Welcome to the

37th Conference and Exhibition

ICSOBA 2019

16 - 20 September 2019, Krasnoyarsk, Russia

In cooperation with Non-Ferrous Metals and Minerals of Siberia and RUSAL

ICSOBA

www.icsoba.org

ICSOBA

The Technology Conference of Aluminium Industry, for Aluminium Industry




Invitation

Dear Colleagues,

The International Committee for Study of Bauxite, Alumina & Aluminium (ICSOBA) has great honor to announce the 37th International Conference and Exhibition of ICSOBA. The event will be held in Krasnoyarsk, Russia from 16 to 20 September 2019 in cooperation with 25th "Aluminium of Siberia" Conference within XI International Congress & Exhibition "Non-Ferrous Metals and Minerals" (NFM). The host sponsor is RUSAL.

Objectives of the Conference are to:

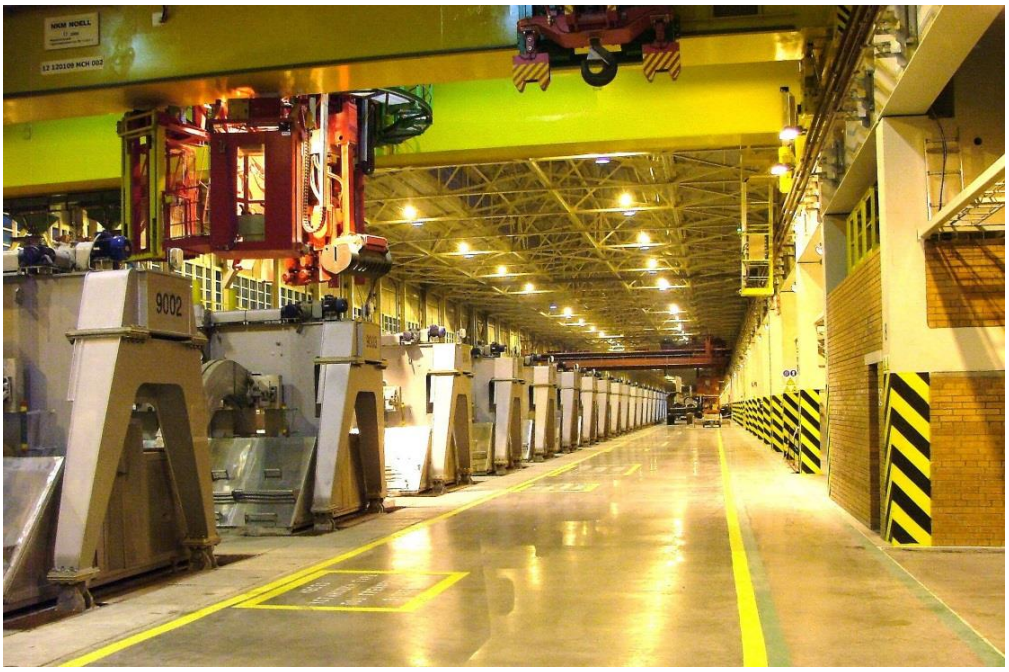
- Review the status of bauxite, alumina and aluminium industries in the world with emphasis on Russia;
- Discuss promising research developments aimed at production, productivity and cost improvements;
- Highlight proposed Greenfield and Brownfield activities in the aluminium industry;
- Discuss advances in the field of environment and safety;
- Update market aspects of bauxite, alumina and aluminium and their products;
- Provide an excellent opportunity to interact with international experts, scientists, engineers, technology suppliers, equipment manufacturers and representatives of aluminium industries the world over;
- Facilitate university students meetings with industry representatives.

We look forward to seeing you at the ICSOBA 2019 in Krasnoyarsk.

The International Committee for Study of Bauxite, Alumina and Aluminium (ICSOBA) is an independent non-profit association that unites industry individual and corporate members representing major bauxite, alumina and aluminium producing companies, technology suppliers, researchers and consultants from around the world. The main objective of ICSOBA is to promote the exchange of ideas and results of the work from different fields of research and current practice from bauxite mine to primary aluminium.

Since 1963 ICSOBA annual technology conference is organized in different parts of the world and proceedings are published as TRAVAUX volumes.

