

EPC World

Engineering Projects Construction

Extensive Coverage Obsessive Readership

FEATURE

Steel: Dependent industries look for a better deal ...30

MHE: Tech disruptors will dominate ...40

CASE STUDY

An advanced, green and intelligent modern factory in China ...26

PRODUCT LAUNCH

Stage IV compliant Wheeled CEV by JCB India ...54
Powerful HMT 13000 Torque Wrench by Enerpac ...39



MINOMICS

THE SHIMMERING ARMOR

INTERVIEW

22



Leveraging Innovation and Digitization

RAHUL SHARMA
CEO-Aluminium Business
Vedanta Ltd

36



Indian Railways drives a major share of the domestic stainless steel demand

TARUN KHULBE
Director
Jindal Stainless

64



We are implementing a series of digital transformation initiatives

ASHISH P DHAKAN
MD & CEO
Prama Hikvision India

44



MHE should be awarded the status of an 'essential industry'

ANIL LINGAYAT
EVP and Business Head
Godrej MHE

46



Contactless Material Handling will dominate in future

SUNIL K GUPTA
President
KION India

50



AJAX introduces the 'All New CEV Stage-IV' compliant ARGOS

AJAY ANEJA
Chief Marketing Officer
AJAX Engineering

52



Tech is now at centre-stage

MANISH MATHUR
CEO - Cranes
Action Construction Equipment (ACE)

56



The industry is stuck by liquidity crisis

SHARAD THUSSU
Head- Mining & Construction Equipment Division
Voltas Limited

58



India is evolving as a vital market for MHE

DHEERAJ PANDA
Director - Sales, Marketing and Customer Support
Sany Heavy Industry India

PRODUCT LAUNCH

54



JCB India introduces its new range of CEV Stage IV compliant Wheeled CEV

39



Enerpac Announces Powerful HMT 13000 Torque Wrench

Leveraging Innovation and Digitization



The minerals and metals sector has shown that given the right growth impetus, it can exponentially contribute towards reviving the post-pandemic economy and propel it on the path of USD 5 trillion economy. Expresses **RAHUL SHARMA**, CEO-Aluminium Business, Vedanta Ltd in an interview with **EPC World**.

What is your take on the current scenario of Metals and Minerals Sector?

India is gradually realizing the potential of its minerals and metals sector. At the face of the pandemic, when most industry sectors were crippled, this sector continued to be productive. In fact, the GDP from mining in India increased to INR 913.03 billion in the first quarter of 2021 from INR 739.90 billion in the fourth quarter of 2020 as per data from the Ministry of Statistics and Programme Implementation (MOSPI).

What are the regulatory and policy changes you would like to see its implementation for the favorable growth of the sector?

The mines and minerals sector has received several policy reconsiderations under the aegis of the Aatmanirbhar Bharat scheme, but there remains much to be done. For example, today, the world per capita consumption of aluminium is 11.6 kgs, whereas in sharp contrast India is at a mere 2.7 kgs, especially given aluminium's pivotal role as a crucial raw material in critical industries – from aviation and electric vehicles to electricity transmission and infrastructure. India continues to be the 3rd largest producer of aluminium globally,

with domestic aluminium demand expected to double in the next 5 years from the current 4 million tonnes to 8 million tonnes per annum which shall attract fresh investments of over ₹2 Lakh Crs. Key challenges faced by the industry which need addressing:

- India has the world's 5th largest bauxite, yet there has been not a single successful auction of any Metallurgical Grade Bauxite Mine in the last 6 years since inception of the auction regime. This has resulted in bauxite imports, resulting in estimated forex loss of ~ 600 Million USD in the last 6 years, and a staggering forex loss of ~USD 52 million in last quarter alone.
- The unviable determination of Average Sale Price (ASP) of Metallurgical Grade of bauxite has also rendered production of aluminium unviable in India. The present pricing structure links the selling price of the end-product (aluminium), to determine the ASP of metallurgical grade bauxite and ends up including costs such as transportation, quality control, rehandling cost, etc., which artificially increases the price up to 300% to 400%.
- Despite surplus production capacity, ~60% of India's aluminium demand is being met



through imports in the form of scrap. Not only has this resulted in forex outgo of USD 2 billion, but India has also become the global dump yard of scrap aluminium, especially in the absence of any quality/BIS standards for scrap recycling/usage and imports into the country. The result being – India ends up consuming lower quality end product made from scrap, whereas high-quality aluminium is forced to be exported to international markets.

- India has one of the highest average production costs in the world. Cost of production of aluminium in India has substantially increased (~25%-30% for the overall industry) in last 3-5 years due to rising cost of critical raw materials, inverted duty structure on import of raw materials, increase in various taxes/cess like Coal Cess, Electricity Duty, and logistics costs etc. The burden of Central and State taxes & levies alone amounts to ~15% of aluminium production cost, giving the domestic industry a significant disadvantage compared to its global competitors.

