



AVEVAWORLD

ACCELERATE INDUSTRIAL INTELLIGENCE



Integrated Operations to Intelligent Enterprise

Redefining Smart Plants

Hindalco Industries Limited, India

20th May 2026

AVEVA World 2026
Milan, Italy



01

Hindalco : *What we do and our purpose*

02

Our Digital Journey : *Integrated to Intelligent enterprise*

03

Data Management Platform : *A Journey*

04

Data to Decisions : *In action*

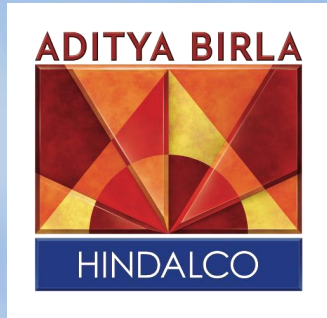
05

Transformation with the Platform : *Making it way of life*

About Hindalco



Part of Aditya Birla Group



Hindalco Snapshots

\$25+ bn USD

MARKET CAP

\$28+ bn USD

REVENUE

\$5+ bn USD

EBITDA

36

COUNTRIES

70,000+

EMPLOYEES

**A FORCE
FOR
SUSTAINABLE
SOLUTIONS**



Aluminium
(Hindalco | Novelis)

World's Largest
Aluminium company
by revenue



Copper

One of the largest
single-location
copper smelters



Speciality Alumina

Fully integrated
operations with
mines to market
fundamentals

Hindalco is transforming into a solution first enterprise.....

INDUSTRIES SERVED

A Legacy of Strength. Now Powering Tomorrow's Possibilities.

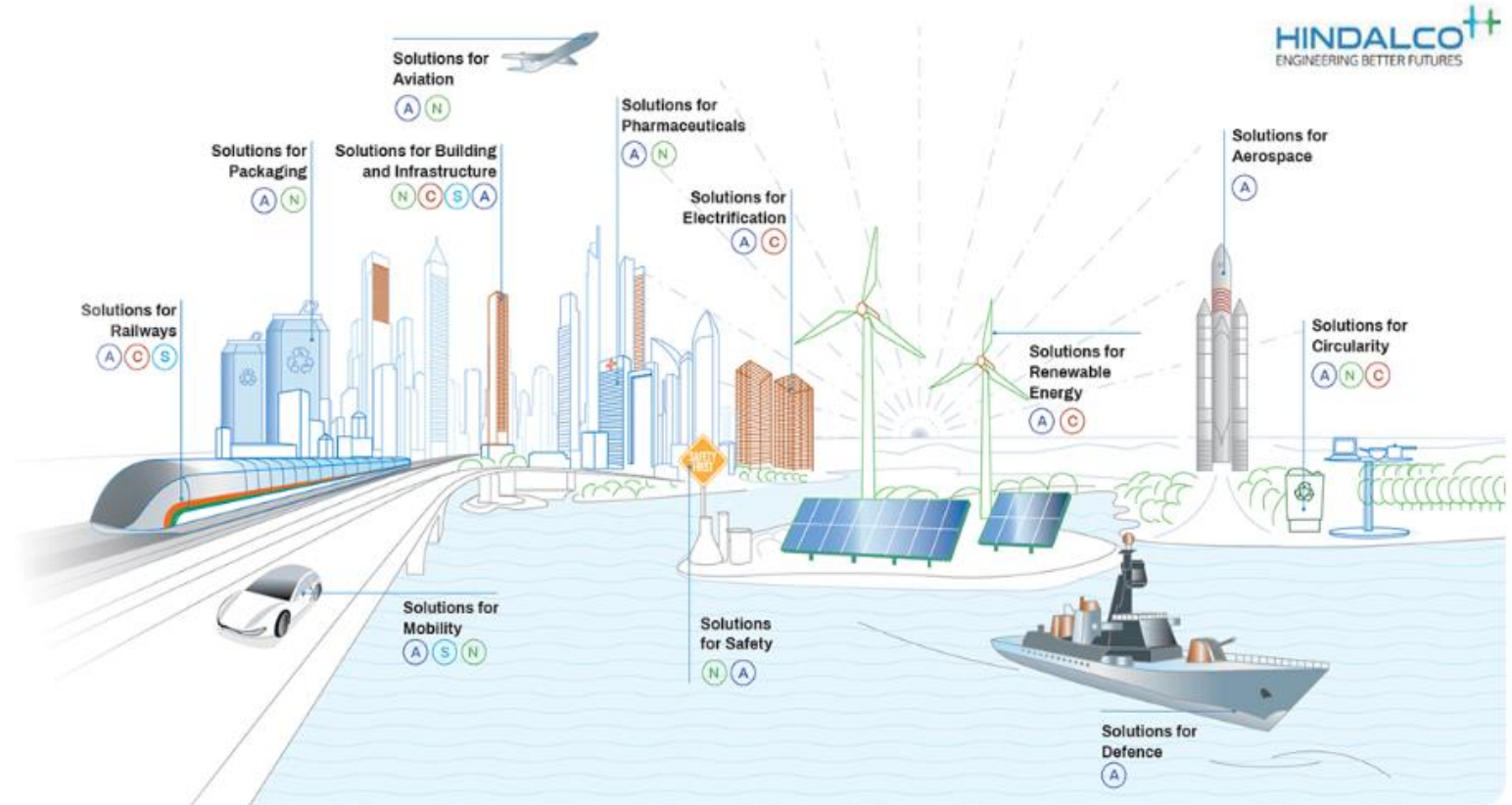
Hindalco is transforming into a solutions-first enterprise, bringing together Aluminium, Copper, and Specialty Alumina under one unified strategy. This shift enables us to deliver advanced, sustainable materials for future-ready industries.