ICSOBA "Gold" Anniversary Medal



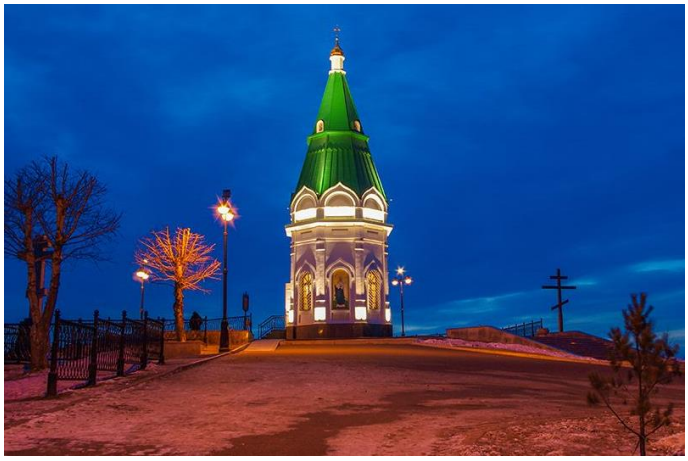
Rusal and Russian Aluminium Industry

Birth of Russian aluminium industry took place in 1932 with the creation of Volkhov aluminium smelter near Leningrad. Since that time, over 10 alumina refineries and 15 aluminium smelters have been built in USSR / CIS countries using domestic and imported raw materials. The unique feature of Russian aluminium industry is that the absence of high quality local bauxites and strategic reasons led to creation of unique technologies to process domestic low-grade bauxites and non-bauxitic raw materials such as nepheline, clays and alunite. The nepheline technology is waste-free, allowing converting all ore components to useful products like soda ash and cement. There are also developments to extract scandium oxide, gallium and vanadium pentoxide while processing bauxites.

Russian Aluminium Company, RUSAL is now a leading global aluminium producer of primary aluminium and alloys. In 2017, UC RUSAL accounted for approximately 5.8 % of global production of aluminium and 6.3 % of alumina. UC RUSAL employs 61 000 people in 20 countries across 5 continents.

The Company's production chain is vertically integrated and begins at the bauxite and nepheline ore mines, then moves through the alumina refineries, the aluminium smelters and casting houses, the foil mills and ends at a packaging and wheel production centers.

One of the Company's main priorities is becoming a global leader in terms of aluminium production efficiency whilst still maintaining one of the lowest carbon footprints in the industry. To achieve this, UC RUSAL is investing in in-house R&D and is implementing RA-550 smelting technology and revolutionary inert anode technology, new technologies of alumina production and bauxite residue valorization. The Company is also developing new products, including new types of alloys and is upgrading its production facilities.



About the Conference

Important dates:

25 February 2019	Registration opens
1 June 2019	Abstract submission deadline
15 June 2019	Early bird registration closes
30 June 2019	Full paper submission deadline
1 August 2019	Presentation submission deadline
20 August 2019	Deadline for booking a booth
16 September 2019	Conference Starts

The abstracts deadline passed on 1 June 2019, so there is no possibility of submission of new papers and presentations for the conference.

Paper selection and review is made by ICSOBA Technical Committee under the leadership of Program Director and Subject Organizers.

The submission of abstracts, papers and presentations is managed by ConfTool which is customized for ICSOBA 2019 Conference. The access to ConfTool is via ICSOBA website https://www.icsoba.org/submission-abstracts-and-papers.

Language:

Presentations will be held in English or Russian with simultaneous translation, and PowerPoint presentations will be shown in both languages. All papers and presentations in English will be published on USB stick available to all participants. The paper proceedings book is available after the conference on the basis of individual application.

Venue of the Conference:

The conference will take place in Business Centre «Siberia», Aviatorov str., 19, Krasnoyarsk, Russia. Individual reservations may be requested directly using the Siberia hotel email at: info@siberiahotel.ru. Please mention that it is for ICSOBA conference participant. No rooms are set for ICSOBA at the Siberia hotel. The rooms will be distributed on the first-come, first-served basis. Do not delay your room reservation.

Accommodation options:

Please find below the list of Krasnoyarsk Hotels recommended by the Organizing committee. However, participants can stay in any other preferable places. Hotel Krasnoyarsk will have daily free shuttle service to conference venue, organized by NFM.

