Aditya Birla Group Proposes Rs 12,000 cr Investment for Kansariguda Alumina Refinery Expansion

The Aditya Birla Group has proposed an investment of Rs 12,000 crore to expand the capacity of its Kansariguda alumina refinery in Odisha from 1 million tonnes per annum (MTPA) to 3 MTPA, a move expected to strengthen India's aluminium value chain while generating significant employment and boosting downstream industrial activity in the state.

According to a post by the Chief Minister's Office (CMO), Odisha on X, Chief Minister Mohan Charan Majhi held discussions with Kumar Mangalam Birla, Chairman of the Aditya Birla Group, to review the progress of the conglomerate's ongoing and proposed investments across Odisha. During the meeting, the group proposed the Rs 12,000 crore expansion project for the Kansariguda alumina refinery.

The CMO post said the expansion will increase the refinery's production capacity from 1 MTPA to 3 MTPA. The project is expected to create substantial direct and indirect employment while opening up new opportunities for local enterprises, service providers and downstream industries linked to the aluminium ecosystem.

The proposed investment comes as the Aditya Birla Group continues to strengthen its metals business through flagship company Hindalco Industries, which delivered record consolidated revenue and EBITDA in both the fourth quarter and the full year of FY26.

Hindalco reported record quarterly revenue of Rs 78,133 crore in Q4 FY26, marking a 20 per cent year-on-year increase from Rs 64,890 crore in the corresponding quarter of the previous fiscal. The company also posted its highest-ever quarterly EBITDA of Rs 11,197 crore, up 9 per cent from a year earlier, reflecting strong operational performance across its businesses. However, the company's profit after tax (PAT) for the quarter stood at Rs 2,597 crore, down 50.85 per cent from Rs 5,284 crore reported in Q4 FY25. Basic earnings per share (EPS) came in at Rs 11.69, compared with Rs 23.80 in the year-ago quarter.

The proposed expansion of the Kansariguda refinery is expected to enhance Hindalco's alumina production capacity, strengthen raw material security for its aluminium operations and support rising domestic demand from sectors such as infrastructure, renewable energy, electric mobility and manufacturing. The project is also expected to reinforce Odisha's position as one of India's leading hubs for aluminium and mineral-based industries while creating significant economic opportunities in the region.

Adani Inks Pact with IHC For $11.5-Billion Aluminium Plant in Odisha

Adani Enterprises Ltd (AEL) announced a joint venture with Abu Dhabi-based International Resources Holding (IRH), an IHC group company, to develop an $11.5-billion integrated aluminium plant in Odisha.

Both companies signed a memorandum of understanding (MoU) with the Odisha government through 2PointZero to develop the project. 2PointZero is a subsidiary of International Holding Company (IHC).

“As digitisation and manufacturing in the country increase, the demand for aluminium is going to go up and we see that as a big opportunity, a long-term opportunity for the country,” Adani Ports and Special Economic Zone managing director Karan Adani said.

The proposed $11.5 billion (Rs.1.08 lakh crore) investment is the largest Foreign Direct Investment (FDI) in Odisha and the biggest in the country's metallurgy sector, AEL and Odisha government officials said.

Of the Rs 1.08 lakh crore, 70 percent will be funded via debt and the rest will be equity, Adani said.

“We expect all the approvals to be in place in the next 12-18 months and post that it will take us anywhere between three and three and a half years to get phase 1 running. Roughly, the entire project will take four to five years to be commissioned,” he said.

The project will be developed in two phases, with investments of about Rs 66,000 crore in Phase 1 and Rs 44,000 crore in Phase 2, AEL said in a statement.

The facility comprises a 4 million metric tonnes per annum (MMTPA) alumina refinery, a 2 MMTPA aluminium smelter, a 4,000 megawatt (MW) captive power plant and a 1 MMTPA downstream manufacturing park, the statement said.

The project is expected to generate about 53,500 jobs across construction and operations, it added.
The group has tied up raw material security with long-term agreements with Odisha Mining Corporation (OMC).

“We are working with the government of Odisha and one part of the MoU is to get a long-term linkage of bauxite from the government. We may also participate in the auction in the future for captive mining,” Adani added.

The group also intends to leverage its status as a low-cost energy producer to remain competitive in this power-intensive industry.

