

# Nimbly Responding to Shifting Demand Levers



## Manufactured Capital

### KEY HIGHLIGHTS

|                      |    |                                                      |                 |
|----------------------|----|------------------------------------------------------|-----------------|
| Manufacturing Plants | 48 | Total Alumina Production                             | 3.78 million MT |
| Operational Mines*   | 17 | Aluminium Extrusion Production (19.65% Y-o-Y Growth) | 90 KT           |
| Novelis plants       | 29 |                                                      |                 |

\* The details provided are for India operations

### LINKAGES

#### Capital Linkages

|                      |                                 |
|----------------------|---------------------------------|
| Financial Capital    | Human Capital                   |
| Natural Capital      | Social and Relationship Capital |
| Intellectual Capital |                                 |

#### Strategic Priorities

- SP-2** Scaling up Upstream though Doubling-down on Capacities
- SP-3** Scaling up Downstream through Portfolio Enrichment (Non-LME linked)
- SP-4** Strong ESG Commitment, Culture and Digital

#### Material Topics

- MT** Economic Performance & Market Growth

#### Key Risks and Opportunities Addressed

- R3** Increased focus on decarbonisation
- R4** Supply chain risks
- R5** Price volatility of commodities (aluminium, copper)
- R6** Changes in regulatory requirements
- R9** Increased import of aluminium
- O1** Rising demand for aluminium and copper products
- O3** Recycling and circular economy
- O4** Emerging applications for specialty alumina

#### Contribution to SDGs



Our manufacturing capabilities continue to expand in scale and complexity across upstream and downstream operations via greenfield as well as brownfield projects. We believe that our increased manufacturing strength will place us in a favourable position to respond to newer demand shifts, as global markets transition on the basis of circular economy principles.

Apart from increasing in breadth of operations, our manufacturing systems are increasing in depth, by nimbly responding to the needs of the industry be it railways or EVs, with targeted upgradations to our systems. Our large-scale growth in capacities is aided by specialised plant-level initiatives adding agility to our operations.

This also enables us to strengthen our downstream portfolio through value-added products and scale operations across high-growth segments, supported by improving product mix and premiumisation, while aligning with our ambition of delivering a fourfold increase in downstream EBITDA by FY 2030.

We are also making a decisive shift towards smart manufacturing, with digitalisation helping us manage the growing complexity of operations across processes and geographies.

Focus Areas

- ⊕ Expansions in aluminium, specialty alumina and copper
- ⊕ Driving operational excellence
- ⊕ Process digitalisation
- ⊕ ESG integration across the value chain



Production Overview

Production Capacities

3.81 Mn MT

Alumina

0.56 Mn MT

Specialty Alumina

0.42 Mn MT

Copper Cathodes

4.3 Mn MT

Novelis Rolling Capacity

1.34 Mn MT

Aluminium Upstream (Primary Metal)

0.60 Mn MT

Aluminium Downstream (VAP)

0.54 Mn MT

Copper Continuous  
Cast Rods (CCR)

Our capacities combined with capabilities, are built on the trust that our stakeholders have placed in us. With our expansions, improvements and upgrades; we aim to prove our capabilities in an ever-evolving market with multifarious requirements.

Structural Shifts in Demand

The demand outlook for aluminium, copper, and specialty materials remains strong. It is driven by structural shifts such as renewable energy expansion, electric mobility, infrastructure development; and increasing adoption of circular and low-carbon solutions across the globe.

We are strengthening our production capabilities across upstream and downstream operations by enhancing asset utilisation, expanding value-added capacity, embedding digital and process innovations. We are well-positioned to meet evolving customer requirements, with a growing focus on recycling and resource efficiency. Our globally diversified presence through Novelis, also provides us a larger canvas to react to shifts in demand.

Aluminium Business:  
Aligned to Demand Levers

Our Aluminium business is built on a fully integrated value chain spanning bauxite mining, alumina refining, aluminium smelting, and downstream manufacturing. It enables the production of primary aluminium as well as a wide range of value-added products. As India's only fully integrated aluminium player and one of the largest downstream aluminium producers in the country, we have established strong capabilities across the value chain, enabling us to deliver differentiated, application-led solutions and move closer to end customers. Our portfolio includes alumina, aluminium ingots, billets, wire rods, and high-value downstream products such as flat rolled products, extrusions, and foils.

We are also expanding our presence in engineered products, strengthening our ability to deliver customised, higher value-added solutions across diverse end-use segments. Our advanced application-led solutions cater to sectors like mobility, renewable energy, packaging, and infrastructure.

Eternia, our new-age façade and fenestration brand, reflects our focus on reaching end consumers directly through customised solutions. It combines advanced design with proprietary alloys, while strengthening brand presence across the downstream portfolio.

We are steadily strengthening our manufacturing base through brownfield expansions, productivity enhancements, and technology upgrades across upstream and downstream operations. It is aligned with growing domestic and global demand, particularly from infrastructure development, energy transition and electric mobility.

Copper Business: Focus  
on Application-Oriented  
Solutions

Our Copper business comprises two smelters and three continuous cast rod (CCR) facilities, with an installed capacity of 420 KTPA of copper cathodes and 540 KTPA of CCR. It is supported by dedicated R&D capabilities through the Aditya Birla Science and Technology Centre (ABSTC). Our integrated copper smelting complex at Dahej, Gujarat is one of the world's largest custom copper smelting complexes. The business plays a critical role in supporting the global energy transition, given copper's essential role in electrification, renewable energy systems, and electric mobility.

Our product portfolio includes copper cathodes, CCR rods across multiple sizes and alloys; precious metals like gold and silver; with an increasing focus on downstream and application-oriented solutions.

We are advancing a brownfield-led expansion strategy focused on operational excellence, cost competitiveness, and portfolio diversification. This includes scaling downstream capabilities in high-growth segments such as copper tubes, battery-grade copper foils, and specialised copper alloys, alongside investments in digitalisation, energy efficiency, and process optimisation.

Circular Capability development is a key element of the strategy as it includes India's first integrated copper scrap and e-waste recycling facility. It aims to improve metal recovery, reduce dependence on primary resources, and support responsible resource management. These initiatives align our long-term growth ambitions with ESG priorities, strengthening the Copper business as a future-ready, efficient, and sustainable platform.

Specialty Alumina:  
Accelerating Higher Value-  
Added Specialty Grades

We continue to be one of India's leading manufacturers of specialty alumina, with integrated refining and downstream manufacturing facilities at Belagavi in Karnataka and Muri in Jharkhand. We are supported by in house carbon manufacturing, a newly commissioned precipitated hydrate plant, and dedicated R&D through the Hindalco Innovation Centre at Belagavi.

