



Bokaro Steel Plant



अरिष्ट—Towards Zero Harm

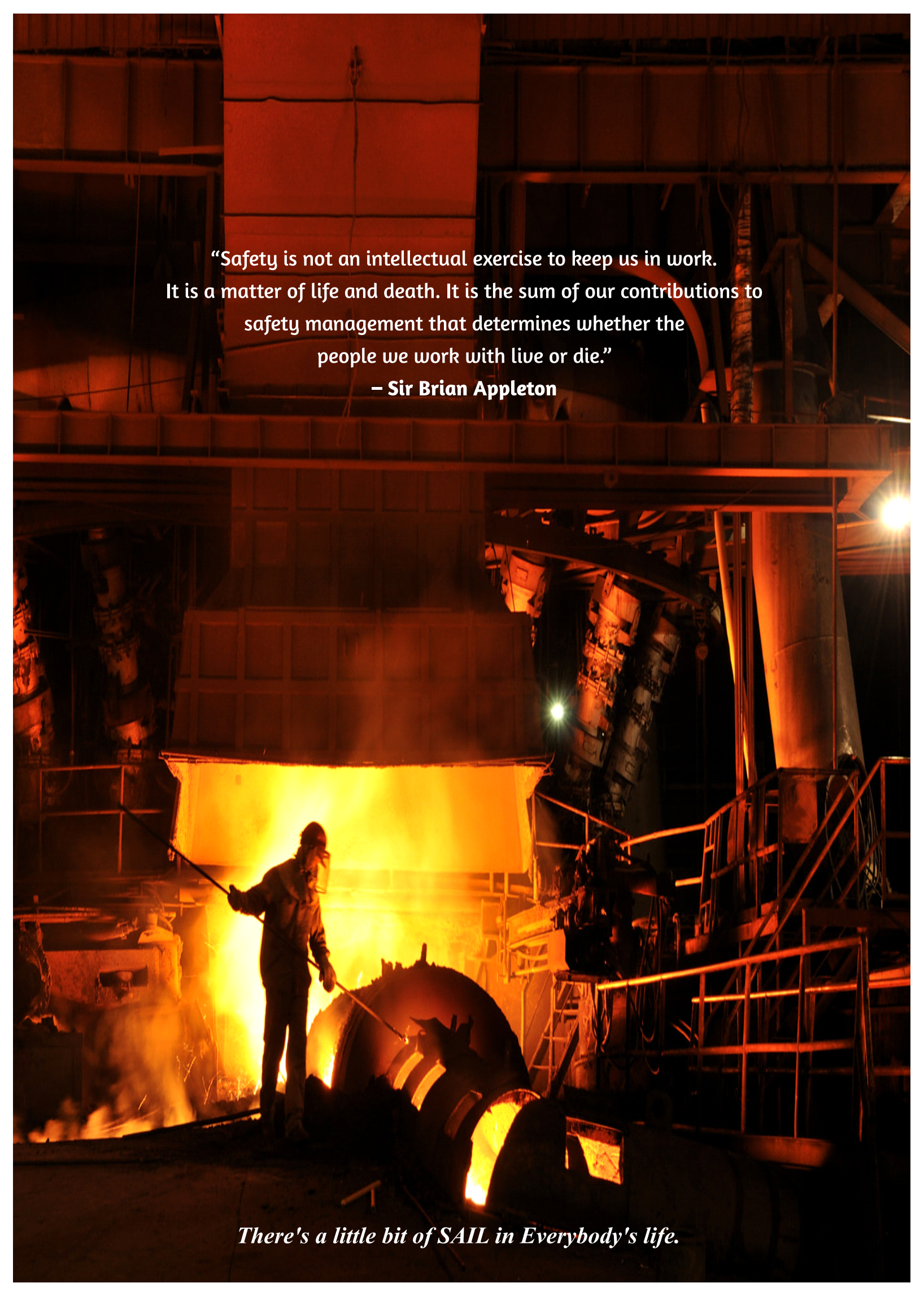
Digital Innovation Technologies for
Enhanced Safety in Integrated Steel Plants
for Viksit Bharat

August 06 – 07, 2025

SAFETY CONCLAVE



Safety Department, Bokaro Steel Plant
Bokaro Steel City, Jharkhand

A full-page background image of a steel mill. A worker in a dark protective suit and helmet stands in the center-left, holding a long tool. Behind them is a large, glowing orange molten metal ladle. The background is filled with industrial structures, pipes, and scaffolding, all illuminated by the intense orange light of the molten metal. The overall atmosphere is one of intense heat and industrial activity.

“Safety is not an intellectual exercise to keep us in work.
It is a matter of life and death. It is the sum of our contributions to
safety management that determines whether the
people we work with live or die.”

– Sir Brian Appleton

There's a little bit of SAIL in Everybody's life.



Introduction

The steel industry has rapidly embraced a wide range of technological innovations to boost production efficiency, cut costs, improve product quality, and minimize environmental impact. Pioneering developments such as automation, the Internet of Things (IoT), data analytics, eco-friendly processes, and next-generation steelmaking techniques—including hydrogen-based reduction and carbon capture—are driving this transformation.

