stacking, and transporting finished goods, requiring a continuous supply to support regular dispatch operations. Relying on external suppliers for new pallets results in higher procurement costs, longer lead times, and continued consumption of virgin wood resources. Meanwhile, large volumes of damaged or used pallets across company units are discarded as scrap, resulting in unrecovered material value and unnecessary waste due to the absence of a structured recovery process.

SOLUTION

The company established a structured pallet recovery and refurbishment process to reclaim damaged wooden units across facilities. Restoring and reusing salvaged pallets directly reduces the need to purchase new virgin wood resources. This circular economy approach lowers overall procurement costs and minimises scrap waste generation. Consequently, the facility achieves significant cost savings while embedding sustainable manufacturing practices into daily operations.

BENEFITS/OUTCOMES

- Implementing the systematic pallet recovery programme successfully restored and reused 8,840 pallets, eliminating the need to purchase new wooden pallets during FY 2025-26. This initiative achieved a gross purchase cost avoidance of ₹145.86 lakhs, generating substantial financial savings while putting circular economy principles into practice across the facility.

From an environmental and sustainability standpoint, the programme conserved 247.52 metric tonnes of virgin wood and diverted 8,840 pallets from the scrap stream. By reducing the reliance on virgin wood and avoiding new pallet manufacturing, the organisation significantly lowered its overall carbon footprint. This structured recovery model seamlessly integrates cost optimisation with robust safety, health, and environmental stewardship.



Deployment Status

Developed internally through cross-functional collaboration across operations, logistics, procurement, and supply chain teams, this indigenous solution is now highly mature and fully institutionalised. Having demonstrated proven operational success, the practice is ready for horizontal deployment across other manufacturing locations and supply chain nodes.

B4 • Category B: Material Handling

Operationalisation of the In-Pit Crushing and Conveyor (IPCC) System



NTPC Mining Ltd.
Pakri Barwadih Coal Mining Project

Type of Industry



Mining & Natural Resources

SDG Linkage



Problem Statement

Deployment of mid-scale tippers creates high traffic density across opencast mine haul roads. The movement of numerous smaller-capacity vehicles leads to severe traffic congestion and increases collision risks during active haulage operations. Furthermore, managing higher fleet volumes inflates operational complexity and heightens safety hazards across busy mining routes.

SOLUTION

To address these traffic and safety challenges, the project team operationalised an In-Pit Crushing and Conveyor system within the mine. This continuous transport system directly replaces a significant volume of mid-scale tipper haulage along mine routes. By transferring bulk material onto automated conveyors, the solution drastically reduces vehicular movement and relieves haul road congestion. Consequently, this shift eliminates traffic-related collision risks and significantly improves overall mining operational efficiency.

BENEFITS / OUTCOMES

- ✓ The implementation of the In-Pit Crushing and Conveyor system delivers substantial operational, safety, and environmental benefits across mining operations.
- ✓ By replacing conventional diesel-powered haulage with an electrically driven conveyor system, the project optimises material handling and significantly boosts overall mine productivity. The reduction in active tipper vehicles eases haul road congestion, decreases mechanical wear, and minimises vehicular safety risks.
- ✓ From an environmental and ESG perspective, transitioning away from diesel-operated machinery curtails fossil-fuel consumption and lowers the carbon intensity of site operations. The system yields an estimated annual reduction of 2,272 tonnes of carbon emissions, establishing a cleaner, energy-efficient material-handling model that supports long-term decarbonisation goals.



Deployment Status

Early-stage In-House Pilot undergoing validation prior to initial deployment

C1 Category C: Climate Action

GCP Dust Pelletiser

TATA STEEL

#WeAlsoMakeTomorrow

TATA STEEL LTD,
Ferrochrome Plant Gopalpur

Type of Industry



Steel & Metals
Processing

SDG Linkage



Problem Statement

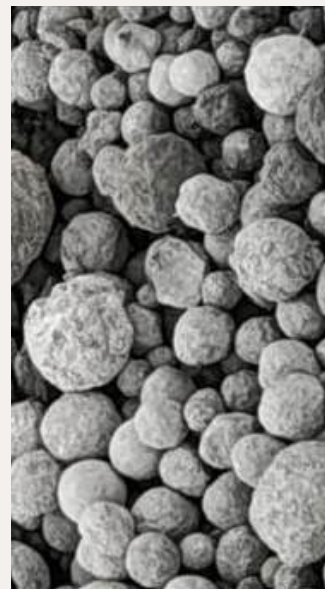
The handling and open dumping of Gas Cleaning Plant (GCP) dust resulted in severe soil contamination across surrounding plant areas. Uncontrolled dust accumulation created persistent material handling constraints, airborne dust emissions, and long-term environmental degradation. The absence of an effective, contained processing mechanism exposed the facility to operational bottlenecks and serious environmental compliance risks.