Leveraging alumina's versatile properties, our specialty product portfolio caters to a wide range of end use applications across refractories, ceramics, abrasives, flame retardants, water treatment, electrical and electronic applications, lithium ion batteries, semiconductors, and other advanced industrial uses.

Strong growth in end use sectors such as energy storage, electronics, advanced ceramics, and electric mobility continues to drive demand for specialty alumina; particularly in the domestic market. Export opportunities are also expanding through increased global presence. We are accelerating the conversion toward higher value added specialty grades, including precipitated hydrates and white fused alumina; supported by focused new product development, digitally enabled process improvements, and sustainability led manufacturing practices.

Novelis: Deepening Circular Manufacturing Model

Novelis continues to be the world’s largest producer of flat rolled aluminium products and the world’s largest recycler of aluminium, with a rolling capacity of 4.3 million MT and 29 operating facilities across nine countries on four continents. Its manufacturing footprint spans North America, South America, Europe, and Asia, producing aluminium sheet, plate, and light gauge products for packaging, automotive, transportation, aerospace, electronics, architectural, and industrial markets. Recycling operations are embedded in 14 facilities, enabling the use of post consumer aluminium such as used beverage cans, as well as post industrial scrap, as key inputs into production.

Aligned with Novelis’ Vision 3x30, the business continues to deepen its circular manufacturing model by increasing recycling inputs, improving asset utilisation, and standardising manufacturing processes through the Novelis Operating System (NOS). These initiatives reinforce Novelis’ leadership in circular and low-carbon aluminium solutions, while enhancing global competitiveness and supporting long-term value creation.



Enabling Growth While Building Resilience

The global operating environment continues to be uncertain due to geopolitical developments, evolving trade dynamics, and volatility in commodity and energy markets. At the same time, structural shifts such as the energy transition, electrification, urbanisation, and a renewed focus on circularity are reshaping demand patterns across materials and manufacturing. Amid these changes, India’s domestic growth outlook remains resilient, supported by strong infrastructure investment, rising manufacturing activity; and sustained demand across mobility, construction, and energy sectors.



Aditya Aluminium is a smelter-power plant complex located in Lapanga, Sambalpur, Odisha

Against this backdrop, demand for aluminium, copper, and value-added alumina products continues to strengthen, driven by increasing adoption across power transmission, renewable energy, electric vehicles, electronics, and advanced industrial applications. We are well positioned to respond to these opportunities, supported by a disciplined expansion roadmap focused on capacity augmentation, portfolio enrichment, cost competitiveness, and sustainability-led growth. Through targeted investments across upstream, downstream, and recycling-based operations; we are strengthening our role as a reliable enabler of industrial growth while building long-term resilience into our manufacturing footprint.

Production of key products across aluminium and copper at Hindalco from FY 2022-23 to FY 2025-26 (Kilo MT)

| Segment              | Parameter                        | FY 2022-23 | FY 2023-24 | FY 2024-25 | FY 2025-26 |
|----------------------|----------------------------------|------------|------------|------------|------------|
| Aluminium Upstream   | Total Alumina                    | 3,525      | 3,665      | 3,857      | 3,784      |
|                      | Primary                          | 1,322      | 1,331      | 1,323      | 1,336      |
| Aluminium Downstream | Flat Rolled Products             | 287        | 295        | 336        | 369        |
|                      | Extrusions                       | 64         | 72         | 75         | 90         |
|                      | Foils*                           | 29         | 26         | 30         | 34         |
| Copper               | Copper Cathodes                  | 407        | 368        | 402        | 420        |
|                      | Copper Continuous Cast Rods      | 409#       | 488#       | 472#**     | 467#       |
| Novelis              | Flat-Rolled Products (Shipments) | 3,790      | 3,673      | 3,757      | 3,557      |

\* Part of Flat Rolled Products

\*\* The production number of FY 2024-25 has been revised due to rectification in the number of fixed term contract volumes.

# Inclusive of contract manufacturing

Strengthening Upstream Aluminium Operations

During FY 2025-26, we strengthened our aluminium and alumina upstream operations through a structured portfolio of brownfield and greenfield expansion projects.

Key initiatives:

- + Development of the Aditya Alumina Refinery with a capacity of 850 KTPA along with Captive power plant of 60 MW, which is expected to commence commissioning from FY 2027-28, strengthening backward integration and ensuring long-term alumina security.
- + Progressing the Aditya Smelter Expansion in two phases, adding approximately 181 KTPA (Phase 1) and 193 KTPA (Phase 2), power requirement will be catered by new 450 MW captive power plant and RE power; with commissioning targeted in FY 2027-28 and FY 2028-29 respectively. These expansions are expected to double the metal production capacity at Aditya Aluminium, while maintaining operational efficiencies at levels comparable to current performance.
- + To support large-scale renewable power integration, we are upgrading grid connectivity at both the units from 220 kV to 400 kV. In addition, conceptualisation and study for upgradation of grid connectivity from 220 kV to 400 kV at Renukoot plant is under progress to strengthen power system. Alongside, we are planning another 200 MW RTC renewable power project for the Aditya smelter, targeted for completion by FY 2027-28.

Progress across these projects is supported by advanced engineering, procurement, and disciplined execution frameworks; with strong governance oversight to ensure



Belgavi plant manufactures over 120 different grades of Specialty Alumina and Hydrates

adherence to timelines, cost control, and operational readiness.

These expansion initiatives are expected to strengthen our upstream integration, improve cost competitiveness, and support the development of a resilient, future-ready aluminium manufacturing base aligned with long-term market demand.

Strengthening Upstream Copper Operations

We are advancing our Copper business on a strong growth trajectory, supported by a well-defined expansion roadmap focused on scale, circularity, and technological leadership.

During FY 2025-26, we continued to progress our upstream copper growth agenda through a focused portfolio of brownfield and greenfield expansion projects aimed at enhancing capacity.

**Strategic initiative:** The development of a new ~300 KTPA copper cathode smelter (Copper

Smelter-V) will incorporate state-of-the-art smelting technology, and superior metal recovery systems. Engineering activities for this project are currently underway, with statutory approvals in progress.

**Recycling:** We are progressing India’s first integrated copper scrap and e-waste recycling facility, with an initial capacity of 50 KTPA, scalable to 200 KTPA. The project is at an advanced stage of execution, with production expected to commence in FY 2026-27. This facility will enable recovery of copper and other high-value metals from secondary sources, significantly strengthening our circular economy capabilities.