What is the impact of pandemic and how did you overcome these challenges?

Although the pandemic and associated lockdowns brought their own set of challenges, Vedanta's Aluminium Business has sustained itself through all disruptions. We have been resilient throughout, leveraging intelligent automation and smart technologies to maintain business continuity. With sustained production, we have in fact been very agile in responding to the changing needs of the market and our customers. We have been focused on a dynamic product portfolio, R&D and innovation, working with customers, fast evolving our product-mix to meet customer needs.

To build resilient and future-ready enterprises, Vedanta Aluminium is leveraging innovation and digitization across its aluminium operations. With an eye on developments in the global markets, Vedanta Aluminium has brought together R&D, Technical, Operations and Marketing expertise in a Centre of Excellence to invent the next big thing in aluminium. We

continue to be focused on expanding our value-added aluminium products and alloys as well as providing the best customer fulfillment experience, as our key growth strategy.

In brief, throw some light on the key projects to look forward to?

India's economy in the next five years will be driven by manufacturing growth, with the minerals and metals sector playing a critical role in enabling flagship national projects. India's construction sector is expected to be the third largest in the world after China and US, with an overall value of \$1 trillion by 2025. Projects such as National Infrastructure Plan, the Affordable Rental Housing Complex (ARHC) scheme, Sagarmala, UDAN-RCS, etc. will increase demand for critical metals such as aluminium.

Between 2021-26, the Indian government has planned an investment of USD 2.15 billion to electrify rural households. It also plans to double the share of installed electricity generation capacity of renewable energy to 40% by 2030, and targets 100% electrification of Indian Railways by 2023. All of these



will boost the demand for electricity, and this will increase demand for aluminium, as aluminium is the best and most cost-effective enabler of long-distance electricity transmission.

With the meteoric growth of the electric vehicle industry, there will be a sharp increase in demand for aluminium products in the domestic market. The domestic aluminium industry will have to ramp up production capabilities very fast to meet that demand, alongside investing in R&D capabilities to ensure the development and production of alloys and aluminium products suitable for each use case or application in a rapid time frame, at competitive costs, as the market goes through explosive growth.

We will be closely watching the packaging sector as well, which has immense opportunities from pharma foils to food and beverage packaging, especially as aluminium is the most sustainable form of packaging. It is 100% recyclable, unlike plastic and other traditional packaging materials.

What are the opportunities in India as against overseas and vice-versa?

India has all the right levers to

emerge as the manufacturing and value-addition hub of the world – vast reserves of mineral resources, skilled human capital, a geology that lends itself extremely well to international trade, and a government with a vision for localization of supply chains for indigenous manufacturing. For an aspiring economy like India, space exploration, electrification, transportation, aviation, renewable power generation, national defence, building & construction, packaging – all of these are either emerging or rapidly increasing sectors. So, opportunities for manufacturing leaders like Vedanta Aluminium are limitless, if basic policy and regulatory frameworks like the ones detailed above are supportive

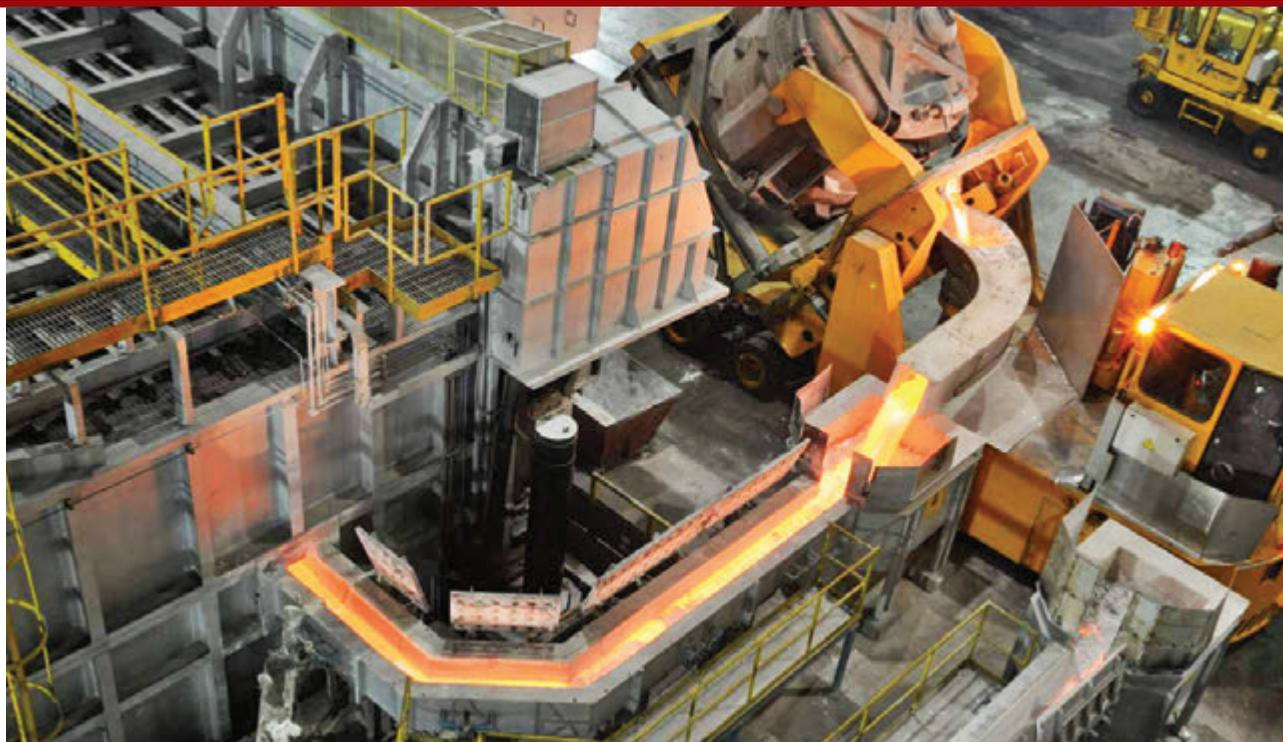
Please elaborate on how Vedanta Aluminium positioned to cater to these opportunities?