(A) Aluminium

(C) Copper

(S) Specialty Alumina

(N) Novelis



The context

Diversity in every element

Rich Heritage with modern technology



1950-60s – Legacy Plants



2000s – Superior Technology



2020s – Modern Plants

Multigenerational Workforce

Experienced Wizards

Digital Immigrants

Digital Natives

Locations Spread

Industrial Hubs

Industrial Towns

Remote Mines

Diverse Processes

Continuous Upstream

Downstream WorkCentre

Mining

How do we drive digital transformation?

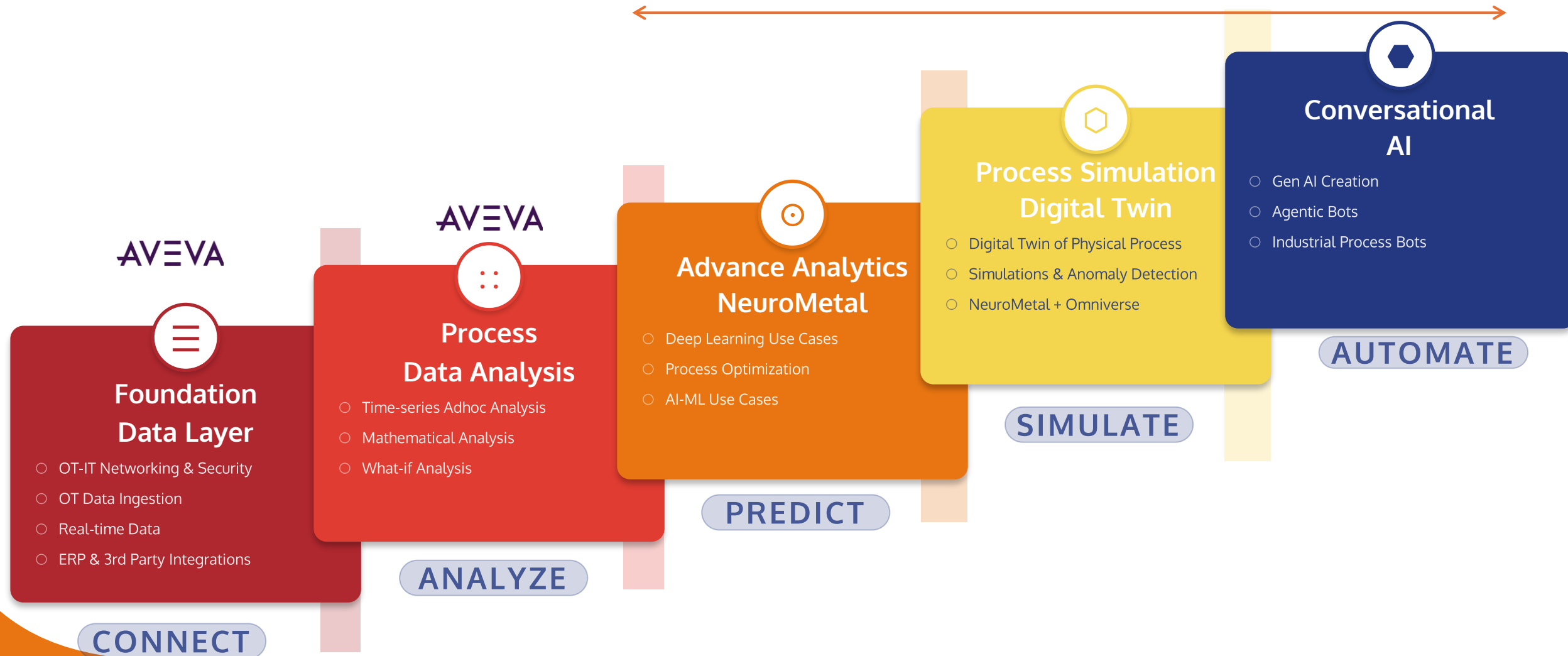
Our digital transformation journey..