These upstream expansion initiatives are expected to enhance our smelting capacity, strengthen resource efficiency, and support long-term growth aligned with rising demand from electrification and the global energy transition.

Strengthening Novelis Operations

We continue to strengthen our global manufacturing platform through ongoing investments focused on enhancing rolling capacity, expanding recycling capabilities, and improving asset productivity across our network.

During FY 2025-26, we directed our efforts towards debottlenecking existing facilities, optimising asset utilisation, and scaling recycling inputs; supported by targeted investments in rolling and recycling operations. This approach enables us to improve throughput, enhance operational efficiency, and respond effectively to evolving customer demand across packaging, automotive, aerospace, and specialty markets.

A key priority remains strengthening our circular manufacturing model by increasing the use of recycled aluminium, including post-consumer inputs such as used beverage cans and post-industrial scrap. Through continued investments in recycling infrastructure and closed-loop systems with customers, we are enhancing recycled content and reducing dependence on primary aluminium production.

Key Milestones:

- + We completed a US\$50 million debottlenecking investment at our Pindamonhangaba (Pinda) facility in Brazil, unlocking the full 70KTPA of rolling capacity.
- + We completed a US\$150 million debottlenecking investment at Logan, Kentucky, unlocking 80 KTPA of finished goods capacity. We are also investing US\$130 million at our Oswego, New York plant to unlock an additional 65 KTPA of rolling capacity. This project, originally planned for commissioning in FY 2025-26, has been delayed due to fire incidents at the plant. Details of these incidents

are provided in the Human Capital section of the report.

- + In Europe, we are expanding our recycling operations with a US\$90 million investment at the Latchford facility in the UK, which is expected to double its used beverage can (UBC) recycling capacity by FY 2026-27. This expansion supports our target of achieving 75% recycled content by FY 2029-30.

Our expansion strategy emphasises standardisation of manufacturing processes, flexibility to meet regional market requirements, and disciplined capital allocation. These initiatives are strengthening productivity, improving cost competitiveness, and enhancing operational resilience across our global footprint. Aligned with Vision 3x30, our continued focus on capacity optimisation, recycling growth, and circularity reinforces our leadership in low-carbon aluminium solutions while supporting sustainable, long-term value creation.

Strengthening Specialty Alumina Operations

We are strengthening our specialty alumina business through a focused expansion strategy centred on value-added products, portfolio transformation, and capacity augmentation in high-growth applications.

Key Milestones:

- + During FY 2025-26 the Precipitated Hydrate (PPT) plant at Belagavi was commissioned, with a capacity of 20 KTPA. This expansion marks a strategic shift towards high-margin, application-specific products catering to segments such as flame retardants, wire and cable, and advanced materials.
- + We continue to progress the expansion of our specialty product portfolio through new plant developments, including the planned White

Fused Alumina facility. These investments are aligned with our strategy to increase the share of non-metallurgical and value-added alumina products; enabling improved margins and enhanced market positioning across advanced industrial applications.

- + Ongoing conversion of existing alumina capacities towards specialty grades at Muri is supporting a structural shift in the product mix towards higher-value applications, including ceramics, refractories; and emerging sectors such as semiconductors and energy storage.

Strengthening Aluminium Downstream

We are strengthening our aluminium downstream business through targeted investments that expand manufacturing capabilities, enhance product quality, and support the growth of value-added applications.

Our extrusion business re-emphasised its ambition to expand its presence in value-added segments through differentiated, customer-centric products and solutions. Supported by robust quality management systems and BIS certifications, the business continues to strengthen its commitment to customers.

Key Milestones:

- During FY 2025-26, we undertook a series of capacity expansion and modernisation initiatives across our downstream footprint.
- + We commissioned the Aditya FRP 2A mill during the year, adding 170 KTPA of capacity and scaling up the total downstream footprint to ~600 KTPA from ~430 KTPA earlier, an increase of ~16%. This expansion significantly strengthens our ability to address rising domestic and global demand for flat rolled products, while enhancing

market share and reducing import dependence in critical segments such as packaging, consumer durables, auto, and industrial. The incremental capacity also improves domestic availability of FRP and extrusions, enabling us to capitalise on growth opportunities across high-end applications and deepen our presence in value-added segments.

- + During FY 2025-26, production at the Aditya facility was scaled up, and the battery enclosure unit reached full operational capacity. We also commissioned the battery foil unit at Aditya, which will utilise feedstock from the FRP operations. The Aditya foil facility is positioned to cater to high-growth segments such as electric mobility and aseptic packaging, further strengthening our capability to serve global customers and reinforcing our position as a reliable supplier of advanced foil solutions.
- + At Hirakud, key installations including a 200 KTPA pusher furnace, high-capacity casting systems, dual-fuel melting and holding furnaces, soaking pit furnaces, and automated storage and retrieval systems; have significantly enhanced throughput, operational efficiency, and product quality.
- + At Taloja, Maharashtra, we commissioned a fully automated 26 KTPA fin coating line, supported by new annealing and finishing infrastructure. This project will manufacture high-efficiency, hydrophilic-coated aluminium fin stock under the PLI scheme, significantly reducing import reliance for domestic HVAC manufacturers.
- + In extrusion-led operations, we expanded our capabilities at Alupuram through a new post-extrusion facility incorporating ageing, precision cutting, laser marking, and flatness inspection. This investment enhances our readiness to deliver high-precision, application-specific solutions.

- + At Kuppam, we are scaling fabrication and machining capabilities through automated production lines and planned capacity additions; including vertical machining centres and process enhancements such as shot blasting and heat treatment systems. These initiatives are expected to significantly improve production capacity, product quality, and operational efficiency.

Co-creating Innovative Solutions

In line with our sustainable and environmentally responsible growth approach, we continued to co-create innovative solutions addressing evolving customer needs across automotive, electronics, and industrial segments supporting future growth opportunities.

The extrusion business collaborated closely with manufacturers across automotive and electronics sectors, resulting in the development of several application-specific products. These include safety-critical ABS blocks for two-wheelers and four-wheelers supplied from fully automated lines at the Kuppam facility; battery boxes and battery trays for electric vehicles from Kuppam and Silvassa; and Battery Energy Storage System (BESS) extrusions with protective surface coatings from Silvassa.