SOLUTION

A Disc Pelletiser was installed as a permanent processing solution for Gas Cleaning Plant (GCP) dust. The equipment agglomerates loose GCP dust into manageable pellets, effectively containing the material. This processing system eliminates direct dust dumping, addresses material handling constraints, and prevents surrounding soil contamination.

BENEFITS/OUTCOMES

- Implementing the Disc Pelletiser converts loose GCP dust into manageable pellets, completely eliminating fugitive emissions during handling and reuse. This processing method prevents soil contamination, improves workplace safety, and lowers the plant's carbon footprint by recycling waste back into production. In the long term, this sustainable solution ensures strict environmental compliance, eliminates hazardous liabilities, and optimises resource efficiency across operations.



IT DOES
NOT MATTER
HOW SLOWLY
YOU GO

SO LONG AS YOU DO NOT STOP

Deployment Status

This is currently operating as a pilot initiative, with live testing and field evaluation underway.

C2 Category C: Climate Action

An Innovative Solution in Sulphuric Acid to Improve Environment Sustainability Practices

INDORAMA

Indorama India Pvt. Ltd.

Type of Industry



Chemicals & Fertilisers

SDG Linkage



Problem Statement

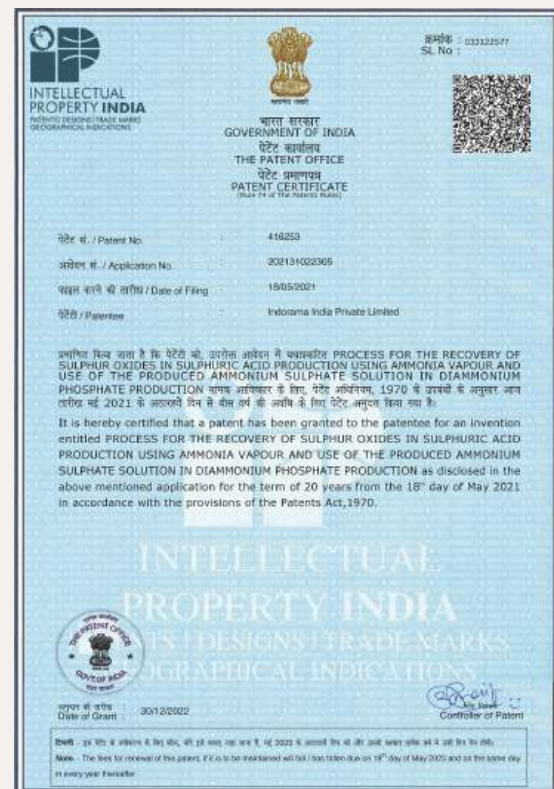
In a sulphuric acid production plant, the manufacturing process generates sulphur dioxide and acid mist emissions that are released into the atmosphere through the stack, posing potential environmental compliance risks and air-quality concerns. Furthermore, the valuable chemical byproducts within these stack gases remain unrecovered, resulting in lost resource efficiency and uncaptured value for downstream fertiliser production.

SOLUTION

Replacing caustic lye and soda ash scrubbing with ammonia gas scrubbing eliminates hazardous sodium sulphite byproduct disposal costs and recovers valuable sulphur. This sustainable initiative converts toxic sulphur dioxide and acid mist into useful ammonium sulphate fertiliser while keeping ambient air emissions well within environmental safety standards.

BENEFITS/OUTCOMES

- Implementing ammonia gas scrubbing eliminates the hazardous waste disposal costs and lost sulphur value associated with traditional caustic lye and soda ash methods. This initiative converts harmful sulphur dioxide and acid mist into valuable agricultural fertiliser while ensuring clean gas release into the environment.
- The primary health benefit is the elimination of toxic exposure, which protects workers from acute respiratory irritation, bronchoconstriction, and chronic lung conditions like asthma or bronchitis. This drastically lowers long-term healthcare burdens and creates a safer physical environment. From an operational perspective, workers gain psychological safety and enhanced morale knowing their employer actively mitigates environmental risks. Furthermore, operating this advanced, eco-friendly technology provides employees with specialised training, upskills the workforce and promotes a proactive, safety-first culture across the organisation.