This was only foundation to us. We plan to accelerate to be the leader.

2018–21 Foundation	2022–24 Acceleration	2025– Transformation
Business imperatives from leadership	Value realization	Digital culture
Experimentation	Standardization	Ecosystem
Core team with existing employees	Augmented with external hires	Central team with distributed expertise
Data Acquisition	Data lake to break the silos	Data lake for entire value chain
Basic Awareness	Mass capability building	Digital Savvy workforce

Our roadmap for intelligent enterprise...

Powered by AVEVA Azure NVIDIA



Our journey with AVEVA....

▼ AVEVA World
2024

▼ TODAY

2022-23

2023-25

2025-26

2026-



Experimentation

- Pilots at two of our plants
- Limited Tags & use cases
- Early success demonstration
- Initial buy in



Expansion

- Scaling up to 12 plants..
- Integrating process, lab and quality data
- OT-IT Security Layer Initiation
- Enterprise Data Lake Setup
- 20+ Use cases



Democratization

- Data Management Platform across+ Insights
- Democratization of Data OT-IT Security Layer Expansion
- DIY Data Visualization + Reports
- 70+ use cases



Transformation & Innovate

- E2E Data-driven Decisions
- Near Paperless Operations
- 2-3% EBITDA Improvement
- Advance Analytics
- Autonomous Mode with GenAI