We also strengthened capabilities in fabricated and engineered

products, including specialised electronic components manufactured at Alupuram for consumer electronics applications, and high-precision automotive and industrial components enabled by advanced machining infrastructure at Renukoot, including CNC, VMC, and 5-axis machines.

These solutions are being supplied to multiple OEMs across the country, offering competitive alternatives to imports and contributing to the development of a more self-reliant manufacturing ecosystem

Strengthening Downstream Copper Operations

We are expanding our copper downstream portfolio through focused investments in value-added product segments.

Key Milestones:

- + During the year, we commercialised India's first integrated Inner Grooved Copper Tube facility, supporting domestic demand in HVAC and refrigeration applications and reducing import dependence.
- + Advancing into high-growth segments such as battery-grade copper foils and specialised copper alloys (Cu-Ag and Cu-Mg) to address emerging opportunities in electric vehicles and energy storage systems.



At the event of India's first inner-grooves tubes manufactured at our Baroda facility

Integrated and Robust Management Systems

Our integrated management systems across manufacturing locations continue to support operational consistency, product quality, and compliance with global and regulatory standards. Across aluminium and specialty businesses, facilities operate with certified management systems covering quality, environment, and occupational health and safety, supported by structured governance and monitoring practices.

All major manufacturing sites operate under integrated management systems aligned with ISO standards, ensuring consistency in quality, environmental management, and occupational health and safety practices across operations. Multiple sites are also certified under ISO 50001 for energy management, reflecting a structured approach towards improving energy efficiency and resource optimisation.

Within aluminium upstream operations, all laboratories are NABL accredited under ISO/IEC 17025, ensuring competence in testing and calibration, while ISO 9001 certification is maintained as part of the Integrated Management System (IMS). In the Chemical business, the ISO 50001:2018 Energy Management System certification, received in April 2026, reflects a focused approach toward energy efficiency and resource optimisation.

All extrusion units are certified to Bureau of Indian Standards (BIS) and are supported by multiple global certifications depending on product applications. These include IATF 16949 for automotive quality standards, AS9100D for aerospace applications, CE certification, ASI certification, DNV-GL, Qualicoat, QMEA, and NABL certification for testing and calibration.

This multi-certification framework enables us to cater to a wide range of specialised applications across automotive, aerospace, electronics, and industrial segments, while driving product differentiation and strengthening our position as a quality leader across markets.

Our strong certification backbone, coupled with robust quality management systems, provides a competitive advantage, enabling premium realisations across key segments.

In addition, our state-of-the-art surface coating facilities at Kuppam, Silvassa, and Alupuram provide integrated capabilities across the value chain, offering customers the flexibility of a single-source supplier for value-added extrusion solutions.

Enterprise-wide risk management frameworks further strengthen manufacturing resilience. We operate a robust Enterprise Risk Management (ERM) system that integrates operational, financial, regulatory, ESG, and strategic risks into decision-making, particularly for large capital investments. At Novelis, ERM is run through a structured, quarterly process addressing short, medium, and long-term risks across operations, supply chains, cybersecurity, human capital, and major external disruptors.

These certifications across sites reflect our continued focus on maintaining rigorous management systems, ensuring product-specific compliance, strengthening sustainability practices; and enhancing operational reliability across manufacturing operations.



Operational Excellence: Building a Future-Ready Manufacturing System

We continue to strengthen our focus on operational excellence through a structured approach that integrates efficiency, innovation, sustainability, and risk-aware decision-making across our manufacturing operations. Our efforts are aligned with a clear value-creation roadmap across short, medium, and long-term horizons ranging from stabilisation and asset optimisation to building a future-ready, low-carbon and resilient manufacturing base.

Operational excellence is driven through a combination of process standardisation, digitalisation; and continuous improvement initiatives across upstream and downstream operations. During the reporting year, multiple process optimisation and debottlenecking initiatives were implemented to enhance productivity, improve asset reliability, and reduce specific energy consumption. These included improvements in smelting operations such as amperage optimisation and energy efficiency measures, as well as deployment of advanced monitoring systems and analytics platforms to strengthen real-time decision-making.

Digital technologies and data-driven tools played a critical role in enhancing operational performance. Across businesses, we scaled the use of advanced process control systems, real-time performance dashboards, predictive and condition-based maintenance tools and automation platforms; enabling improved asset utilisation, reduced downtime, and greater process transparency. Structured maintenance frameworks such as the Stream-wise Maintenance Assessment and Execution Framework have enabled

standardisation of reliability practices across asset lifecycle management, shutdown planning, and shopfloor resource optimisation.

Our approach to operational excellence is closely aligned with sustainability and resource efficiency objectives. Key initiatives implemented during the year include improvements in metal recovery, water recycling and reuse, waste reduction, and enhanced by-product utilisation, helping reduce dependence on natural resources and improve process efficiency. Increasing integration of renewable energy and energy efficiency measures across operations supports our broader decarbonisation roadmap.

We continue to strengthen operational resilience through a robust ERM framework, which is integrated into decision-making across capital investments and operational processes. This enables proactive identification and mitigation of risks, including volatility in raw material and energy prices, ensuring continuity and stability in operations. Looking forward, our strategy for operational excellence is focused on scaling value-added manufacturing, enhancing cost competitiveness, and strengthening customer-centric capabilities, particularly in high-growth sectors such as renewables, electric mobility, infrastructure, and advanced materials. Through a continued emphasis on digitalisation, process innovation, and sustainability, we are building a globally competitive manufacturing platform.

Improving Reliability through Stream-wise Maintenance Assessments

As part of our Engineering and Maintenance Excellence initiative, we continued to institutionalise the “Stream-wise Maintenance

Assessment Framework”, which was introduced in FY 2024-25. This framework is designed to deepen the evaluation of core engineering, design, and maintenance practices across the Mechanical, Electrical & Instrumentation (E&I), and Civil & Structural (C&S) streams. Our objective is to identify improvement opportunities, strengthen reliability, and drive standardisation across our aluminium upstream operations, including smelters, power plants, and refineries.

The framework focuses on seven key engineering areas: safety; adequacy of engineering and maintenance checks; implementation of engineering and corrective actions; validation of equipment care through equipment history; risk-based maintenance strategies; spares classification, inventory, and preservation norms; and the application of digital and predictive analytics.

During the reporting year, we strengthened the framework through a structured classification of assets into “Unique Equipment Groups” and “Common Equipment Groups”; enabling targeted and consistent assessments of mission-critical equipment. These assessments are conducted alongside the Maintenance Strategy and Execution Framework (MSEF 2.0), ensuring a comprehensive evaluation of both technical practices and system-level processes.