Deployment Status

The plant successfully commercialised an in-house developed ammonia scrubbing technology to enhance environmental sustainability in its sulphuric acid unit. This mature, zero-effluent process recycles all generated waste for fertiliser production and has earned a formal government patent for environmental innovation.

Installation of Canned Pumps



**Berger Paints
India Ltd.
Howrah**

Type of Industry
 Chemicals & Fertilisers

SDG Linkage



Problem Statement

Uncontrolled emissions and fluid leakage around pump and valve gland packing assemblies contribute to localised atmospheric contamination. Over time, deteriorating mechanical seals release volatile organic compounds directly into the surrounding operational environments. This ongoing leakage elevates volatile organic compound concentrations near site equipment, increasing environmental compliance risks and creating potential health hazards for plant personnel.

SOLUTION

To resolve the issue of these fugitive emissions, the engineering team installed a canned motor pump assembly to replace conventional sealed pumps. Featuring a completely seal-less design, this pump eliminates traditional gland packing entirely. The fully enclosed casing prevents fluid seepage and prevents volatile organic compounds from escaping into the atmosphere. This upgrade ensures zero-leakage fluid transfer, improves environmental safety, and maintains atmospheric compliance around plant operations.

BENEFITS / OUTCOMES

- ✓ The deployment of the seal-less canned motor pump provides key environmental, operational, and safety benefits for plant operations.
- ✓ By eliminating conventional gland packing and mechanical seals, the system prevents solvent leakage during fluid transfer processes. Preventing fluid escape directly reduces overall volatile organic compound emissions in surrounding work areas. This zero-leakage operation helps maintain clean atmospheric conditions, ensures strict regulatory environmental compliance, and protects plant personnel from hazardous chemical exposure.



Deployment Status

Already deployed



Technology-Enabled Conservation of Ganges River Dolphin



Larsen & Toubro Ltd.



Problem Statement

Executing major bridge construction across the Brahmaputra river poses significant ecological risks to the endangered Ganges River Dolphin and its surrounding aquatic ecosystem. Relying solely on traditional visual surveys restricts the ability to detect underwater wildlife presence, track habitat utilisation, and assess ecological impacts accurately. Without continuous and comprehensive biodiversity monitoring, construction activities may cause unmitigated harm to sensitive species in their natural habitats.

SOLUTION

To balance infrastructure development with wildlife conservation, the Dhubri-Phulbari Bridge Project implemented a comprehensive, technology-enabled aquatic biodiversity monitoring programme. The project team deployed advanced Garmin LiveScope real-time underwater sonar alongside hydrophone-based acoustic monitoring to continuously track dolphin presence and underwater habitat use. This technology is combined with systematic visual dolphin surveys, GIS habitat mapping, fish prey-base assessments, and broader riverine biodiversity studies. Furthermore, independent wildlife experts oversee the entire ecological monitoring framework to ensure continuous protection of the surrounding aquatic environment.



BENEFITS / OUTCOMES

- ✓ The technology-enabled aquatic biodiversity monitoring programme provides critical environmental, operational, and strategic benefits for sustainable infrastructure development. By combining visual sightings, hydrophone acoustic technology, and live sonar systems, the initiative delivers continuous protection and monitoring for the endangered Ganges River Dolphin in the Brahmaputra river. This real-time underwater observation offers a scientific foundation for evaluating aquatic ecosystem health, enhances understanding of habitat occupancy, and guides evidence-based environmental decisions during construction. In the long term, the programme elevates organisational environmental stewardship and advances core sustainability objectives. It creates a fully replicable biodiversity-monitoring framework for future river infrastructure projects while generating a comprehensive ecological database to support ongoing aquatic conservation efforts.