The demand for aluminium and other minerals/metals is directly linked with the economic activity in the country. Value-addition and innovation will play a key role in modernizing the landscape of domestic manufacturing, as India charges forward towards

establishing its dominance as the global manufacturing hotspot.

This is why Vedanta Aluminium is increasing production capacity, developing downstream aluminium ecosystems, investing in R&D to develop high-quality products and product customizations perfectly tailored to current and emerging applications, in collaboration with globally reputed business partners. Our aluminium smelter at BALCO (Chhattisgarh) is set to add another 400+ KTPA capacity, and our aluminium smelter at Jharsuguda (Odisha) has potential to scale up capacity from 1.6 MTPA to 2 MTPA. We have also proposed creation of an Aluminium Park at Jharsuguda that has the potential to create a vibrant downstream industry for catering to India's critical industries.

Among aluminium producers in India, we already offer the largest and most diverse product portfolio, which includes standard and customizable offerings in Billets, Wire Rods, Alloy Ingots (including Primary Foundry Alloy, Cylinder Head Alloy, etc.), Aluminium-Silicon T-Ingots, Sow Ingots, Flip Coils, Slabs, Rolled



Products, Primary Ingots, as well as liquid metal. Vedanta Aluminium is India's largest producer of top-quality billets. We are also the largest producers of wire rods in the world, outside of China.

We not only offer our customers the highest quality of products, but also technical support and expertise, supply chain reliability as well as innovations and customizations perfectly tailored to their needs. Case in point, our highly advanced R&D capability has allowed us to produce sophisticated alloys such as Primary Foundry Alloys and AlSi3 T-Ingot for the very first time in India. Hawk-eyed quality assessments of raw material and finished products have made us one of the most preferred suppliers of aluminium to developed markets. At the same time, we are also evolving our Customer Relation Management (CRM) solutions, making them more advanced and intuitive to ensure complete customer fulfillment.

How are technological transformations and trends playing a key role in driving the momentum?

The digitalization, integration and automation opportunities available

today are enabling manufacturing companies to collaborate internally and across their value chains in ways that can provide a positive step change in productivity as well as design and quality. Harnessing digitalization comes with benefits such as cost saved by improving equipment utilization, reducing equipment failures and downtime, and facilitating predictive maintenance, and ensuring improved workforce health, safety, and security.

For example, Vedanta Aluminium has deployed cutting-edge technology like digital twins to monitor asset health and get pre-intimation of potential equipment failure or breakdowns, unsafe conditions and fluctuations in productivity for immediate action. Deep Learning algorithms and various advanced model techniques, which are first-in-the-industry, are allowing Advanced Asset Performance Management at our smelters and power plants.

We have end-to-end digital Logistics Control Towers for coal, alumina and bauxite with Machine Learning and OR (Operations Research) based mathematical modeling that allow us to do simulation-based planning, reduce

costs and pilferages and improve efficiencies, impacting topline and enabling paperless operations.

We are also using technology to measure our environmental footprint and ensure compliance to laws and regulations. We are using vision analytics and contextual analytics in multiple plant sites for identification of hot spots for improving asset reliability. Our security and surveillance function uses drones, image analytics other high-end technology for enhanced surveillance to ensure safety and security of employees, business partners and allied service partners.

Going ahead how do you look upon the future prospects?

The minerals and metals sector has shown that given the right growth impetus, it can exponentially contribute towards reviving the post-pandemic economy and propel it on the path of USD 5 trillion. It can provide India with an unbeatable economic advantage in the global arena. The need of the hour is to address the bottlenecks being faced by champion industries, such as aluminium, for true realization of the Aatmanirbhar Bharat dream. EPCWorld