Integrated Operations

Intelligent Enterprise

From Data to Impact: *Delivering Tangible Business Value*

SCALE & COVERAGE

 **~495,000**

Operational Data Points

Continuously streamed with high data availability

 **700+**

OT Assets Connected

Planned asset coverage with no gaps

 **690+**

Live Dashboards

Enterprise-wide visibility & faster decisions

OPERATIONAL IMPACT

 **100+**

Reports Automated

Eliminated manual effort, no critical updates missed

 **570+**

Events & Alerts Generated

Early intervention flagging anomalies & deviations

 **20+**

Analytics Use Cases Deployed

High-value use cases improving bottom-line

BUSINESS VALUE IDENTIFIED

 **Value Identified**

Prioritized analytics-led opportunities with clear pathways

 **Benefits Realized**

Documented business value delivered to date

High-Value Impact Analytics Use Cases

● Sign-Off & Live

● UAT

Alumina Refinery

Smelter

Power Plants

01 Particle Size
Distribution Model
Muri & Utkal Refinery

04 Bauxite Quality
Optimization
Renukoot Refinery

07 Outlier Pot
Identification
Mahan, Aditya

10 Station Vacuum
Optimization
Aditya CPP

13 Boiler Fuel
Consumption
Optimization
Utkal & Muri CGPP

02 Steam Economy
Analysis
Muri Refinery

05 Precipitation
Optimization
Renukoot Refinery

08 Spurious Signal
Detection &
Rectifier Reliability
HKD Smelter

11 BFP Efficiency
Optimization
Aditya CPP

14 Boiler Start-Up
Curve Analysis
Aditya CPP

03 SEL Caustic
Prediction
Utkal Refinery

06 EVP Steam
Economy
Optimization
Utkal Refinery

09 ABF LC Analytics
Mahan Smelter

12 THR Improvement
HKD CPP

15 Boiler Tube
Leakage Monitoring
Hirakud CPP, Muri CGPP

From Data to Decisions: In Action

➔ **Use case # 1 : Asset Performance** **Compressor Efficiency Enhancement**

Use case # 2 : Integrated Operations
Rectifier Performance Optimization

Use case # 3 : Intelligent Enterprise
RE RTC Monitoring



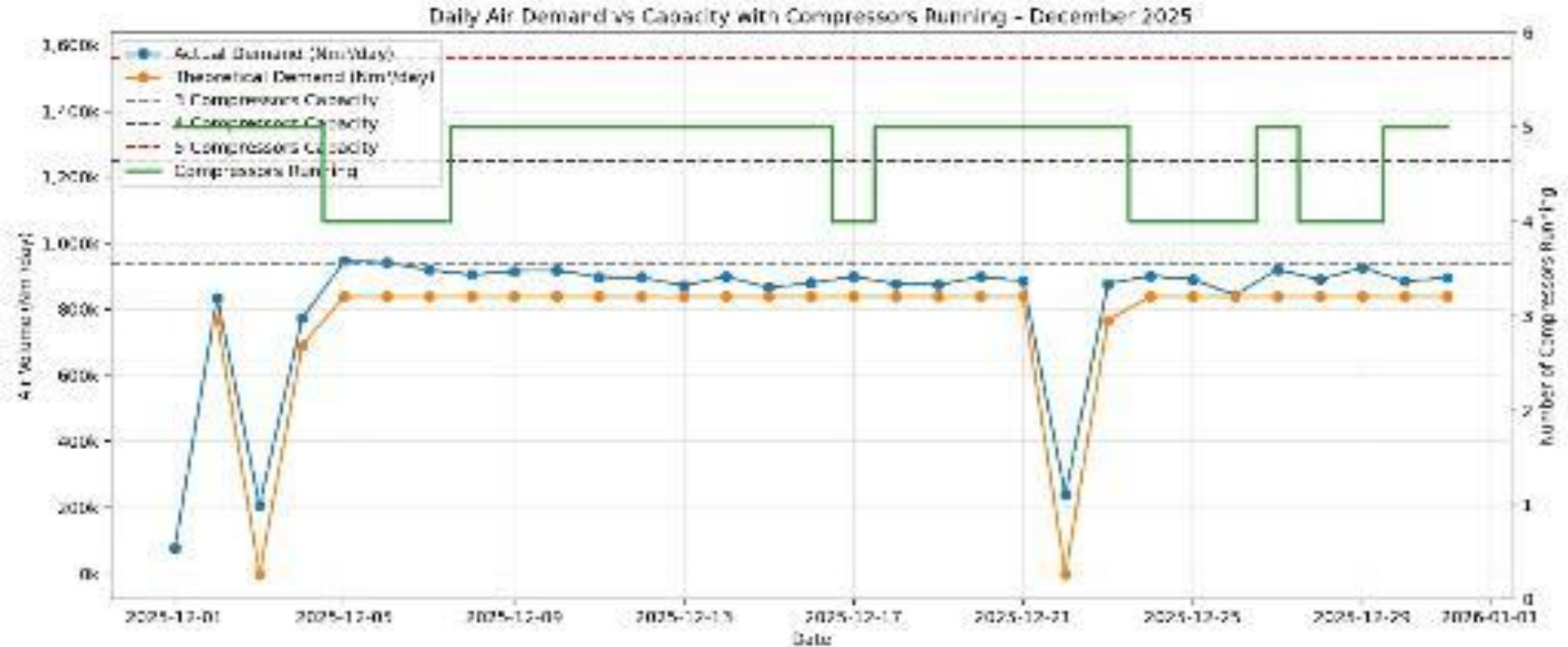
Compressor Efficiency Enhancement

Challenge

Inconsistent Decision

High energy variability
(SEC)