Deployment Status

Fully deployed River Underwater Monitoring System ready for infrastructure replication

D1 Category D: Engineering, Industrial Equipment & Technology

Design-Based Reduction of Work-at-Height and Track Access Risks through 3-Way Signal Pole Improvements

SIEMENS

Siemens Ltd.
Mobility India

Type of Industry



Infrastructure Development

SDG Linkage



Problem Statement

Conventional LED signal installations rely on separate current regulators and extensive field wiring, creating significant safety risks, reducing system reliability, and causing operational inefficiencies. On-site wiring and manual terminations require extended work at height and lengthy installation times of up to two hours per signal. Additionally, complex system architectures lead to frequent current regulator and LED failures, forcing maintenance teams to access active track environments three to four times per month to rectify faults. These frequent track entries and prolonged activities at elevated locations expose personnel to ongoing safety hazards while increasing overall maintenance demands throughout the asset lifecycle.

SOLUTION

The project team implemented an indigenous design improvement by eliminating separate current regulators and integrating their functionality directly into the LED signal assembly. Incorporating factory-finished wiring and WAGO-based terminations significantly reduces on-site wiring activities, minimises work at height, and decreases the need for track access during maintenance.

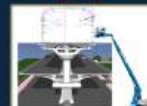
BENEFITS/OUTCOMES

- The solution incorporates factory-finished wiring and WAGO-based terminations, which dramatically minimises field installation activities and reduces elevated cable termination work. By simplifying the overall system architecture, the new design curtails installation and cable termination time from 2 hours to 30 minutes, an effective 75% reduction in field labour. Furthermore, the removal of current regulators boosts signal reliability and reduces required track access for failure rectifications from 3 to 4 times a month down to 1 or fewer. This design-stage intervention improves operational safety, enhances productivity, and reduces personnel exposure to active track environments throughout the entire asset lifecycle.

Eliminate the Risk - Design Changes



BEFORE



Use of Mobile scaffold or Man lift for the job

CBTC Antenna pole design change in Metro projects

- Activity:** Installation & Maintenance of CBTC Antenna at Height Using Mobile Scaffold or Man lift - Previous Metro Project.
- Hazard:** 1. Fall of personnel from height. 2. Risk of injury due to active overhead power during installation/maintenance.
- Control - Design Change:** 1. Implemented hinged base CBTC antenna pole with built-in arrangement. 2. Eliminated need for working at height by enabling internal access and maintenance from the ground level.
- Benefits:** 1. Enhanced Safety - Completely eliminated risk of fall of personnel and maintenance from height. 2. Cost Efficiency - By reducing the need for mobile scaffolding/man lift and reducing the frequency requirements. 3. Time Optimization - Right from reduced time required to complete installation and maintenance tasks.



AFTER



Hinged base CBTC antenna pole with built-in arrangement

SIEMENS



Deployment Status

Fully validated In-House Pilot ready for organisation-wide replication

D2 • Category D: Engineering, Industrial Equipment & Technology

Design-Based Reduction of Work-at-Height Risk Through Hinge-Based CBTC Antenna Pole

SIEMENS

Siemens Ltd.
Mobility India

Type of Industry



Infrastructure
Development

SDG Linkage



Problem Statement

Conventional CBTC antenna pole installations require personnel to work at height, creating significant safety risks, higher operational costs, and project delays. Performing installation, inspection, testing, commissioning, and maintenance at height exposes personnel to hazards such as falls and dropped objects. Additionally, these activities require specialised equipment like scaffolding and man-lifters, alongside extra manpower. This further increases overall project costs and extends activity durations. Without an engineering-level risk elimination strategy, these safety, cost, and time inefficiencies persist throughout the entire asset lifecycle.

SOLUTION

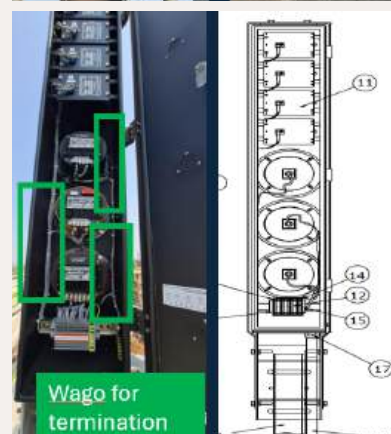
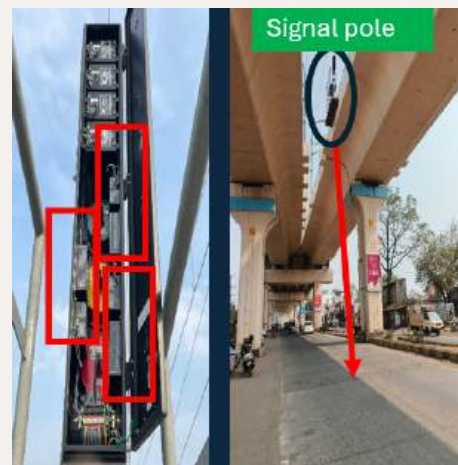
The indigenous hinged-base CBTC antenna pole delivers substantial safety, financial, and operational benefits across the entire project lifecycle.

