

# Newsletter

*Volume 21*

*June 2019*



ICSOBA



**International Committee  
for Study of  
Bauxite, Alumina and Aluminium**

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*The picture on the front page shows the Siberian power plant in Krasnoyarsk, where the 2018 ICSOBA conference takes place.*

*In case you consider publishing in this forum, please contact the editors before writing your article.*

*Deadlines for a June issue is 10th of June and for a December issue 10th of December.*

## Foreword

Dear ICSOBA Members,

At the time of printing this foreword, we are only three months ahead of our 37<sup>th</sup> international conference which will be held in the Business Center “Siberia” in Krasnoyarsk, Russia, from 16<sup>th</sup> to the 20<sup>th</sup> of September with RUSAL as Host Sponsor. This year conference is in cooperation with the 25<sup>th</sup> “Aluminium of Siberia” conference within the XI International Congress and Exhibition “Non-Ferrous Metals and Minerals. The program organizers received close to one hundred abstracts. As you understand, complying with abstract and full paper deadlines is paramount to ensure quality review by the Technical Committee. However, as a tradition with ICSOBA, we will make our best efforts to integrate late abstracts.

Since the Belem conference our aluminium landscape again faced significant changes with a continuation of the downward trend of the LME which withdrew from around 2000 \$/t to 1750 \$/t. In the same time, the alumina market settled at about 350 \$/t after a year of very high volatility consecutive to Alunorte production cuts and Alcoa Western Australia strikes. Early 2019 saw the lift of US sanctions against RUSAL and announcement of the return of Alunorte to full production. Also, in the Middle East, the Al Taweelah EGA refinery was started. Finally, Guinea confirmed its first rank in seaborne bauxite market.

Alongside those events and announcements, Industry 4.0 concept is making further progress and we are proud to have organized and chaired a session during 2019 Future Aluminium Forum in Warsaw, Poland. The event is a testimony of ICSOBA engagement to support development trends of automation and digitalisation in Aluminium Industry. Presentations given during this session were made available to ICSOBA Corporate Members.

This year ICSOBA is returning to Russia, a country with a long history of aluminium industries and technology development, and it will be the perfect forum to learn and debate those issues.

With probably the highest number of papers on bauxite, bauxite residue and alumina refinery amongst international conferences, ICSOBA is keen to contribute to the development and the dissemination of new solutions to reduce our industry environmental footprint.

Smelting and Carbon sessions will also give opportunities to listen to latest innovation in the industry and plenary keynote session will stage renowned speakers including representatives from our host company, RUSAL, but also to several Indian and Chinese industry leaders, as well as market and general presentation from CRU.

As you know, ICSOBA vision is to be The Technology Conference of the Aluminium Industry, for the Aluminium Industry. ICSOBA is a truly international organization which is reflected in its Board composition integrating a fully diversified association representatives, both in terms of Companies and Geography.

ICSOBA is one of the rare organizations, if not the only, bringing its conference on the home turf of its members having recently visited Brazil, Canada, China, Germany, India, Russia and UAE, thus providing unique opportunity for local contributors to take on the stage and share their success or their challenges with technical, operation and management colleagues.

ICSoba is also and mainly an organization belonging to its members. Krasnoyarsk general assembly will provide an opportunity for the Board to report on the work done since the last conference and for the members to express their views and votes.

Participating in an ICSoba event is not only rewarding for a delegate but more importantly it is also of high return for delegate's companies through the know-how they bring back home from these few days.

As of this 37<sup>th</sup> ICSoba conference, I would like to extend my best wishes, on behalf of the ICSoba Directors, to all of you for an enjoyable and successful conference in Krasnoyarsk.

Looking forward to welcoming you in Krasnoyarsk,

With my best regards,

Dr Claude H. Vanvoren  
Chairman of ICSoba



## UPCOMING EVENT: ICSoba 2019 in Krasnoyarsk, Russia 16 – 20 September 2019



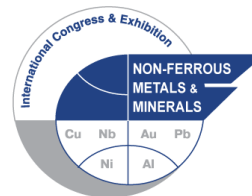
**Organized by:**



**In cooperation with:**



**RUSAL**



### *Conference Organization*

In the past few years, the ICSoba forum was the scene of five-day gatherings in various parts of the globe. The ICSoba 2019 Conference and Exhibition is also geared up to exceed all our expectations. The 37th conference of ICSoba will take place in Krasnoyarsk, Russia from 16 to 20 September 2019 and will be organized in cooperation with X International Congress and Exhibition Non-Ferrous Metals and Minerals (NMF; <http://www.nfmsib.com/>). The NMF's annual Congress & Exhibition unites four international forums, passing in Siberia within 20 years: Conference and Exhibition Aluminium of Siberia, Conferences Gold of Siberia and Metallurgy of non-ferrous and rare metals and Forum Mineral and raw materials sources. This meeting also features an exhibition, workshop, excursions to the metallurgical plants of the Krasnoyarsk region. Some practical pieces of information are available for you below. For more information, please visit the website (<https://www.icsoba.org/icsoba2019>).

Krasnoyarsk Territory is one of the senior and major metallurgical regions of Siberia. Krasnoyarsk Territory is in the forefront of resources and minerals mining in the world, especially in such metals as copper, nickel, cobalt, aluminum, gold and platinum. Major projects on development resource base and deep minerals recycling are implemented in Krasnoyarsk region. Our congress is a platform for experts to discuss usage of scientific achievements, latest technologies, innovation materials, equipment operation.