We conducted these assessments through cross-functional taskforces comprising subject matter experts from multiple units. This collaborative approach enables deeper insights into engineering practices while promoting cross-pollination of best practices across plants. During FY 2025-26, we implemented the framework at scale across all aluminium upstream units, with focused attention on areas such as civil and structural integrity, shutdown management, and predictive maintenance.

These efforts have enabled us to establish baseline reliability scores across units and roll out standardised engineering guidelines. We observed significant improvements in maintenance planning and execution, including better compliance during major overhauls and shutdowns. We strengthened predictive maintenance practices through expanded deployment of condition-based monitoring systems, covering over 500 critical assets.

At Novelis, we are focused on optimising our manufacturing and recycling operations to enhance asset utilisation and productivity. At the core of this approach is the Novelis Operating System (NOS), a standardised global framework based on the principles of world-class manufacturing, designed to meet the specific requirements of aluminium rolling and recycling operations. By operating under a common global manufacturing system, we aim to improve predictability, reduce variability, and deliver consistent outcomes, dependable quality, and resilient supply chains for our customers.

Overall, the Stream-wise Maintenance Assessment Framework has improved the consistency and effectiveness of our maintenance and reliability systems, strengthening asset lifecycle management, performance monitoring, and shopfloor execution. This contributed to enhanced equipment uptime, improved operational stability, and long-term reliability across our upstream operations. With the success of streamwise audit for reliability, Audit for Operational and Process control will be started from FY 2026-27.

Productivity Increase at Mahan and Aditya Aluminium Smelters

♥ **Challenge:** As demand for aluminium continues to grow, we identified the need to enhance productivity from existing smelters while maintaining process stability,

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equipment integrity, and operational safety. Increasing line current offered a viable pathway without compromising pot health or process balance.

🔗 **Initiative:** We implemented a structured initiative to gradually increase operating line current across our Mahan and Aditya smelters. The approach involved a carefully phased ramp-up, maintaining thermal balance and stable operating conditions within the potrooms. Key process parameters including temperature, bath chemistry, metal levels, and stability indicators were continuously monitored; while anode design adjustments ensured consistent current density and efficient electrolysis.

➡ **Outcome:** Both smelters achieved higher operating currents reaching averages of 377.4 kA at Mahan and 373.6 kA at Aditya leading to improved aluminium output and enhanced asset utilisation. The initiative also strengthened pot stability and process reliability, establishing a scalable model for future productivity enhancement across our smelting operations.

### Specific Energy Reduction at Aditya, Mahan, and Hirakud-235 kA Smelters

🔗 **Initiative:** A structured energy-efficiency initiative was implemented across the Aditya, Mahan, and Hirakud 235 kA aluminium smelters to reduce specific energy consumption (DC kWh/t of aluminium); through improved process optimisation and operational efficiency. It was driven through close collaboration among smelter operations, process and technology teams, maintenance functions, engineering and R&D groups, energy management teams, and plant leadership.

The programme focused on tighter process control and targeted technical interventions to enhance current efficiency and reduce operational

losses. Strict control over bath chemistry, operating temperature, and alumina feeding was implemented to minimise process variability. Current efficiency was further improved by reducing anode effects, optimising the anode-cathode distance (ACD), and lowering electrical losses across the system. Cathode lining design was optimised to reduce electrical resistance, improve thermal balance and enhance overall cell performance. Real-time monitoring and data analysis enabled faster corrective actions, while cross-plant benchmarking supported the identification and standardisation of best practices. Cross-functional execution ensured the sustainability and repeatability of the improvements achieved.

➡ **Outcome:** All the three smelters recorded sustained reductions in specific energy consumption over the period. At Aditya, specific energy consumption reduced from 13,398 DC-kWh/t in FY 2022 to 13,217 DC-kWh/t in FY 2026, while Mahan achieved a reduction from 13,408 DC-kWh/t to 13,347 DC-kWh/t over the same period. At Hirakud’s 235 kA smelter, specific energy consumption improved from 13,814 DC-kWh/t in FY 2022 to 13,563 DC-kWh/t in FY 2026. The initiative also delivered improved process stability, higher current efficiency, and reduced operational losses.

### Zero Liquid Discharge (ZLD) Implementation at Hirakud Captive Power Plant (CPP) and Smelter Complex

♥ **Challenge:** With increasing pressure on water resources and evolving regulatory expectations, we recognised the need to strengthen water stewardship at our Hirakud Captive Power Plant and Smelter Complex.

🔗 **Initiative:** During FY 2025-26, we implemented a phased ZLD programme combining operational optimisation, targeted infrastructure investments, and digital monitoring. Initial efforts focused on strengthening water management practices and reducing losses, followed by installation of a 190 m³/hour reverse osmosis system, tube settlers for surface water recovery, expanded sewage treatment capacity, and extensive runoff capture infrastructure. Digital controls were deployed to optimise blowdown management and minimise water losses through real-time monitoring and automation.

➡ **Outcome:** We achieved ZLD across all major water streams and reduced net raw water withdrawal by over 6,400 m³ per day. Specific water consumption improved significantly to 1.98 litres per kWh, while enhanced system reliability and water reuse have strengthened sustainable operations at the complex.

Net raw water withdrawal at the Hirakud CPP and Smelter Complex was reduced from 28,468 m³ per day in 2022 to 22,068 m³ per day, representing a reduction of 6,400 m³ per day, or 22.48%. Specific raw water consumption improved significantly to 1.98 litres per kWh, the lowest level achieved to date, with further improvement targeted through full stabilisation of the RO plant and clear make-up basin operations. All previously untreated CTBD volumes are now fully treated and recycled, and ZLD compliance has been achieved across all major water streams at the complex.

### Enhancing Sustainability through Fly Ash Rail Loading at Mahan

♥ **Challenge:** At Mahan Aluminium’s Captive Power Plant, the earlier semi-manual, road-based process involved multiple handling stages, open transportation, and stockpiling,

leading to fugitive dust emissions, safety risks, and high logistics costs. Over 75% of fly ash was transported through road bulkers.

🔗 **Initiative:** We implemented a first-of-its-kind, fully mechanised closed-loop silo-to-wagon loading system. The initiative involved reengineering the logistics layout by bringing the railway track adjacent to existing silos, significantly reducing conveying distance from 1 km to 25 metres. The system integrates drag chain conveyors, 250 MT buffer hoppers, ash conditioning, and PLC-based automation, loading wagons at 200-300 tonnes per hour at an optimised CAPEX, resulting in 60% cost reduction.