BENEFITS/OUTCOMES

- ✓ The implementation of the hinged-base CBTC antenna pole yields significant safety, financial, and operational benefits across metro rail signalling projects.

Performing all installation, testing, commissioning, and maintenance directly at the viaduct level integrates risk elimination at the engineering stage and permanently removes the need for working at height. This eliminates major safety hazards, including personnel falls and dropped objects, thereby ensuring maximum workforce protection. From a financial perspective, the innovation drives substantial cost efficiency by eliminating the need for scaffolding, man-lifters, and additional specialised manpower. Operationally, performing tasks at ground level significantly shortens activity durations, which optimises time management and improves overall project productivity throughout the entire asset lifecycle.

Successfully developed and validated as a project-level pilot, this good practice is now being adopted across wider metro rail signalling projects for broader implementation.



Deployment Status

Fully validated in-house solution with organisation-wide scaling

Category E: Employee Wellness: Training and Awareness

Digitalisation on Safety by Using AI/VR

INDORAMA

Indorama India Pvt. Ltd.

Type of Industry
Chemicals & Fertilisers

SDG Linkage



Problem Statement

On-field safety assessments for high-risk psychological triggers, such as acrophobia and claustrophobia, expose personnel to immediate physical hazards and unpredictable panic responses during live evaluations. Additionally, field training for high-consequence maintenance tasks involving hazardous chemicals like ammonia and sulphuric acid, along with Lockout-Tagout-Tryout procedures, presents significant real-world exposure risks. Traditional hands-on field testing inherently relies on live hazard exposure to evaluate worker readiness, creating risks of operational incidents, chemical exposure, and physical injury during initial safety inductions.

SOLUTION

To eliminate these physical training risks, the engineering team deployed an immersive Virtual Reality and Augmented Reality simulation platform. This technology provides a safe environment where trainees experience high-altitude, confined-space, and hazardous chemical scenarios without real-world dangers.

BENEFITS/OUTCOMES

- The implementation of the AI-driven Virtual Reality and Augmented Reality training platform delivers major safety, operational, and organisational benefits for industrial site inductions.
- By shifting high-risk assessments into a controlled digital environment, the technology eliminates physical exposure to high-altitude work, confined spaces, and dangerous chemicals like ammonia and sulphuric acid during initial training. Trainees can practice complex Lockout-Tagout-Tryout protocols and high-hazard maintenance tasks in an error-friendly space where mistakes carry no real-world consequences, significantly improving skill retention and compliance with safety norms. Additionally, conducting psychological evaluations for acrophobia and claustrophobia virtually protects workers from physical harm while maximising resource efficiency by reducing the need for physical training infrastructure, live chemical handling, and dedicated field supervision.



Deployment Status

Already deployed

E2 • Category E: Employee Wellness: Training and Awareness

Interactive Safety Awareness Park

AmbujaNeotia
Ambuja Neotia

Type of Industry

Real Estate & Infrastructure

SDG Linkage



Problem Statement

Conventional induction training relies on static two-dimensional pictures and basic written guidelines, which fail to effectively communicate the operational criticalities and movement dynamics of heavy construction equipment. Construction workers frequently enter high-risk environments without a physical, spatial understanding of machinery hazards or machinery interaction zones. Furthermore, traditional training methods lack objective mechanisms to assess individual worker susceptibility to vertigo or panic when working at height, leaving critical safety risks unassessed prior to site deployment.

SOLUTION

To address these training limitations, the project team established an interactive Safety Park designed for practical, hands-on learning. The facility features physical miniature models that demonstrate the operational mechanics and movement patterns of critical heavy equipment. It also integrates advanced Virtual Reality simulators into screen and evaluates construction workers' propensity for working at height prior to site assignment. By allowing workers to practice safe methods and experience spatial hazards in a controlled environment, the solution builds strong safety habits and ensures effective hazard recognition before site deployment.

