



## **REPORT**

### **IBAAS-JNARDDC 2023 CONFERENCE & EXHIBITION**

The long-awaited international aluminium conference, organized by IBAAS (International Bauxite, Alumina and Aluminium Society) in association with JNARDDC (Jawaharlal Nehru Aluminium Research Development and Design Centre) was concluded on 6<sup>th</sup> December 2023 in Nagpur. This **11<sup>th</sup> International Conference and Exhibition (IBAAS-JNARDDC 2023)** was held during **December 4 - 6, 2023** at Chitnavis Centre, Nagpur, India. This was followed by a post conference visit to the HINDALCO's aluminium downstream facility of Mouda, near Nagpur on December 7, 2023. The theme of the IBAAS-2023 conference was "**Latest Technological Developments in Alumina & Aluminium Production**". This Conference covered the complete value chain of aluminium industry from bauxite evaluation / beneficiation to aluminium downstream products in three days of interactive meet.

The conference had series of technical presentations by leading Indian and the foreign experts. These were followed by intense technical discussions on each paper of bauxite-alumina and aluminium industries. This is the unique international conference of IBAAS, registered in India, which revolves around aluminium value chain, latest developments and future challenges of this industry. In this mega event, about 210 delegates from 95 companies / organizations from all over the world have participated. Delegates, representing bauxite, alumina and aluminium industry, research organizations, technology / equipment suppliers, service providers, and academic institutes have assembled in this event of 2023. The experts were mainly arrived from India, Denmark, France, Germany, Russia, Switzerland, Sierra Leone and the USA. There was also an exclusive technical exhibition during this conference, where companies have shown their equipment/instruments and technology used in bauxite mines, alumina and aluminium plants.

The conference was inaugurated by Mr. S. Kanakanand, President & Head Manufacturing Centre for Excellence, HINDALCO along with Director JNARDDC, Dr. Anupam Agnihotri, Mr. Yves Ocello, a leading alumina expert of France, and Dr. Amit Chatterjee, Chief Research and Development Officer, VEDANTA. The inaugural function was conducted by Dr. M.K. Roy, Secretary IBAAS and Dr. Ashok Nandi, Convener of the Conference, highlighted the



journey, growth and contribution of IBAAS to Aluminium industry. This is the 11<sup>th</sup> International IBAAS conference and in the past 7 International meetings were organized in various cities of India, 3 large events in China and 1 in Guinea, a west African country. In the inaugural function, Dr. Amit Chatterjee of VEDANTA talked about the necessity of innovations and continuous R&D for development of this industry. Mr. Yves Ocello touched the overall developments of bauxite, alumina and aluminium industry in the world and importance of India. Dr. Agnihotri highlighted the efforts of IBAAS to bring all the aluminium producers, leading experts and stakeholders in one platform for useful technical interactions and updates. Mr. S. Kanakanand, Chief Guest of IBAAS-2023 spoke on the vision of Indian Aluminium industry, demand of aluminium, driven by the growth in sectors like electricity, transport, building, construction and packaging etc. Dr. P.K Jain of Indian Bureau of Mines proposed 'Vote of Thanks'.



After the inaugural function 7 keynote addresses on various aspects of aluminium industry were delivered by leading Indian and foreign experts. The first keynote address on 'Decarbonisation of Indian Aluminium Sector-Way Forward' by Dr. Anupam Agnihotri, Director JNARDDC led to the pathway for achieving CO<sub>2</sub> reduction in aluminium production. The second keynote presentation on 'Sustainable Aluminium manufacturing' by Mr. S. Kanakanand, President & Head Mfg CoE of HINDALCO Industries outlined various efforts being made by HINDALCO to maximise the green energy generation and hydel power by



lifting water at height through solar energy and produce electricity. Dr. Amit Bansiwal, Senior Principal Scientist, NEERI presented the third keynote address on 'Environmentally Sound Management of Industrial Wastes in Aluminium Sector'. The next two keynote addresses highlighted the latest developments in alumina technology by Mr. Yves Ocello and by Dr. Vilas Tathavadkar, Chief Technology Officer of HINDALCO Industries. Dr. Amit Chatterjee, Chief Research and Development Officer, VEDANTA presented keynote on "Innovations and Technology Interventions-Key to Sustainability of Aluminium " and the last address one was on "Supply chain challenges in the Metals industry: Navigating Challenges, Ensuring Sustainability " by Ms. Kopal Agrawal, Chief Procurement Officer of HINDALCO Industries.