➡ **Outcome:** We eliminated road-based ash transport and dispatched over 46,000 tonnes via rail. The initiative led to a reduction in fuel consumption and emissions, minimised long-distance transportation requirements, and delivered tangible benefits.

### Upgradation of CCR-1 Plant for Production of Higher Diameter Copper and Copper-Silver Alloy Rods for Rail and Metro Applications

♥ **Challenge:** With increasing demand from rail and metro infrastructure for higher-diameter conductors, we identified a need to upgrade our CCR-1 facility to produce larger-diameter copper and alloy rods. The existing line was constrained to 19.6 mm, limiting our ability to participate in emerging high-specification applications and support national electrification requirements.

🔗 **Initiative:** During FY 2025-26, we undertook a comprehensive upgradation of the CCR-1 line to enable production of rods up to 26 mm, including copper-silver alloy variants. The initiative involved enhancements

to cooling systems to manage higher thermal loads, installation of additional pinch rolls for improved dimensional stability, and upgrades to the coiling system for consistent handling of larger rods. These changes were supported by process optimisation trials to ensure stable casting speeds, effective cooling, and uniform product quality.

➡ **Outcome:** We successfully expanded our product range and achieved stable production of 21 mm, 23 mm, and 26 mm rods meeting relevant railway and industry standards. This has strengthened our position in rail and metro segments, enhanced customer confidence, and enabled greater self-reliance in producing specialised conductors domestically.

### Advancing Smelter Productivity through Pilot-Scale Innovation at Mahan to reach 400kA

♥ **Challenge:** As we progress towards technological self-sufficiency, we identified the need to enhance smelter productivity and energy efficiency without significant capital investment or changes to existing pot design. This required validating innovative solutions capable of operating at higher amperages while maintaining process stability and energy performance.

🔗 **Initiative:** During FY 2025-26, we commissioned an in-house developed pilot section at our Mahan aluminium smelter to test advanced solutions, including booster rectifiers and a Magnetic Compensation Loop (MCL). The pilot section enabled controlled operation at higher line currents without disrupting existing potline operations. The initiative involved complex integration of new busbar systems, rectifier configurations, and synchronised pot control systems, to manage magnetic coupling and ensure safe energisation.

➡ **Outcome:** We successfully achieved stable operation at 385 kA, exceeding normal operating levels while reducing specific energy consumption by over 200 DC-kWh/t. The pilot has demonstrated the potential for incremental production gains of ~5,000 tonnes annually in the existing potline within a three month trial period. Further, trial is ongoing to reach 400 kA operation after modifying the pilot section pot to the new design. After proof-of-concept, the pilot section will facilitate future deployment across smelters, strengthening our in-house technological capabilities.

### Sustained Performance and Energy Efficiency in Upstream Power Plants

♥ **Challenge:** As we expanded upstream operations, we identified the need to improve energy efficiency and optimise performance across captive power plants at Aditya, Mahan, Hirakud, and Renusagar. Rising energy costs and the need for sustainable operations required focused efforts to reduce Plant Heat Rate (PHR) and Auxiliary Power Consumption (APC), while maintaining consistent and reliable power supply.

🔗 **Initiative:** Over the period from FY 2019-20 to FY 2025-26, we implemented a series of targeted initiatives across power plants aimed at improving efficiency and operational performance. These included process optimisation, improved monitoring of critical parameters, and strengthening operational discipline to reduce energy losses. Continuous tracking of heat rate and auxiliary consumption, supported by performance reviews and optimisation practices, enabled sustained improvement across plants.

➡ **Outcome:** Plant Heat Rate has reduced from 2538 kcal/kWh in FY 2019-20 to 2496 kcal/kWh in FY 2025-26, reflecting a net improvement of ~42 kcal/kWh. In parallel Auxiliary Power Consumption

reduced from 8.26% to 7.39% (10.53% decreased). These improvements enhanced overall plant efficiency, reduced energy consumption, and strengthened cost competitiveness, while creating a strong foundation for further optimisation through digital and analytics-led interventions.

Enhancing Material Handling Safety through AI Enabled Forklift Systems

💡 **Challenge:** As material-handling operations expanded in scale and complexity, we identified the need to strengthen forklift safety, reduce near-miss incidents, and enhance operational discipline across shop-floor logistics. Traditional monitoring mechanisms provided limited real-time visibility and were dependent on manual supervision.

💡 **Initiative:** During FY 2025-26, we implemented an AI-enabled forklift safety platform integrating 360° vision systems, human-detection sensors, reverse-warning mechanisms, and operator-presence controls. These technologies enable real-time hazard detection, improve operator awareness, and ensure that forklifts operate only under safe conditions. The system also enhances traceability of operations by capturing and analysing movement patterns, enabling proactive interventions and continuous improvement.

➡ **Outcome:** We achieved a significant reduction in forklift-related near-miss incidents and improved adherence to safety protocols. The initiative has enhanced load-handling accuracy, reduced unplanned downtime, and strengthened overall shop-floor safety performance. It establishes a scalable, technology-driven approach to material-handling safety.

Improving Extrusion Reliability through Vibration-Based Butt-End Detection

💡 **Challenge:** As extrusion operations scaled, ensuring complete removal of butt-ends became critical to maintaining product quality, preventing die damage, and avoiding unplanned press stoppages. Manual verification methods were prone to inconsistency, leading to partial shearing events that impacted reliability and operational efficiency.

💡 **Initiative:** During FY 2025-26, we developed and deployed a low-cost vibration-based Butt-End Clearing Detection System on the P11 extrusion press. The system captures vibration impact patterns generated when the butt-end drops, enabling the PLC to automatically determine whether the shear is complete or partial. This eliminates operator dependency and introduces a real-time, sensor-driven validation mechanism integrated into press operations.

➡ **Outcome:** We achieved over 98% accuracy in detecting butt-end clearance, significantly improving machine reliability and preventing quality defects and equipment damage. The solution reduced unplanned downtime while delivering high returns at minimal cost (<₹1 lakh). It also demonstrates the effectiveness of simple, scalable innovations.

Building Transport Segment Capability through Advanced Extrusion Development

💡 **Challenge:** As demand grew from the transport segment for high-strength aluminium profiles with stringent dimensional and surface requirements, we identified the need to strengthen our extrusion capabilities to meet evolving customer expectations. Supporting these applications required enhanced process stability, higher recovery, and consistent quality to cater to regular, large-volume orders.