Hotel	Address	Phone	Website
Siberia	Aviatorov str., 19	+7 (391) 200–44–04	www.siberiahotel.ru
Krasnoyarsk	Uritskogo str., 94	+7 (391) 274–94–03	www.hotelkrs.ru
Novotel Krasnoyarsk Center	Karla Marksa str., 123	+7 (391) 204–13–05	www.novotel.com
Ibis Krasnoyarsk Center	Karla Marksa str., 123	+7 (391) 204–13–00	www.ibis.com
Hilton Garden Inn	Molokova str., 37	+7 (391) 257–02–02	www.hilton.ru
Oktyabrskaya	Mira ave., 15	+7 (391) 223–08–08	www.hoteloctober.ru
Lights of Yenisey	Dubrovinskogo str., 80	+7 (391) 227–52–62	www.oe-hotel.ru

Russian Visa:

The campaign of providing Russian business visa support by Light Metals of Siberia is closed. The time has passed already (Sunday, 4th August) and now this service can no longer be provided, since nobody will be able to get the Federal Migration Service of Russia invitation letters on time. If somebody will need Russian visa, there is only one way out is to apply for a tourist visa. In this case participants could ask for any tourist agency to issue a tourist visa. Remember that then the official aim of your visit is tourism (to visit Russia, to see Siberian nature etc.). It is the sole responsibility of the participant to arrange the necessary paperwork for entry to Russia.

How to reach Krasnoyarsk:

Krasnoyarsk International Airport facilitates 65 destinations, including 45 domestic and 20 international destinations in 14 countries of the world – Europe, Central and South East Asia, Far East.

The most convenient connection for international passengers are via Moscow, Saint Petersburg and Beijing.

Program at a Glance

Date / Time		Bauxite, Alumina, Bauxite Residue	Aluminium reduction technology	Carbon materials	Casting, deformation & recycling	Additive technology	Metallurgy of silicon
Monday 16th September	9.30-10.00	Registration					
	10.00-16.00	Technical session 1					
	16.00-17.30	**ICSOBA Corporate Members Council**					
	18.00-21.00	**Welcome Cocktail**					
Tuesday 17th September	8.00-10.00	**Registration**					
	10.00-11.00	**Congress and Exhibition Opening Ceremony**					
	11.00-16.00	**Plenary Session**					
	16.30-17.30	**ICSOBA Members Meeting**					
	18.00-21.00	**Gala Dinner**					
Wednesday 18th September	9.00-18.00	Technical session 2	Technical session 1	Technical session 1	Technical session 2	Technical session 1	
	18.30-21.00	***Cultural trips:*** ❖ Siberian Extreme ❖ Krasnoyarsk bus tour					
Thursday 19th September	9.00-18.00	Technical session 3	Technical session 2		Technical session 3		Technical session 1
	18.00-19.00	**Congress and Exhibition closing ceremony**					
	19.00-21.00	**Organizers and sponsors dinner**					
	18.30-21.00	***Cultural trips:*** ❖ Siberian Extreme ❖ Krasnoyarsk bus tour					
Friday 20th September	8.00-18.00	***Field trips:*** • Achinsk alumina refinery, Achinsk					
	6.00-23.00	• Sayanogorsk smelter, Sayanogorsk					
	9.00-12.00	• Krasnoyarsk smelter, Krasnoyarsk					
	09.30-15.00	❖ Nature reserve “Stolby”, Krasnoyarsk					

There will be additional sessions on mineral resources and metallurgy of other non-ferrous, rare and precious metals organised by NFM at the same time.

Speaker Program*

Keynote ICSOBA - NFM Session:

Technology Development and Innovation at UC RUSAL
Viktor Mann, Technical Director - UC RUSAL, Russia

Challenges and way-forward for aluminium industry
Bibhu Mishra, Head, Manufacturing Centre of Excellence - Hindalco, India

Historical Development of the Largest Smelter in the Middle East
Abdulla Habib, Chief Operations Officer - Aluminium Bahrain, Bahrain

The Use of Aluminium in Automotive Industry
Alexander Krokhin, Head, Developments of New Alloys - UC RUSAL, Russia

Current Situation of Alumina Industry in China and Its Technical Demand
Yin Zhonglin, Chief Engineer (Alumina) – CHINALCO, China