IISc Scientists Develop High-Strength Aluminium Alloy for Aerospace, Automotive Industries

Bengaluru: Researchers at the Indian Institute of Science, Bengaluru, have developed a next-generation lightweight aluminium alloy that combines significantly higher strength with improved flexibility, a breakthrough that could transform the aerospace, automotive and energy sectors. The study, carried out by scientists from the Department of Materials Engineering (MatE) and their collaborators, has been published in the prestigious journal Nature Communications.

According to the researchers, the newly developed cast aluminium alloy delivers nearly 50% higher strength and almost four times greater ductility compared to conventional aluminium eutectic alloys, while also maintaining its performance at temperatures of up to 250 degrees Celsius. The development addresses one of the biggest challenges in aluminium metallurgy--balancing strength and ductility. Traditionally, improving the strength of aluminium alloys often makes them more brittle, limiting their use in demanding industrial applications.

Cast aluminium alloys are widely used in manufacturing because of their low weight and cost-effectiveness. However, their performance is often constrained by microscopic brittle fibres within the material that act as initiation points for cracks, eventually leading to failure under stress.

The IISc research team overcame this challenge by engineering the alloy at the atomic scale. By introducing a small quantity of zirconium into an aluminium-gadolinium alloy and subjecting it to carefully controlled heat treatment, the scientists created an ultra-thin superlattice nano-layer surrounding the brittle fibres. This nano-layer strengthened the bonding between the fibres and the surrounding aluminium matrix, reducing crack formation and improving the transfer of stress throughout the material.

"Discovering the superlattice nano-layer was one of the most exciting moments of my PhD, as it revealed a completely new interface-strengthening mechanism that enables aluminium alloys to become stronger and more ductile," said Hemant Kumar, first author of the study and a doctoral researcher at IISc's Department of Materials Engineering. The team also discovered billions of tiny core-shell nanoparticles distributed throughout the alloy. These nanoparticles generate fine dislocation networks when the material is subjected to stress, enabling it to absorb significantly greater deformation before breaking.

Using advanced imaging facilities at IISc's Advanced Facility for Microscopy and Microanalysis (AFMM), researchers directly observed these atomic-scale structures and their impact on the alloy's behaviour.
Apart from exhibiting superior performance at room temperature, the alloy also demonstrated excellent strength and resistance to deformation under prolonged exposure to high temperatures, making it particularly attractive for applications in aircraft engines, automobile components and energy infrastructure.

Researchers believe the material could eventually replace heavier metals in several applications, contributing to improved fuel efficiency and lower greenhouse gas emissions.

"This discovery represents a first-of-its-kind breakthrough in metallurgy from India. By engineering interfaces atom by atom, we have demonstrated a fundamentally new strategy for designing lightweight, high-temperature aluminium alloys with an exceptional combination of strength and ductility," said Dr Surendra Kumar Makineni, Associate Professor in the Department of Materials Engineering and the corresponding author of the study.

"We believe this concept opens new avenues for developing next-generation structural materials for aerospace, automotive and energy applications," he added. The development highlights India's growing capabilities in advanced materials research and could pave the way for the country's increased participation in the global high-performance materials market.

Heping Aluminum Launches 4000T High-Precision Extrusion Line

the 4000T high-precision industrial profile extrusion production line at Heping Aluminum's Hengshui base was successfully put into operation. At the ceremony, General Manager Guo Dalong issued the commissioning order and pressed the start button for the first industrial profile extruded from the 4000T production line. The successful commissioning of this customized, high-efficiency, energy-saving, high-precision, and intelligent extrusion production line will play a crucial role in helping Heping Aluminum fully develop its core business in industrial profiles and lightweighting for new energy vehicles. As core intelligent equipment driving the company's strategic breakthrough in the industrial profile business, this production line complements the existing 5500T, 4500T, and 3000T extrusion presses, creating a production layout that enhances the batch delivery and supply guarantee capabilities for medium and large cross-section, high-precision, and high-strength industrial aluminum profiles.

UK’s Aluminium Scrap Requirement Estimated to Hit 6Mt by 2035

The UK has an ambitious aluminium scrap equation to solve. Domestic industry is forecast to require as much as 6 million tonnes of aluminium scrap for recycling by 2035 to support the government’s projected 8 million tonnes of aluminium demand across sectors. Yet much of the metal needed to support that future is already flowing in the opposite direction. The UK exports almost half the aluminium scrap it generates, while imports fill only 27 per cent of the resulting gap. The trend has continued into 2026, with scrap exports rising 9 per cent year on year to 217,611 tonnes during January–April, from 200,374 tonnes a year earlier. Scrap is becoming increasingly important at home, but overseas buyers are competing for the same material.