💡 **Initiative:** During FY 2025-26, we developed specialised extrusion capabilities at our Silvassa facility by introducing new die designs, advanced 6xxx series alloys (including AA6082, AA6061L, and AA6005), and optimised process controls. Key interventions included refinement of die quality, strengthening press line health monitoring, modification of quench systems to maintain controlled temperatures, and deployment of precision cutting equipment for value-added short-length products. Operator training and stringent quality protocols, including crack testing and dimensional validation, were integral to ensuring consistent output.

➡ **Outcome:** We have successfully scaled production from 75 tonnes to 264 tonnes per month, improved productivity from 893 kg/hr to over 1,000 kg/hr, and increased recovery from 61% to 65%. This initiative has strengthened our position in the transport segment while enhancing product quality, operational efficiency, and customer satisfaction.

STRENGTHENING PERSONAL MOBILITY CAPABILITY THROUGH ADVANCED EXTRUSION AT SILVASSA

💡 **Challenge:** As demand from the electric vehicle segment increased, we identified the need to stabilise production of complex multi-mandrelaluminium profiles with stringent quality and mechanical property requirements. These applications required tighter process control, improved reliability, and enhanced metallurgical performance to meet evolving customer standards.

💡 **Initiative:** During FY 2025-26, we strengthened our extrusion capabilities at Silvassa to support personal mobility applications.

The initiative involved optimisation of die design for multi-mandrel profiles, development of advanced ageing cycles, and modification of quenching systems to achieve superior mechanical properties for AA6005 alloy. Enhancements such as controlled water quenching, extended natural ageing, press line health monitoring, and improved process protocols ensured consistent production quality. Operator training and structured process parameters further supported stable execution across presses.

➡ **Outcome:** We have achieved significant improvements in production scale, productivity, and recovery, with monthly volumes increasing from 197 tonnes to over 400 tonnes. Productivity improved by more than 50%, while recovery increased from 50% to over 70%. This initiative has strengthened our position in the EV segment, enhanced product quality, and enabled a reliable supply for critical customer applications.

STRENGTHENING EV ECOSYSTEM THROUGH STRATEGIC PARTNERSHIP

💡 **Challenge:** As the EV market in India scales up, OEMs are accelerating the localisation of critical systems such as battery enclosures, which require a combination of material expertise, structural integrity, and design flexibility, while meeting stringent performance requirements.

💡 **Initiative:** We worked with the customer on a joint development program for EV components, with regular engagement across teams, including daily coordination and cross-location interactions to align on design and execution. We supported the program through technical feasibility assessments (materials, dimensions, performance targets), inputs on extrusion design and alloy selection, and process definition including flow diagrams and plant layout simulations. The teams also worked jointly

on supplier identification and alignment (flow drill, and equipment suppliers). This was complemented by continuous design iterations based on manufacturing inputs, along with structured reviews and technical sign-offs leading up to industrialisation.

➡ **Outcome:** The collaboration led to the successful development and localisation of battery enclosures and structural components, progressing from concept to nomination within a year with strong quality and delivery performance. The program reflects a meaningful expansion of our role closer to the product and application level, while reducing import dependence and creating a scalable platform for future EV programs. It also demonstrates our ability to support OEMs with high-performance aluminium solutions tailored to evolving EV design requirements.



Building Smarter Operations through Digital Transformation

In FY 2025-26, we further advanced our digital transformation journey by embedding data-driven decision-making, automation, and advanced analytics across our manufacturing operations. Digital technologies are being integrated across upstream and downstream plants to improve operational efficiency, strengthen asset reliability and safety, and enable real-time visibility across processes.

Our digital portfolio now comprises over 300 initiatives across the value chain, reflecting the scale and depth of enterprise-wide adoption and its positive impact on operational priorities.

**Process Optimisation:** We have deployed an enterprise-wide Operations Data Platform across 12 upstream aluminium, copper, and refinery operations, enabling continuous data capture,

real-time dashboards, performance monitoring, and broader data access across operations. In downstream businesses, IIoT-enabled platforms are strengthening connected plant capabilities. Together, these platforms provide analytical tools that enable faster, data-driven decision-making and have become an integral part of operations.

**AL/ML In Operations:** We have implemented more than 50 AI/ML models this year, supporting plant performance improvements. Analytics-led operational excellence programmes, under initiatives such as Project Abhyudaya at Utkal, are leveraging AI/ML to optimise processes and improve production efficiency, yield, throughput, and energy management.

Digital Twin solutions deployed across key locations such as Aditya, Hirakud, and Mahan (CPP and GAP) are delivering measurable gains in process efficiency and energy optimisation, with further expansion underway.

In downstream operations, first-pass yield models are enhancing quality, while computer vision analytics are

improving SOP compliance and workforce productivity.

**Asset Reliability:** Condition-based maintenance agents and advanced analytics models are increasingly supporting predictive maintenance, asset performance monitoring, and real-time operational decision-making. During the year, these reliability models were scaled across more than 700 critical assets, enabling proactive maintenance, improving mean time between failures (MTBF), and reducing unplanned downtime.

**GenAI-enabled Factory Intelligence** solutions have been introduced in aluminium upstream operations and mining to transform static reporting into real-time, actionable insights across 24 operational KPIs, enabling more proactive decision-making. Generative AI-based safety intelligence platforms are also helping shopfloor personnel access safety rules and follow appropriate precautions while performing their work. In addition, structured data capture, integrated dashboards, and automated reporting are improving transparency, coordination, and responsiveness to operational deviations.

**Enterprise initiatives** such as application modernisation programmes are also underway, using AI-enabled architectures to standardise applications across Hindalco and enhance scalability, performance, and user experience. We have deployed AI-powered conversational analytics across Procurement, Supply Chain, and Finance, enabling business users to query enterprise data in natural language and receive real-time, actionable insights.

The unified Coal Supply Chain Tracking System is fully operational across our power plants and refineries, digitising end-to-end coal receipt, quality, consumption, and logistics tracking from mines to consumption.

**Key digital initiatives across our plants are outlined below:**  
At Aditya and Mahan Smelters: Vision-based analytics for anode tracking and quality are improving anode performance while lowering energy consumption and net carbon consumption. The voltage-drop analytics module is also contributing to energy optimisation.

At Aditya CPP, a round-the-clock renewable energy monitoring model

supports grid compliance. At Hirakud CPP, a first-pass yield model helps maintain process parameters within defined operating limits. The boiler tube leakage detection model is helping to prevent unplanned downtime of the plant.