Pre-Baked Anode Market and Production Overview in China
Joe Woo, Associate Director, R&D - Sunstone Development, China

A successful model of collaboration for innovation between University and Aluminium Industry
Houshang Alamdari, Director - REGAL Aluminium Research Centre, Canada

An Overview of the Bauxite, Alumina and Aluminium Markets and their Costs
Martin Jackson, Analyst, Aluminium costs - CRU Group, United Kingdom

Bauxite & Alumina Session *(selected papers, only speakers are shown)*:

Development of Technology for Carbonate Removal from North Urals Bauxite at BAZ
Alexey Pivovarov, RUSAL ETC, Russia

An Overview - the Quality of Digested Bauxites, Bosnian & Herzegovinian and Montenegrin origin, in Alumina Refinery Zvornik (2014-2018)
Zeljko Ostojic, Alumina, Bosnia and Herzegovina

Effect of bauxite mineralogy on Bayer digestion process selection
Zhengyong Zhang, SAMI, China

Digestion of Boehmitic Bauxites and Liquor Stability: Problems, Challenges and Opportunities
Ahmed Al Brahim, Maaden, Saudi Arabia

Alumina Technology Roadmap
Ann Duncan, Hatch, Canada

** The program is subject to change in course of finalization and acceptance of papers.*

Digestion-Evaporation Combined Process in Alumina Refinery
Prof. Yi Xiaobing, GAMI, China

Mechanical Vapour Recompression applied to Alumina Spent Liquor Evaporation Plants
Francois Delannoy, GEA, France

A New Vortex Erosion Test Methodology for Evaluating Erosion Resistance
Lachlan Graham, CSIRO, Australia

Settling Ability of Jamaican Bauxite Residue based on Bauxite Feed and Vessel Design
Monique Morgan, Jamalco, Jamaica

Control of Product Size and Strength with Challenging Impurity Balance
Marian O'Dea, Aughinish Alumina, Ireland

Optimization of alumina precipitation circuit arrangement using simple modelling tool
Denis Audet, Audet Process Audit, Australia

Implementation of the Generation 5 Calciner
Alessio Scarsella, Outotec, Germany

The Driverless Alumina Refinery
Nicholas Salmon, Worley, Australia

Near Infra-Red based Mineral Phase Online Analysis of Bauxite – Implementation Results
Petra Mühlen SpectraFlow-Analytics, Switzerland

Descaling Robot Arms improve Health and Safety while increasing productivity
Eloise Harvey, Mecfor, Canada

RUSAL Alumochloride Technology – Efficient and Waste-Free Alumina Production from Non-Bauxite Resource
Andrey Smirnov, RUSAL ETC, Russia

Techno-Commercial Evaluation of Chloride Based Production Routes for Metals and Materials
Herbert Weissenbaeck, SMS Group, Germany

The Altech process to produce high purity alumina from kaolin clay
Iggy Tan, Altech, Australia

Research results and prospects for acid-salt processing of low quality bauxites and other alumina-containing raw materials in a closed circuit
Ruslan Khamizov, NewChem Technology, Russia

Extracting alumina from coal fly ash with ammonium bisulfate leaching
Li Laishi, Shenyang University of Technology, China

Industrial Trials Results of Scandium Oxide Recovery from Red Mud at UC RUSAL Alumina Refineries
Olga Petrakova, RUSAL ETC, Russia

State-of-the-art Bauxite Tailings Disposal Facilities and Techniques
Breno Castilho, Norsk Hydro, Brazil

Bauxite residue safety disposal and possibilities to further utililization. II. Maize plants growth on the acidic soils (pilot and demonstration stage)
Lucian Cotet, Alum, Romania

The study of the tailings discarded at Mina Alumina Limited, a bauxite mining and processing company located in Mozambique, Southern Africa
Quiven Inoque Ebicha, Eduardo Mondlane University, Mozambique

A comparison between various pump systems for high flow rate tailing pipelines
Thoralf Rassmann, Feluwa, Germany

Valorization of Canadian Bauxite Residue for the Recovery of Strategic Materials
John Anawati University of Toronto, Canada

Aluminium Reduction Technology Session *(selected papers, only speakers are shown)*:

Electromagnetic Modeling of Aluminium Electrolysis Cells Using Magnetic Vector Potential
Dagoberto Severo, CAETE Engenharia, Brazil

