



## IBAAS – 2016 Symposium Report

The 5<sup>th</sup> IBAAS symposium on the topic ‘Aluminium Industry-The Evolving Asia-Pacific Story’ was held successfully in Goa India during September 26 – 28, 2016. This International Symposium (IBAAS 2016) was jointly organized with The Indian Institute of Metals (IIM) and attracted more than 200 delegates from all over the world. The conference was organized closely in association with Indian Primary Aluminium Producers like HINDALCO, VEDANTA and NALCO. The first day theme of the conference was ‘Energy Reduction in Aluminium Smelting’ jointly organised by IBAAS and IIM.

The IBAAS 2016 was inaugurated by Mr. Balvinder Kumar, Secretary, Ministry of Mines, Government of India. The conference was also graced by Guests of Honor Dr. T K Chand, CMD, NALCO and Dr I. Manna, President of The Indian Institute of Metals (IIM) and Director IIT Kanpur. Other important dignitaries from India included Mr. Abhijit Pati, CEO, Vedanta, Dr. Biswajit Basu, Deputy Head Aditya Birla Science & Technology (the research & technology arm of Aditya Birla) & Vice President, IIM (Non-Ferrous). Among the foreign participants, leading alumina & aluminium experts such as Mr. Rene Von Kaenel of KAN-NAC, Switzerland, Mr. Benoit Feve, Rio Tinto ALCAN, Professor Halvor Kvande, Emeritus Professor-NTNU, Norway, Mr. Richard Flook, Australia, Ms. Alison Saxby, Roskil, UK, Ms. Samantha Wietlisbach, Switzerland and Mr. Xavier Bapst, Alteo Alumina, Japan were present.

As many as 77 technical papers were presented in the conference during 2 and half days of deliberations covering wide range of subjects from Bauxite Mining to Aluminium Downstream products. The presentations were grouped into Bauxite-Alumina, Non Metallurgical Bauxite & Alumina (Specials), Bauxite Residue, Aluminium smelter design and Spent Pot Lining, Sustainability and Environmental Issues, Secondary and Downstream manufacturing etc. About 200 delegates including 60 foreigners participated in the above event.

The symposium was spread over in 9 Technical Sessions covering topics like Energy Reduction in Aluminium Smelting, Special Alumina & Non-Metallurgical Bauxite, Key note addresses by renowned speakers on Bauxite – Alumina, Bauxite Residue Handling, Storage

& Utilisation, Aluminium Smelting, Aluminium Downstream and Transportation & Conductors. The symposium was organised professionally, well attended and provided valuable inputs for the aluminium industry. The topics of the Symposium were quite relevant and interesting especially for the Energy Reduction in Aluminium Smelting session and special alumina session. It also provided platform for exchange of knowledge and deliberations on technical challenges in the Aluminium industry. Contents of the presentations were excellent and of high level. Many delegates felt that the event was of a grand success. Main outcomes were as follows:

- ❖ Majority of the delegates felt that Growth of Aluminium Industry in India has potential to provide a significant impetus for the success of “Make in India” campaign of Government of India. Aluminium consumption in India is likely to be in the order of 5 to 6 million tons per annum by 2020-22 for which at least 12 to 15 million tons Alumina would also be required to be produced. The cost-effective self-sufficiency in the metal can be achieved against the present import of as much as 60% for the demand prevailing in the country.
- ❖ Aluminium is a green metal and “Metal of Future” as the same can be recycled infinite times without degradation or significant loss. Estimates show that as much as 70% of Aluminium Metal produced from the beginning of the industry over 125 years back is being reused even now. Aluminium is key input for meeting the requirement of ambitious mission of Smart Cities, Digital India, 24X7 Power supply to all, utilization of water ways increasing utilization in automobiles from cars to railway wagons/ trucks/ tankers; and a critical material for defense. It is also crucial material contributing to climate change; and various commitments made by the Government in International climate change forums. It is therefore imperative that this industry should be given the status of Infrastructure as well as Core Industries and developed with high priority.
- ❖ Aluminium Industry is a “Gold Mine” for the development of the Country, especially the Eastern States and requires tapping appropriately and fast for its benefits to accrue. It is essential to enhance the value addition of metal as presently in India, Aluminium is used in 300-400 applications where as world- wide it is used in almost 3000 applications; indicating the huge untapped potential.

- ❖ Reduction of Energy consumption in Indian Aluminium Smelter is critical for sustainability of industry. In a day long symposium on energy reduction in smelting, experts from industry (VEDANTA, HINDALCO), technology providers (RTA, SGL, OSI-soft), research & academia (ABSTC, NTNU, BEE & JNARDDC etc.) deliberated on various challenges, initiatives taken and way forward to reduce energy consumption in smelting. At the end in the panel discussion delegates and session chairs emphasised to carry out systematic collaborative research to achieve significant reduction from the present energy consumption levels, which will contribute to reduction in CO<sub>2</sub> emission also and thereby help the country to adhere to the reduction norms agreed by the Hon'ble Prime Minister in the Paris convention. It was decided to develop plan jointly with industry, IIM, IBAAS & AAI for this initiative for submission to Ministry of Mines.
- ❖ IBAAS - the International Bauxite Alumina & Aluminium Society with number of experts from Indian Aluminium Industry having vast knowledge in the field should be associated with CPCB and the Alumina Producers in developing the norms for the Red Mud storage and utilization. This is being projected by the Ministry of Environment & Forests, where in bulk utilization of bauxite residue may become mandatory to reduce further usage of land for storage purpose. IBAAS can assist Ministry to formulate the guidelines, keeping in view the "Sustainability of the Industry" as prime objective.
- ❖ IBAAS can work along with Aluminium Association of India (AAI), Confederation of Indian Industries (CII) & Aluminium Stewardship Initiative (ASI) in preparing the 'Technology Roadmap' for the Industry keeping Sustainable growth as objective.
- ❖ The Primary Aluminium Industry must target to spend at least 1% of their earnings towards Research & Technology Development purpose, in a phased manner, initially to absorb, internalize and improve the licensed/available technology; and later to develop indigenously technologies so that the Country can have its own technology by 2025. Indigenous fabrication of all supporting equipment, for end-to-end processing of aluminium offers a significant opportunity to the domestic engineering industry.

- ❖ Building up competency for non-ferrous metal processing is an important aspect. Setting up centers of excellence for non-ferrous metals, in academic institutes of repute; to support continuous generation of trained technical manpower covering all aspects of the process is important.
  
- ❖ The main hindrance in expansion of Alumina refining capacity is non-availability / non-development of new Bauxite mines except that of captive mine of Utkal Alumina. Alumina Refineries of VEDANTA in Odisha and ANRAK in Andhra Pradesh are starving for bauxite despite having large resources in these states. VEDANTA is operating at partial capacity using bauxite from diverse sources which is un-economical and non-sustainable in the long run. The pre-eighties alumina refineries such as HINDALCO's Belgaum and Renukoot plants are also staring at similar fate due to non-availability of steady/long term sources of good quality bauxite. The grievances of small bauxite mine owners of Kutch district (Gujarat) may also be looked upon as they are not allowed to operate, whereas same is permitted in other parts of Gujarat.