BENEFITS / OUTCOMES



The Safety Park delivers wide-ranging educational, operational, and cultural benefits that elevate workforce safety and site productivity.

By offering a practical, hands-on learning environment, the facility significantly improves construction workers' hazard identification, risk awareness, PPE compliance, and mastery of safe procedures. Interactive training and Virtual Reality screening build worker confidence, strengthen emergency preparedness, and instil lasting safe work habits before site deployment. Operationally, this proactive training minimises unsafe behaviours, reduces near misses, and lowers accident rates across active job sites.

In the long term, the initiative promotes a strong, continuous safety culture across the workforce. Preventing incidents and streamlining site operations directly boosts overall workforce productivity and sustains high safety performance throughout the project lifecycle.

Deployment Status

Already deployed





Category F: Electrical Safety / OHS Good Practice

Fireproof Doors

with Interlocked Audio Alerts and CCTV Monitoring



UltraTech Cement Limited
(Cuttack Cement Works)



Type of Industry



Cement &
Building Materials

SDG Linkage



Problem Statement

Motor Control Centre (MCC) rooms house critical electrical equipment where potential arc flash, short circuit, or electrical fire incidents pose severe risks of personnel injury and asset damage. Operational personnel frequently enter these high-risk areas without wearing mandatory Arc Flash Suits and designated Personal Protective Equipment (PPE), creating critical compliance gaps during electrical activities. Furthermore, the absence of real-time continuous monitoring hinders effective enforcement of PPE compliance and prevents timely intervention before personnel enter hazardous zones.

SOLUTION

To mitigate electrical hazards and enforce safety protocols, fireproof doors were installed in all MCC rooms to help contain fire, smoke, and heat within the affected area. Automated audio warning systems were implemented at MCC room entrances to remind personnel to don mandatory Arc Flash Suits and required PPE prior to entry. Additionally, interior CCTV surveillance systems were deployed to continuously monitor PPE compliance and enforce safe work practices inside the rooms.

BENEFITS/OUTCOMES

- ✓ This intervention strengthens arc flash and fire protection by combining fireproof containment doors, entrance audio reminders, and real-time CCTV monitoring to reinforce mandatory PPE compliance. These controls help contain fire incidents at an early stage, prevent asset damage, and significantly reduce injury risks and operational disruptions. In the long term, the setup enhances electrical system reliability, drives regulatory compliance, and embeds sustainable safety excellence across the plant.



Deployment Status

The initiative is currently operating as a pilot project, with real-time testing and performance evaluation underway to validate system performance.

G1 Category G: Integrated In-House and Customised Digital Solutions

Digitalisation & Automation for Smart EHS Management



Technocomplex (TCPX) Cognizant Technology
Solutions India Private Limited

Type of Industry



Information Technology
& Software Services

Problem Statement

Manual management of multiple EHS processes, including incident reporting, audit tracking, compliance monitoring, waste disposal, transport management, and asset maintenance, causes significant administrative delays and limits real-time visibility. Tracking corrective actions and compliance obligations across multiple stakeholders remains challenging, affecting timely task closure and accurate reporting.

SDG Linkage

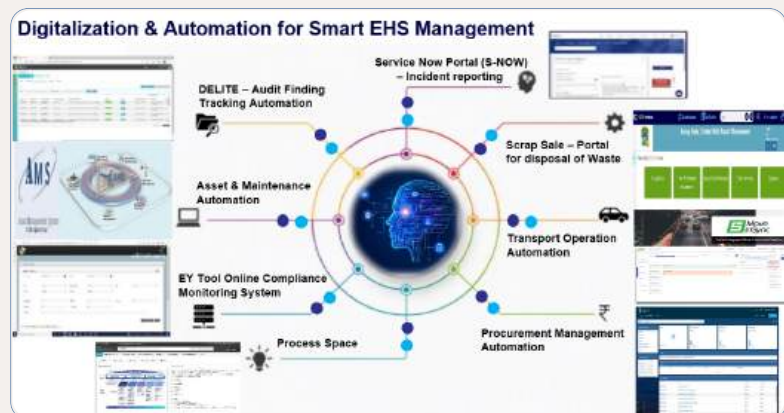


SOLUTION

The team launched an integrated digital ecosystem to automate critical EHS and facility management operations across the organisation. They deployed DELITE to automate the tracking and closure of audit findings. The specialised platform also manages waste disposal, streamlines transport operations, and supports asset maintenance and procurement. This EY Tool monitors legal compliance across the enterprise.