Reactive energy
correction



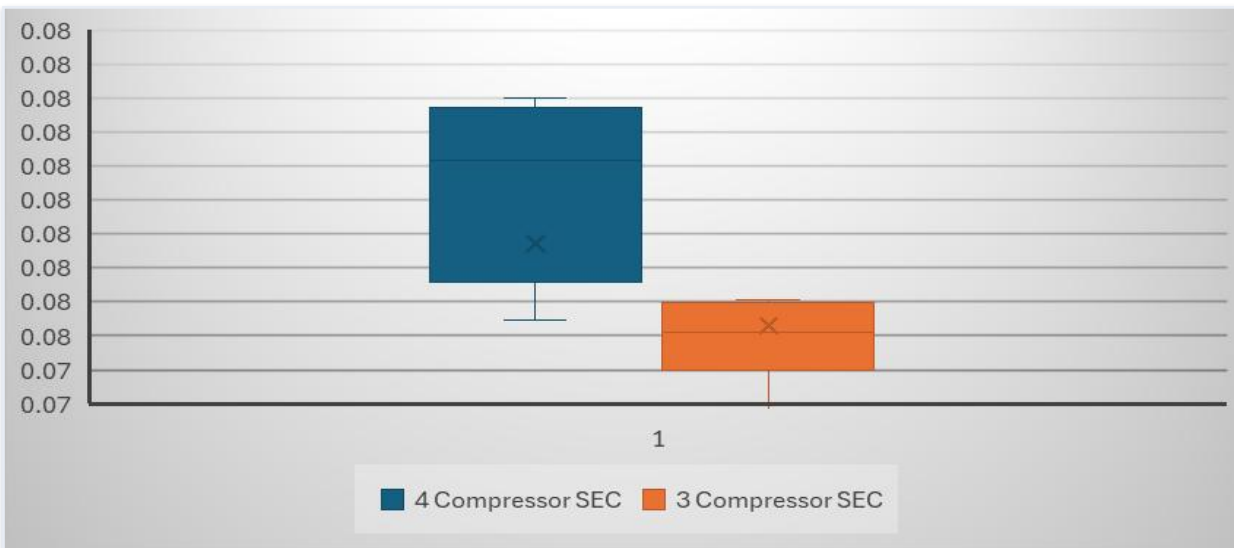
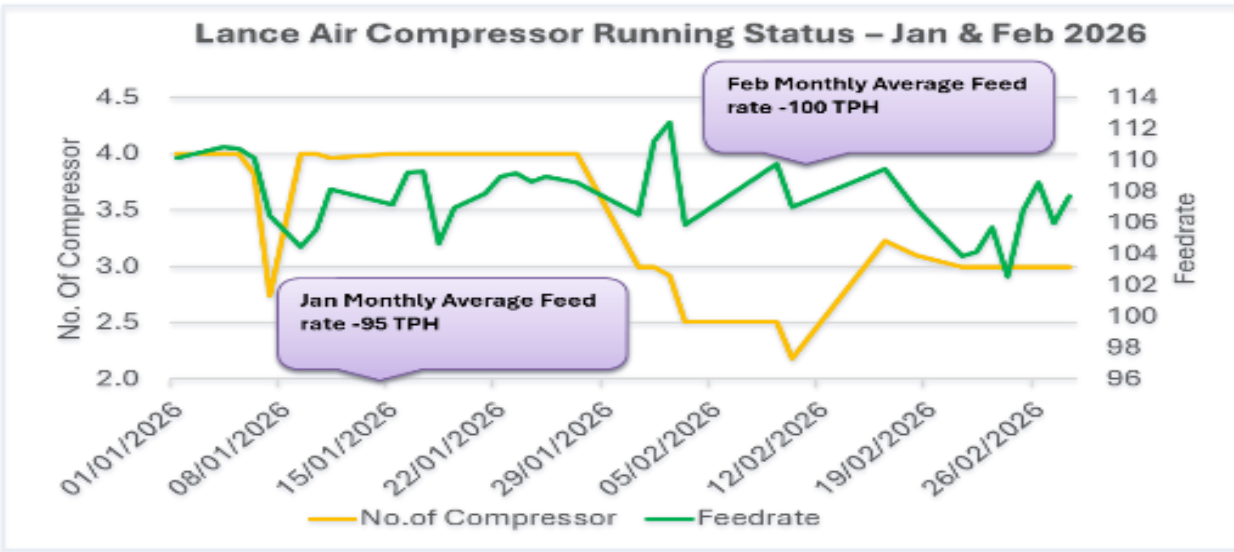
Operational
transparency