## Registrations

Please note that registration deadlines are fast approaching.

### 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, Registration with NFM visa support
20 August 2019	●	Deadline for booking a booth Registration without NFM visa support

The abstracts deadline passed on 1 June 2019, so decision of accepting new abstracts is considered by the Organizing Committee on individual basis. The Organizing Committee is inviting the submission of papers and presentations for the conference. Abstracts and papers should be written in the ICSoba 2019 Author Guidelines and Paper Template, the presentations should use ICSoba 2019 Presentation Template, both available on the ICSoba website.

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>.

The exhibitors' registration is available on the NFM Congress website: <http://en.nfmsib.ru/general-2/>.

## Fees

After registration you will receive an invoice for paying by credit card, 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.

<b>Fees in USD</b>	<b>Early bird</b>	<b>Normal</b>
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
Potential SPONSORS are welcome to visit the ICSoba website at <a href="http://www.ICSoba.org">www.ICSoba.org</a>		

## Program of the Conference

### Program at Glance of the “Aluminium of Siberia / ICSoba -2019”

Date / Time		Bauxite, Alumina, Bauxite Residue	Aluminium reduction technology	Carbon materials	Casting, deformation & recycling	Additive technology	Metal-lurgy of silicon
Monday 16 <sup>th</sup> September	8.30-9.00	Registration					
	9.00-16.00	Technical session 1					
	16.00-17.30	ICSOBA Corporate Members Council					
	18.00-21.00	Welcome Cocktail					
Tuesday 17 <sup>th</sup> September	8.00-10.00	Registration					
	10.00-11.00	Congress and Exhibition Opening Ceremony					
	11.00-16.40	Plenary Session					
	15.00-17.30				Technical session 1		
	17.30-21.00	Gala Dinner					
Wednesday 18 <sup>th</sup> September	8.00-17.30	Technical session 2	Technical session 1	Technical session 1	Technical session 2	Technical session 1	
	13.00-13.30	ICSOBA Members Meeting					
	18.00-21.00	<u>Cultural trips:</u> ❖ Siberian Extreme ❖ Krasnoyarsk bus tour					
Thursday 19 <sup>th</sup> September	8.00- 17.30	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					
Friday 20 <sup>th</sup> September		<u>Field trips:</u>					
	6.00-18.00	• Achinsk alumina refinery, Achinsk					
	6.00-23.00	• Sayanogorsk smelter, Sayanogorsk					
	9.00-12.00	• Krasnoyarsk smelter, Krasnoyarsk					
	10.00-15.00	❖ Nature reserve “Stolby”, Krasnoyarsk					

### Speaker Program:

- I. Sections within the joint ICSoba - NFM program on 16- 19 September:
  - Plenary Session
  - Bauxite mining
  - Alumina refining
  - Bauxite residue
  - Aluminium reduction technology



- Carbon materials
- Casting, deformation and recycling
- Additive technology

## II. Round-Table Discussions

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

The confirmed keynote speakers for the Plenary ICSoba – NFM Session on Tuesday are:

- **Victor Mann** (Technical Director at UC RUSAL) - Technical Development of UC RUSAL
- **Bibhu Mishra** (President & Head Manufacturing Center of Excellence at Hindalco Industries Limited at Aditya Birla Group) - Aluminium Industry in India: its Growth and Challenges
- **Abhijit Pati** (CEO Vedanta Aluminium Ltd) - Indian Aluminium Transformation Scenario on a Global Platform: Development through Downstream and Value-Added Products
- **Zhonglin Yin** (Zhengzhou Non-ferrous metals Research Institute Co. Ltd of CHALCO) - Current Situation of Alumina Industry in China and Its Technical Demand
- **Joe Woo** (Associate Director of Research and Development – Sunstone, China) - Pre-Baked Anode Market and Production Overview in China
- **Alexander Krokhin** (UC RUSAL) - The Use of Aluminium in Automotive Industry
- **Houshang Alamdari** (Director, REGAL Aluminium Research Centre, Quebec, Canada) - A successful model of collaboration for innovation between University and Aluminium Industry
- **Martin Jackson** (Research Analyst in CRU's Aluminium team) - An Overview of the Bauxite, Alumina and Aluminium Markets and their Costs.

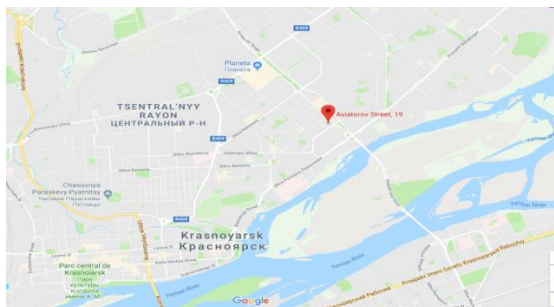
The submission of abstracts for the conference is closed at present. The most recent list of all abstracts registered for all sessions one can find at <https://www.icsoba.org/program-1>.

## Venue of the Conference and Accommodation

International Congress & Exhibition annually take place in the beginning of September in the very heart of Russia - city of Krasnoyarsk. