# Powering Aluminium Leadership

Vedanta Aluminium's Rajiv Kumar on how the company's green shift, tech-led growth and backward integration are transforming India's metal future

**On building Vedanta Aluminium's market leadership**

Vedanta Aluminium has emerged as India's largest producer by focusing on integrated operations, value-added products, and digitalisation. We control our entire value chain—from bauxite mining to downstream manufacturing—giving us cost and quality advantages. World-class, single-location facilities boost scale and efficiency. Our pivot to value-added products like billets, foundry alloys, and wire rods has expanded our footprint in critical sectors like infrastructure, automotive, and power. The launch of Vedanta Metal Bazaar, our digital ecommerce platform, has improved access for MSMEs. Sustainability remains core. With our Restora line of low-carbon aluminium and plans for Net Zero by 2050, we're aligning with global ESG goals. In the next 2–3 years, we'll expand capacity, deepen our VAP portfolio, decarbonise further, and enhance community engagement.

> Our Restora and Restora Ultra products—India's first low and ultra-low carbon aluminium—are helping EVs, renewables, and electronics meet sustainability goals

**On green aluminium and decarbonisation strategy**

We've reduced our GHG emissions intensity by 26.5 per cent since FY21. To accelerate, we're raising renewable power share from 5 per cent to 30 per cent by 2030 through 1.5 GW of solar and wind agreements and by using biomass and natural gas. A GAIL partnership at our Jharsuguda smelter will cut emissions by 47,000+ tonnes annually. Our Restora and Restora Ultra products—India's first low and ultra-low carbon aluminium—are helping EVs, renewables, and electronics meet sustainability goals. We're also aiming to build the world's first 100 per cent green aluminium plant. ASI certifications reinforce our responsible sourcing and global sustainability alignment.

**On securing resources and cutting costs**

We're expanding capacity at BALCO and Jharsuguda, targeting a total aluminium output of ~3.1 MTPA by FY26. Our Lanjigarh refinery is being scaled from 3.5 to 5 MTPA for improved alumina security. To reduce dependence on imports, we're developing captive bauxite blocks in Odisha and coal assets like Jamkhani. These efforts are improving supply stability and lowering input costs. Already, we've reduced cost of production from ~$2,000 to ~$1,750/tonne and are working toward sub-$1,700. Digitalisation using AI, analytics, and automation is driving gains in procurement, logistics, and operations—boosting efficiency and supporting our energy transition plans.

**On leveraging technology for smarter production**

We use IIoT, AI, and data analytics across operations. Digital twin tech enables predictive maintenance; real-time analytics optimises quality and energy use. Smart automation drives logistics, emissions control, and water conservation. A breakthrough process now allows us to extract battery-grade graphite from aluminium waste—supporting India's circular economy and critical mineral needs. Our tech-led transformation is making Vedanta Aluminium more productive, sustainable, and future-ready.

As told to Ashish Sinha