Energy Intensive KPI
Mapping

Gap Identification and
Optimization

Solution

Compressor Efficiency Enhancement



Operating with **3 compressors** at an average **feed rate of 100 TPH.**

Lower SEC Variability

Three compressors reduce SEC variability

Energy Reduction

SEC reduced from 0.077 to 0.075 kWh/Nm³

3.09% Efficiency Gain

Improved overall compressor efficiency

Significant Savings Annually

From Data to Decisions: In Action

Use case # 1 : Asset Performance
Boosting Compressor Efficiency

➡ Use case # 2 : Integrated Operations
Rectifier Performance Optimization

Use case # 3 : Intelligent Enterprise
RE RTC Monitoring



Rectifier Performance Optimization

Challenge

High spurious tripping

Difficulty in fault differentiation

Operational reliability



End to end signal traceability

Separation of genuine faults to sensor malfunctions

Rectifier health index & benchmarking

Targeted design & logic improvements

Solution

Results

Availability Improved (~+1–2%)

Tripping Count zero in Fy 26

Downtime Reduced 62 Hrs/Yr

Enterprise Design Influence

From Data to Decisions: In Action

Use case # 1 : Asset Performance
Compressor Efficiency Enhancement

Use case # 2 : Integrated Operations
Rectifier Performance Optimization

➡ **Use case # 3 : Intelligent Enterprise**
RE RTC Monitoring



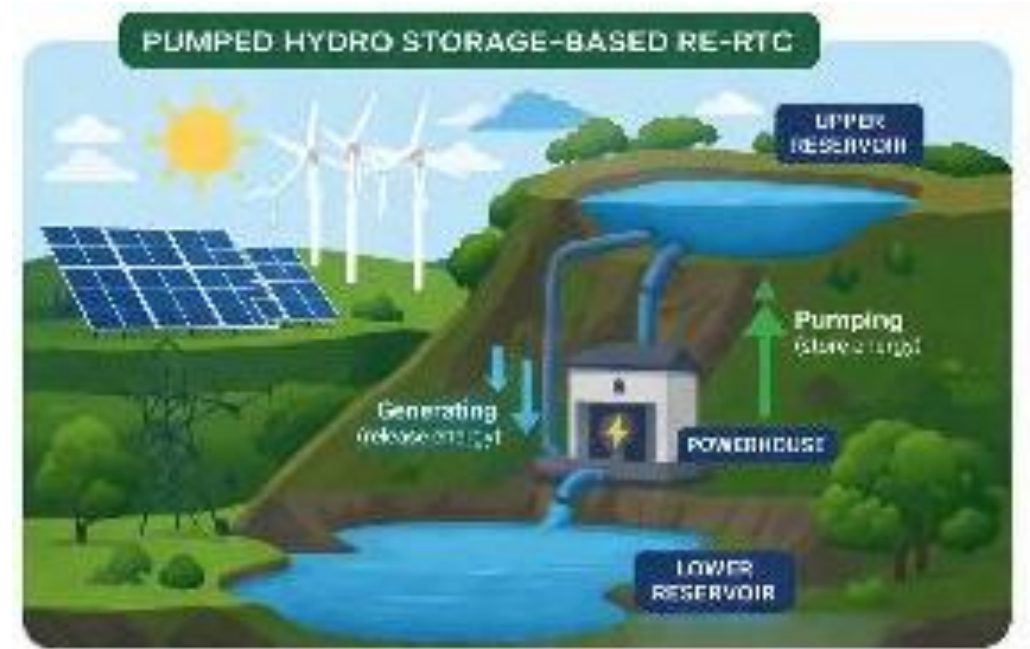
RE RTC Monitoring



Reduction in carbon footprint

First 30MW solar plant integration with CPP & Aluminum Smelter

Green House Gas Reduction



100 MW RTC Renewable power decarbonizing 14–15% in 1 Smelter.

Transforming PI — Making It a Way of Life

Four strategic initiatives driving PI integration across the enterprise — embedding data-driven decisions as a way of life

01

Integrating Way of Working

- PI embedded into daily plant operations and standard workflows
- Data-driven decision-making at every level — from shift supervisors to plant heads
- PI dashboards integrated into morning review meetings and shift handovers
- Seamless integration with ERP, MES, and other enterprise systems

02

Use Case Mindset

- Identifying high-impact use cases across the value chain
- Proving ROI through pilot success stories before scaling enterprise-wide
- Driving adoption by demonstrating tangible plant-level benefits
- Building a structured pipeline of analytics opportunities aligned to business priorities

03

Build Internal Capability

- Structured training programs for data literacy across all plant roles
- Cross-functional teams empowered to build and own analytics solutions
- Upskilling domain experts to become citizen data analysts
- Reducing dependency on external partners through internal centers of excellence

Transforming with platform : *Making It a Way of Life*

Integrating Way
of Working

Use Case
Mindset

Build Internal
Capability

Embedding PI into the DNA of daily plant operations

Morning Reviews & Shift Handovers

PI dashboards are the first screen in every review meeting, replacing paper-based with real-time visibility

Proactive Alerts & Monitoring



Standard Operating Procedures

SOPs now include PI data checkpoints

Enterprise System Integration

Seamless connectivity with ERP, MES, a

Cross-Plant Benchmarking

Best practice sharing and performance comparison

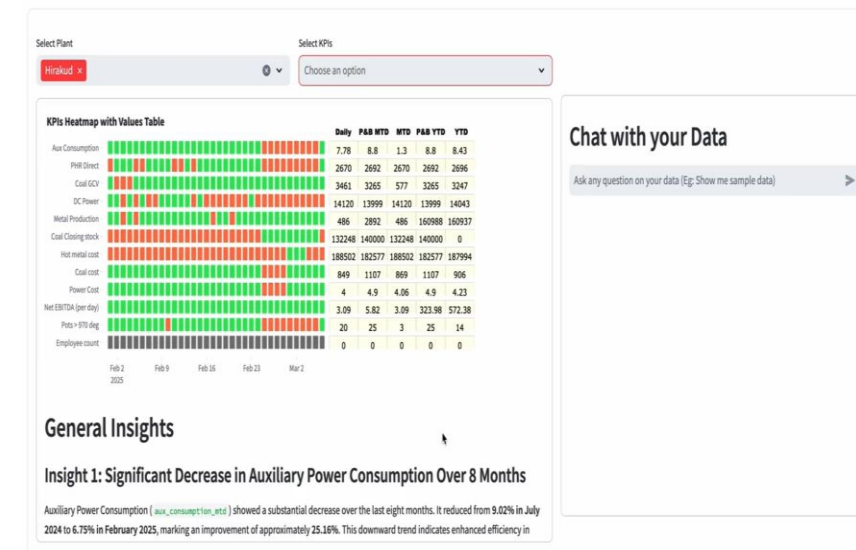


● In Action

● In Progress

AI Based Factory Intelligence

Good afternoon, Purnesh.