On the afternoon of first day (4<sup>th</sup> December, 2023), sponsors and supporters like Tokai COBEX GmbH, AKW Apparate + Verfahren GmbH, Nalco Water, Ashapura, STC-Engineering, SpectraFlow Analytics AG and Alumina Chemicals and Castable had presented their company profiles, products and highlighted the equipment/instruments for alumina and aluminium plants. The 7 numbers of exhibition stalls of this mega aluminium event were taken by Malvern Panalytical, a division of Spectris Technologies, Westech Process Equipment, SpectraFlow Analytics AG and Janatics India. Just after the start of the function, the IBAAS-2023 exhibition was inaugurated by Chief guest Mr. S. Kanakanand, President & Head Mfg CoE of HINDALCO Industries. The main media partner for this conference was AlCircle and others were International Aluminium Institute (IAI), Light Metal Age and MetalWorld.

On the second day of conference (5<sup>th</sup> December), 3 parallel technical sessions on Bauxite-Alumina, Smelter and Aluminium downstream were conducted in 3 different conference halls. In the bauxite alumina sessions about 17 selected technical papers were presented by leading Indian and foreign experts. Here technical experts of HINDALCO, VEDANTA, AKW, Nalco Water, Malvern Panalytical, Remi Process, Westech, Metso, Venus Engineering and SpectraFlow etc. had presented number of interesting papers. The second parallel session on Aluminium smelter had 19 technical papers mainly by primary aluminium producers, R&D Institutes and Janatics India. All the primary aluminium producers of India were represented here and they had lively technical discussions on various aspects of smelter technology. The third parallel technical session on Aluminium Downstream and Sustainability consisted of 14



technical papers, presented by Scientists / Engineers of JNARDDC, Magma, q-Maxim LLP, IIT, Ria Casthouse, Aluminium Stewardship Initiative (ASI) and CETIZION Verifica etc.

On the third day two parallel technical sessions on ‘Non-metallurgical bauxite-alumina’ and ‘Bauxite residue’ were conducted. About 5 papers were presented in each of these sessions and these were followed by intensive technical discussions. For each technical session, a Chairman was nominated, who had conducted the proceeding and also checked the quality of presentations. The technical committee of IBAAS have reviewed the points given by Chairman of each technical session and selected following papers for award:

Best Paper Presentations list			
BAUXITE-ALUMINA SESSION			
SR. NO.	NAME	COMPANY	TITLE
1st Prize	Mr. Praveen Vishwakarma	Alumina Technical, Hindalco Industries Ltd, India	Improving evaporator economy promoting lower carbon footprint
2nd Prize	Mr. Swapnil Ghatare	ABSTC, India	Developments in gas suspension calciners for energy efficient designs
ALUMINIUM SMELTING SESSION			
1st Prize	Mr. Tushar Thorat	ABSTC, India	Causes of premature flue wall deformation and its impact on ABF performance
2nd Prize	Ms. Sanjana Sarkar	Vedanta Ltd, Aluminium Business, Odisha	An innovative method of reducing CO <sub>2</sub> emission during electrolysis of Aluminium by coating Anode surface
ALUMINIUM DOWNSTREAM SESSION			
1st Prize	Mr. Saikat Adhikari	ABSTC, India	Development of high performance Aluminium foils for Li-ion batteries
2nd Prize	Mr. Abhishek Anand	Mahan Aluminium, Hindalco Industries Ltd	New product development- Duranium alloy Billets
NON METALLURGICAL BAUXITE ALUMINA SESSION			
1st Prize	Ms. Priyanka Nayar	JNARDDC, Nagpur	Preparation of 2-Propanol Aluminium Salt(AIP) as an intermediate for 4N pure Alumina without Employing a Catalyst
BAUXITE RESIDUE SESSION			
1st Prize	Mr. Santanu Dey	Hindalco Industries Limited, Belagavi, Karnataka	Sustainable Bauxite residue utilisation promoting circular economy
SUSTAINABILITY SESSION			
1st Prize	Mr. Ganga C Sharma	CETIZION Verifica Private Limited	Supply chain due- diligence as per OCED guidelines, relevance for Aluminium industry



All the selected papers / presentations were awarded with suitable prizes and certificates. The main objective of award ceremony was to encourage the young scientists and engineers to further work for the development of Aluminium industry. In the concluding session, participants of IBAAS-2023 conference have provided their feedback and requested to encourage papers and presentations on digitisation of aluminium industry, de-carbonisation and non-metallurgical bauxite-alumina, where India can play vital role in the world. It is also suggested to have brainstorming sessions on various important aspects of aluminium industry. This is well noted by IBAAS team and the future conferences may incorporate some of these suggestions. The conference souvenir, list of presented papers / delegates and photographs of IBAAS 2023 are uploaded on IBAAS website (<http://www.ibaas.info/>). All the feedback and comments can be sent to [info@ibaas.info](mailto:info@ibaas.info).

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