AD20+: a more ecofriendly glue for aluminum pot sides with improved properties
Benedicte Allard, Carbone Savoie, France

RUSAL Resource-Saving Technologies
Viktor Mann, RUSAL, Russia

Restart of Shutdown Pots - Troubles, Solutions and Comparison with Normal Pots to Improve Results
Ved Prakash Rai, Hindalco Industries, India

Revision of Cathode Lining Design at ETI Aluminium
Ilker Yildiz, ETI Aluminium, Turkey

Second Attempt to Break 10 kWh/kg Energy Consumption Barrier Using a Wide Cell Design
Marc Dupuis, Genisim, Canada

New Study and Application of Intelligent Breaking Control Device for Aluminium Reduction Pot in the MPPIC Technology
Yi Xiaobing, Chaileco GAMI, China

Cathode Life and Failure of a Large Capacity CWPB Pot
Yi Xiaobing, Chalieco GAMI, China

360 kA Hall-Héroult cell retrofit using Inert Anodes and Stable Cathodes
Louis Bugnion, Kan-nak SA, Switzerland

Concepts for Alumina Handling in Smelters - Efficiency from Port to Pot
Jan Paepcke, Claudius Peters Projects, Germany

Enhancement of the RA-550 Technology: Issues and Their Solutions
Andrey Zavadyak, RUSAL, Russia

Challenges & Latest Progress in IPCC Methodology for estimating the extent of Greenhouse Gases Co-evolved in the Aluminium Reduction Cell
David Wong, University of Ackland, New Zealand

Laboratory Evaluations of Ceramic Sidelining Materials
Egil Skybakmoen, SINTEF, Norway

Change of anode operation pattern from single to double staircase at Albras
Camila Rabelo Silva, Albras – Aluminio Brasileiro, Brazil

Linking Electrochemistry, Modern Cell Design and Operating Conditions, for a Better Understanding of Anode Reactions and Various Levels of PFC Coevolution,
Barry Welch, University of N.S.W, Sydney, Australia & Welbank Consulting Ltd, New Zealand

Energy Optimization and Emission Improvement in Fume Treatment in EGA Jebel Ali Smelter
Mohamad AbdulGhafor Hussein, EGA, UAE

Environmental Benefits of Using Spent Pot Lining in Cement Production
Mohammad Aljawi, EGA, UAE

Design of Smelter Magnetic Solutions Using MHD Code
Robert Chahine, Rio Tinto, France

Carbon Monoxide Emissions from Electrolysis Process in EGA Smelters,
Mohammad Aljawi, EGA, UAE

Observation of Dissolution of Alumina and Bubble Behaviors in Molten Salts with High Temperature Transparent Electrolytic Cell
Bingliang Gao, Northeastern University, China

Recycling of Solid Waste in Aluminum Electrolysis in China,
Bingliang Gao, Northeastern University, China

***Carbon* Session** *(selected papers, only speakers are shown)*:

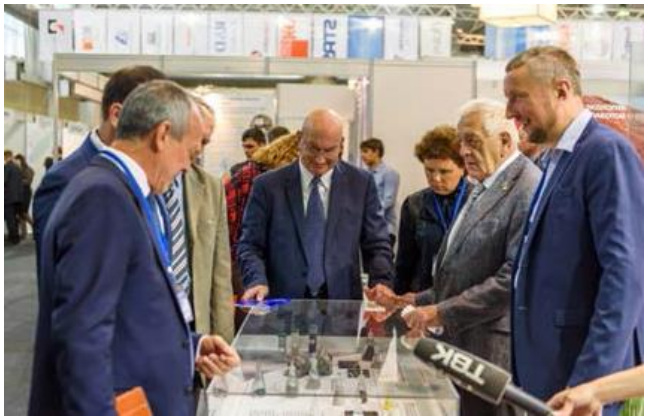
Successful experience of prebaked anode production at the RUSAL Volgograd plant
M. Golubev, RUSAL ETC, Russia

Real Anode Temperature Measurement in Anode Baking Furnaces – From Thesis to a New Standard
Werner Meier, Riedhammer, Germany

Nondestructive Control of Physico-Mechanical Properties and Quality of Carbon Materials and Products Used in the Production of Aluminum
E.Z. Kovarskaya, ZVUK, Russia

Anhydrous Carbon Pellets – An Engineered CPC Raw Material
Les Edwards, Rain Carbon, Belgium

New insights toward the characterization of the carbon paste forming process
Zahraa Kansoun, Aluminium Research Centre - REGAL, Department of Civil and Water Engineering, Laval University, Canada



Exhibition

During the Conference there will be a 2160 m^2 Exhibition of latest technologies, equipment and other devices for the aluminium industry. Companies can give a presentation at the Exhibition. The information about exhibition is available on the NFM Congress website: http://en.nfmsib.ru/exhibition-layout/.

