

Vedanta Aluminium wins 'Most Innovative Best Practice' Award for Digital Smelter Project



(A.O. Bureau) Bhubaneswar, Jan 9: Vedanta, India's largest producer of Aluminium and value-added products, bagged the 'Most Innovative Best Practice' Award at the Digital Transformation (DX) Summit & Awards 2020. Organized by CII – Centre for Digital Transformation (CDT), the DX Award provides a prestigious platform for the industry's best to showcase superlative efforts and achievements in the realm of digital transformation, offering unparalleled exposure and valuable recognition to the practitioners. Vedanta Aluminium has bagged this coveted award in the 'Most Innovative Best Practice' category, as India's first – and the world's third – smelter to deploy the Digital Smelter Technology at its Jharsuguda plant, which is the world's largest single-location aluminium smelter. Themed on leveraging digital infrastructure & technological innovation for a resurgent and Aatmanirbhar Bharat, the DX summit witnessed participation from over 300 companies. Vedanta Aluminium outshone the competition by showcasing its Digital Smelter project which is being deployed at its Aluminium smelter in Jharsuguda, Odisha. It uses digital twin technology with predictive

& prescriptive analytics, which allows for remote monitoring and control of potline operations, enhances energy efficiency, reduces raw material consumption and arrests wastage of material through remote advisory system. It processes historical information and real-time data using data analytics to generate alerts and insights which enable the operation and maintenance teams to execute their duties more effectively and efficiently. It also uses machine learning algorithms to provide multiple outcomes such as pot health-related alerts, virtual-sensor based

predictions, anode-effect predictions, etc. Deep Learning algorithms and various advanced model techniques, which are an industry-first allow Advanced Asset Performance Management at both smelters and power plants. Speaking about the company's digital transformation endeavors, Mr. Ajay Kapur, CEO – Aluminium & Power Business, Vedanta Ltd., said, "We strive to make our operations future-ready by integrating best-in-class digital solutions, building in efficiencies, and optimizing costs and raw material consumption in our quest to become the world's leading pro-

ducer of the 'green metal' or Aluminium. Vedanta's Aluminium & Power business has implemented intelligent automation and digitalization at its plants to produce high-quality Aluminium and value-added products for critical industry sectors, fueling India's self-reliance and contributing to its socio-economic prosperity." Few more cutting-edge technology integrations by Vedanta across its Aluminium & power assets: The company has built end-to-end digital Logistics Control Towers for coal, alumina and bauxite with Machine Learning and OR (Op-

erations Research) based mathematical modelling that have enabled Vedanta to do simulation based planning, reduce costs and pilferages and improve efficiencies, impacting top lines and enabling paperless operations. Vedanta is in the process of deploying advanced data analytics technologies in its power plants by incorporating digital twins for both predictive and prescriptive analytics to enhance power plant availability, asset and process reliability for reduction of operational cost, improvement of operation sustainability and reduction of safety risks with minimal or zero human touch. Vedanta has already embarked upon the journey of using vision analytics and contextual analytics in multiple plant sites like identification of hot spots for improving asset reliability. Implementation of high-end Manufacturing Execution System (MES) across all the Aluminium plants ensures visibility of all critical

allows for decision making remotely through mobile applications, ensuring seamless sustainability of operations while employees can maintain social distancing and yet fulfil their activities on the plant floor. Vedanta's Aluminium & Power business is the first metal & mining company in India to implement the full scope of S4HANA thus automating all functional processes. The complex and diverse procurement of commodities, materials and services are fully automated and backed with analytics thus unlocking substantial cost reduction, faster O2C cycle and business realisations. Safety of workforce is at the core of any sustainable business and Vedanta is testing various digital solutions in the Health, Safety and Environment space, such as the use of technology-based tracking to monitor health of assets or even fluctuations in productivity for immediate action. Robotics Process Automation (RPA) is being

tested in commercial, finance and supply chain functions and is optimising repetitive activities. Even within plants, all operational parameters are monitored virtually while ensuring there is minimum physical proximity. GPS, RFID sensors, Operations Research (OR) based schedule modelling at each operational point capture critical operational parameters within the plant. Vedanta Aluminium, a part of Vedanta Limited, is India's largest producer of aluminium, producing almost half of India's aluminium or 1.9 million tonnes per annum (MTPA) in FY20, and is also one of the largest private power producers in the country. It is a leader in value-added aluminium products that find critical applications in core industries. With its world-class smelters, power plants and alumina refinery spread across India, the company fulfills its mission of spurring emerging applications of aluminium as the 'Metal of the Future'