Transforming with platform : *Making It a Way of Life*

Integrating Way
of Working

Use Case
Mindset

Build Internal
Capability

Driving adoption through high-impact, ROI-proven analytics use cases

Value Chain Pipeline

Structured use case identification maps analytics opportunities from bauxite mining to Aluminium production

Business-First Approach

Every use case starts with a clear problem statement and measurable KPI — ensuring tangible ROI from day one

Cross-Functional Teams

Domain experts, data scientists, and plant engineers collaborate together for maximum use case impact

75+

Analytics use case in pipeline
High-value use cases improving bottom-line

Pilot-First, Scale Later

Prove value at one plant, validate results, then scale enterprise-wide with confidence and buy-in



Success Stories Drive Momentum

Compressor Energy Optimization saving—
building confidence and inspiring new ideas

Transforming with platform : *Making It a Way of Life*

Integrating Way
of Working

Use Case
Mindset

Build Internal
Capability

Creating a digitally savvy workforce that owns the analytics journey

Mass Capability Building (DISHA)

Structured training programs for plant personnel across all roles — from operators to plant managers



Citizen Data Scientists

Domain experts upskilled to build their own dashboards and advanced analytics – Cohort of 60+ Citizen Data Scientists



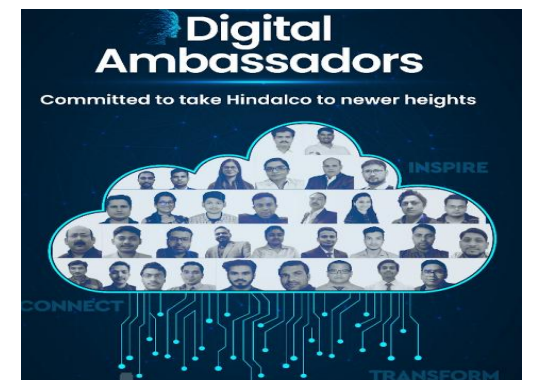
"Digital First Mindset" for Middle Managers

Driving shift in decision-making from experience-led to data-led approaches — empowering managers to leverage analytics in daily operations



Digital Ambassadors

Digitally savvy engineers driving the transformation from the front — acting as data translators between plant operations and analytics teams



Great Interaction With You



Avinash Maity

Lead Automation and
Digitalization



Salman Hussain

Lead – Digital Transformation
Upstream and Logistics



Kiran Shetty

Head – Digital Transformation



Thank you

Democratized Data, Faster Decisions, Better Performance—at Scale

Challenge

- Diverse, multi-site operations (legacy to modern plants) made standardization and scale difficult
- Siloed OT / lab / quality data limited transparency, slowing consistent, day-to-day decisions
- Reactive operations issues (energy variability, spurious trips, reliability) reduced efficiency and uptime

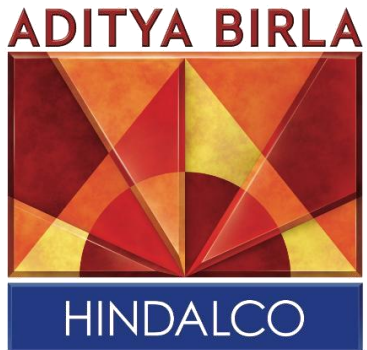
Solution

- Standardize on AVEVA PI System as the enterprise data management platform (real-time ingestion + contextualization), with PI Vision dashboards, automated reporting, and alerts—embedded into shift handovers, reviews, and SOPs
- Enable a use-case pipeline for analytics at scale (asset performance + integrated operations + sustainability/RTC monitoring)

Results

- **Scaled visibility & adoption:** 495,000 data points streamed, 700+ OT assets connected, 690+ live dashboards, 100+ reports automated, 570+ events/alerts generated
- **Operational wins:** Compressor SEC reduced 0.077 → 0.075 kWh/Nm³ (3.09% efficiency gain) and lower variability; Rectifier availability +1–2%, tripping zero in FY26, downtime reduced 62 hrs/yr
- **Business & sustainability impact:** Enabled enterprise-wide value delivery with 2–3% EBITDA improvement ambition; 100 MW RTC renewable supporting 14–15% decarbonization in one smelter





Thank You

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