TECHNICAL FIELD TRIPS

The ICSOBA-2019 program provides for visiting Rusal plants on Friday, ***20 September***:

- Achinsk alumina refinery;
- Krasnoyarsk aluminium smelter (including eco Soderberg potroom and foundry production);
- Khakas aluminium smelter (RA-550, casting production).

Achinsk Alumina Refinery

RA-550 pots

Khakass Aluminium Smelter

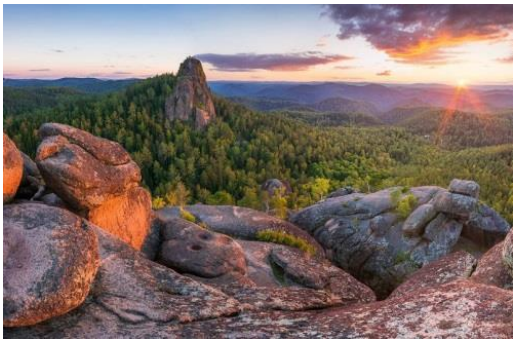
MECHATHERM Furnaces

BROCHOT Casting Line

HERTWICH Casting Line

Since September 1, 2019 the registration to all plants' excursions is closed, since the limit of visitors has already been exceeded

Recreational Visits



Enjoy social programme: Visit sights of Krasnoyarsk kray, know the Siberian customs and habits, tour to the cryophil club (bath in the Yenisei river) and the National Nature Reserve "Krasnoyarsk Stolby".

REGISTRATION

The registration will be on Monday, 16 September and Tuesday, 17 September. Conference registration shall be done in advance that is managed by ConfTool which is customized for ICSOBA 2019 Conference. The access to ConfTool is via ICSOBA website: https://www.icsoba.org/registration-1. After registration you will receive an invoice for paying by credit card (using Stripe), PayPal or wire transfer.

ICSOBA (since 1963) is a non-profit organization, so the delegate fees are maintained low. The fees include Welcome Cocktail, Gala Dinner, as well as all lunches and coffee breaks during the speaker program. Other dinners are excluded. A bag with all event material including USB with conference program, proceedings and presentations is also included in the conference fee.

Fees:

Fees in USD	**Early bird**	**Normal**
Delegate	800	900
Conference speaker		800
Student or retired delegate		280
Excursion to RUSAL Krasnoyarsk smelter		30
Excursion to RUSAL Achinsk refinery		50
Excursion to RUSAL Khakas smelter		80
Excursion to the Nature National Reserve “Stolby”		30
Advertisement in the Program Book (one full-color printed page A5)		1000

Deadlines for registration:

June 15	To enjoy the low, early bird registration fee
August 1	For speakers and for delegates requiring business visa support
August 20	For delegates without business visa support

ORGANIZING COMMITTEE

ICSOBA 2019 President:	Victor Mann
General Coordination:	Claude Vanvoren, Frank Feret Andrey Panov , Matthieu Arlettaz Olga Popova, Margarita Berngardt
Program Directors:	Michel Reverdy, Peter Polyakov
Subject Organisers:	Stephan Beaulieu / Andrey Panov (alumina) Vinko Potocnik/ Victor Buzunov (aluminium) Matthieu Arlettaz / Yuri Frantsev (carbon)

SPONSORS

We invite companies to become sponsors of this conference. Potential SPONSORS are welcome to visit the ICSOBA website at www.ICSOBA.org.

CONTACT US

For questions on registration, payment and sponsoring, please contact ICSOBA organizers at info@icsoba.org.

The Icsoba Annual Event is the

Technology Conference of the Aluminium Industry,

for the Aluminium Industry.

ICSOBA

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