As a key pillar of national economic growth, particularly in alignment with the vision of *Viksit Bharat* (Developed India), the integrated steel industry holds strategic importance. However, it also faces critical challenges—maintaining stringent safety standards, managing complex production operations, and achieving long-term sustainability. Digital innovation technologies offer powerful solutions to address these challenges. In such high-risk environments, ensuring the safety of personnel, equipment, and the surrounding ecosystem remains a top priority.

The theme of this safety conclave—“Towards Zero Harm: Digital Innovation Technologies for Enhanced Safety in Integrated Steel Plants for Viksit Bharat”—emphasizes the use of advanced digital tools to build safer, smarter, and more sustainable steel plants. The approach aims to reduce man-machine interface, streamline operations, strengthen safety mechanisms, and support sustainable initiatives.

Objectives of the Conclave:

- To explore and present cutting-edge advancements in digital innovation and Industry 4.0 technologies, specifically for enhancing safety and sustainability in integrated steel plants.
- To share best practices for reducing direct human intervention and elevating safety standards through smart technologies such as AI, IoT, and automation.
- To assess the impact of data analytics, artificial intelligence, machine learning, and predictive maintenance on improving plant safety, minimizing risks, and optimizing efficiency.
- To promote sustainable steelmaking by implementing energy-efficient technologies, lowering

carbon emissions, and minimizing waste generation.

- To support the broader national vision of *Viksit Bharat* by driving the steel sector forward through innovation, safety excellence, and sustainable development.

Key Focus Areas of the Conclave:

- AI/ML-based predictive safety tools
- Industrial IoT (IIoT) for hazard monitoring
- Drone-based surveillance and inspection
- Digital twin and simulation for risk analysis
- Real-time data analytics for proactive safety management
- VR/AR-based training and hazard simulation
- Wearable tech and smart PPEs
- Integration of safety technologies in brownfield and greenfield projects

Bokaro Steel Plant

Bokaro Steel Plant, the fourth integrated steel plant in the public sector, began taking shape in 1965 with technical collaboration from the former Soviet Union. Initially incorporated as a limited company on 29th January 1964, it was later merged with the Steel Authority of India Limited (SAIL)—first as a subsidiary, and eventually as a unit—under the Public Sector Iron & Steel Companies (Restructuring & Miscellaneous Provisions) Act, 1978.

Renowned as the country's first Swadeshi Steel Plant, it was built using maximum indigenous resources in terms of equipment, materials, and technical know-how. The plant's first Blast Furnace was commissioned on 2nd October 1972, and the first phase of 1.7 million tonnes of ingot steel was completed on 26th February 1978 with the start-up of the third Blast Furnace. All facilities under the 4 million tonne (MT) stage have since been commissioned, and subsequent modernization efforts have enhanced the plant's capacity to 4.65 MT of liquid steel.

The plant is primarily designed for the production of flat steel products such as Hot Rolled Coils, Plates and Sheets, Cold Rolled Coils and Sheets, and Galvanized Plain and Corrugated (GP/GC) Sheets.





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Hotels at Bokaro Steel City

Sl.No	Hotel's	Contact No
1	Hotel Ananda	06542-232090
2	Hotel Reliance	09262997777
3	Hotel West Inn	08797707771
4	Hans Regency	07969792016 09031020076
5	Aditya International	(6542)233641
6	Hotel Classic	06542233163
7	Hotel Hilltop	07061502190
8	Hotel Veena Regency, Chas	09771475412
9	Hotel Yuuraj Regency	(6542)231434
10	Hotel Prabhat, CHAS	9234274703

Note: The Hotel list is only for providing assistance and not exhaustive. The delegates are advised to search for the best deal & tariff on their own for what suit them best."

Bokaro Steel City

Bokaro Steel City is located amidst scenic surroundings along the southern bank of the Damodar River. It is flanked by the Parasnath Hills to the north and the Satanpur hillocks to the south. Within a short span of time, the region transformed from a remote village in the forests of Chhotanagpur—Maraphari—into a vibrant city with a robust multi-dimensional economic base. Today, it thrives as a prominent urban center with a population of approximately 8 lakh, comprising people from across the country—earning it the title of a “Mini India.”

In September, Bokaro Steel City experiences warm and humid weather, with average daytime temperatures around 30°C (87°F) and nighttime lows of 23°C (74°F). The month typically sees a decline in cloud cover but maintains a 59% chance of rainfall on an average day.

Travel & Accommodation

Bokaro is well-connected by direct trains from major cities including New Delhi, Kolkata, Mumbai, and Chennai. It is centrally located between Ranchi, Jamshedpur, and Dhanbad—all accessible via road and rail. The nearest domestic airports are in Ranchi and Durgapur (West Bengal), approximately 3 hours from Bokaro by train or road. The closest international airport is in Kolkata.

The city offers a range of accommodation options, from luxury to budget hotels, mostly located within 2 to 5 km of the conference venue. Limited lodging is also available at the plant's guest house. Delegates are encouraged to make their bookings directly using the contact numbers provided. The organizing committee will assist delegates facing difficulties in securing accommodation.



safetyconclave.bokarosteel.in



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Venue : Main Auditorium, HR-L&D Centre, Bokaro Steel Plant



स्टील अथॉरिटी ऑफ इण्डिया लिमिटेड
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BOKARO STEEL PLANT



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