BENEFITS / OUTCOMES

- ✓ The digital EHS ecosystem delivers immediate operational gains and long-term strategic value. It boosts visibility into safety, incidents, and compliance while automated workflows accelerate audit closures, reduce manual workload, and eliminate paper. Centralised real-time dashboards drive smarter management decisions. Over time, the platform fosters a proactive safety culture and advances sustainability. Ultimately, this scalable solution adapts seamlessly across corporate, manufacturing, and service environments.



Deployment Status

This fully deployed, highly mature solution integrates custom digital tools into a scalable operational system suitable for corporate, manufacturing, and service environments.

05 Way Forward

Building a resilient operational ecosystem requires replacing hazardous manual work with smart automation, real-time monitoring, and sustainable practices. This compendium serves as a guide for organisations to identify, adapt, and implement high-impact OHS solutions aligned with their operational needs.

True safety leadership thrives on collaboration. By sharing our OHS successes and adopting emerging industry trends, we can collectively raise safety benchmarks, eliminate workplace hazards, and link health and safety directly to sustainable business growth.

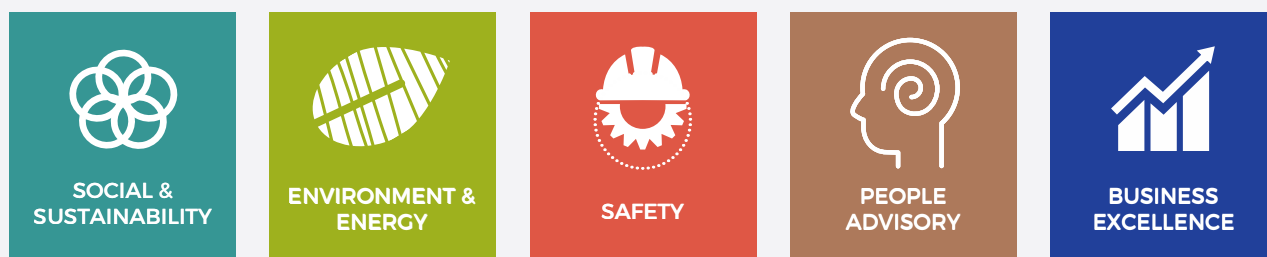


Consultivo helps organisations globally to solve business challenges in Sustainability, ESG, Business Excellence & Risk Management.

Offering 100+ solutions in ESG, Social, Safety, Environment, Climate Change & Energy, Management Systems, Business and Human Rights across the value chain.

Delivering through Advisory, Research, Assurance & Training – both in strategic and operational levels.

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

Consultivo is uniquely placed to offer advisory and assurance services free from commercial constraints and conflict of interest to find ways to improve business performances.

Consultivo Academy is the strategic business unit for training and capacity building services. It nurtures and enrich people potentials through interactive & solutions oriented course design in both conventional and new age e-learning platforms.

Partnering in your journey towards ESG, Sustainability and Risk Management

Audit and Assurance | Consulting and Advisory | Research and Analytics | Training and Capacity Building

ABOUT US

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 over 10,500 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 365,000 enterprises from 332 national and regional sectoral industry bodies.

For more than 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 2026-27, CII has identified "Accelerating Competitiveness: Growth, Resilience, Inclusion, Sustainability, and Trust" as its theme, prioritising five key pillars. During the year, CII will align its policy advocacy, institutional initiatives, partnerships, and outreach to support Indian industry in strengthening these five interconnected pillars of competitiveness.

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 255 counterpart organisations in 102 countries, CII serves as a reference point for Indian industry and the international business community.



Confederation of Indian Industry
Eastern Region

6, Netaji Subhas Road | Kolkata-700001

T: +91 033 2230 1721 / 22 /1434 / 3354

E: ciier@cii.in | W: www.cii.in

Follow us on



[cii.in/facebook](https://www.cii.in/facebook)



[cii.in/twitter](https://www.cii.in/twitter)



[cii.in/linkedin](https://www.cii.in/linkedin)



[cii.in/youtube](https://www.cii.in/youtube)

Reach us via CII Membership Helpline: 1800-103-1244