At Birla Copper Dahej, solutions such as blend advisor, concentrate yard monitoring, vision-based cathode surface inspection, and coil allocation models are strengthening product quality and process control.

In specialty alumina and refinery operations, predictive models for particle size distribution, surface area analytics models are improving product consistency, while digital tools such as Loadrite and Mud Diver are reducing manual intervention and enhancing operational precision.

Mining: Digitalisation is being advanced through an integrated command and control centre, a fleet management system, and a bauxite supply chain tracking platform.

At Hirakud FRP, advanced use cases including temperature prediction, anomaly detection, automated shift reporting, and digital logbooks are enabling faster, data-driven decision-making. Digital tracking of coils, ingots, and finished goods, along with video analytics for safety and intrusion detection, is strengthening control and traceability.

At Mouda, analytics initiatives focused on furnace energy and process optimisation, IIoT-based dashboards for water and compressed air monitoring, and substation automation are supporting more efficient use of natural resources.

At Kuppam, an image-similarity search engine for extrusion profiles has materially reduced new product development timelines. The solution is being scaled across all extrusion plants.

At Silvassa, the manufacturing execution system has improved shopfloor visibility and operational reliability. Automation initiatives such as ASRS reload automation have further enhanced material-handling efficiency and equipment performance.

At Belur FRP, thermal imaging cameras in fire-prone zones and busbar temperature monitoring systems are enabling early detection of abnormalities, strengthening safety and operational continuity.

At Novelis, through our Workplace of the Future (WOF) initiatives, technologies such as computer vision are used for non-conformance detection, collision avoidance, and AI-supported incident investigation and risk analysis. We are also strengthening reliability through Advanced Predictive Maintenance (APM) to reduce unplanned downtime and improving throughput via Intelligent Cycle Time (ICT) optimisation by eliminating process bottlenecks.

Our digitalisation efforts are strengthening our transition towards smart manufacturing by enhancing efficiency, improving safety, reducing downtime, and building a culture of continuous improvement. We continue to build a future-ready manufacturing ecosystem by leveraging advanced analytics, automation, and connected systems.

Project Abhyudaya: Sustainable Value Creation at Utkal through Advanced Data Analytics and Digital Capabilities

**Challenge:** As we scaled our refining operations, we identified the opportunity to unlock additional value by improving process stability, efficiency, and productivity through data-driven decision-making. Rising cost pressures and the need for higher output without incremental capital investment further reinforced the need to accelerate digital transformation across the Utkal refinery.

**Initiative:** During FY 2025-26, we launched Project Abhyudaya, a structured, wave-based programme leveraging advanced analytics, AI/ML models, and digital platforms. The focus is on optimising critical parameters across alumina, steam, power, and recovery processes, supported by robust governance mechanisms and real-time monitoring systems. We invested in capability building, developing data scientists and translators to drive analytics-led insights and embed digital practices on the shopfloor.

**Outcome:** We achieved higher throughput, improved process stability reduced variability, and enhanced operational efficiency. The initiative delivered an annualised production impact of ~31,000 tonnes during the year and created a scalable digital foundation for future growth. It has also strengthened a data-driven culture, thereby improving decision-making.

Enabling Data-Driven Decision Making at the Shopfloor through the Connected Plant Programme

**Challenge:** As our upstream operations expanded in scale and complexity, we identified the need to enable real-time, data-driven decision-making at the shopfloor. Disparate systems, limited integration of OT and IT data, and reliance on manual reporting constrained visibility, delayed responses to operational deviations, and limited the ability to proactively optimise plant performance.

**Initiative:** During FY 2025-26, we advanced the Connected Plant Programme, powered by a unified operations data platform, to establish an integrated digital backbone across our operations. The platform aggregates real-time data from sensors, PLCs, and DCS systems across smelters, refineries, power



Training simulator of a potroom to train the new hires for real-time, hands-on training

plants, and mines into a centralised, cloud-enabled architecture built on AVEVA technologies. The initiative focused on enabling real-time monitoring through live dashboards, data quality management, anomaly detection, and self-service analytics, supported by integration with ERP systems and structured deployment across plants. This is augmented with Neurometal, our internal analytics workbench for analytics projects deployment.

► **Outcome:** We achieved enhanced real-time visibility, improved process stability, and faster decision-making across operations. The platform reduced manual intervention, enabled predictive alerts, and supported deployment of over 20 analytics use cases; delivering measurable business impact. It has also established a scalable foundation for data-driven and autonomous operations.

### Digitalisation and Automation for Water Management Excellence at Hirakud CPP

♦ **Challenge:** As part of our commitment to sustainable resource management, we identified significant opportunities to improve water efficiency at our Hirakud Captive Power Plant. Key water-loss streams such as DM plant backwash, cooling tower basin overflow, and blowdown were not fully measured or optimised, limiting our ability to control inefficiencies and respond in real time.

♦ **Initiative:** During FY 2025-26, we implemented a digitalisation and automation programme to address these gaps. We introduced rule-based automation for DM plant backwash, ensuring cycles were triggered only when required. We also enabled real-time monitoring of cooling tower basin levels and overflow events through multi-parameter dashboards. In addition, we deployed conductivity-based automation to dynamically regulate cooling tower

blowdown, replacing fixed setpoints with chemistry-driven control for more precise water management.

► **Outcome:** The interventions delivered significant improvements, reducing backwash water losses by over 90% and enabling real-time visibility across critical water streams. The initiative strengthened process control, improved water-use efficiency; and demonstrated digital solutions can deliver sustainability outcomes with limited capital investment.

### Unlocking Actionable Maintenance Insights through a Unified Data and Analytics Platform

♦ **Challenge:** As maintenance operations scaled, generating actionable insights from maintenance data became increasingly complex. While large volumes of data were captured within core systems, heavy reliance on manual report extraction and consolidation limited enterprise-wide visibility, slowed decisions, and led to inconsistent tracking.

♦ **Initiative:** In FY 2025-26, we developed a unified analytics platform to standardise reporting and enable real-time enterprise-wide insights across Aluminium and Copper operations. This platform integrates with the core ERP system to consolidate maintenance data into a central analytics layer, enabling automated KPI computation, equipment-level reliability and cost analysis, and intuitive, role-based dashboards.

► **Outcome:** Through this platform, we enhanced maintenance governance by improving asset visibility, enabling early issue identification, and supporting proactive maintenance. We reduced manual effort and accelerated data-driven decision-making, with enterprise-wide scale-up underway.



Fullly digitised training centre for real time training at CPP Aditya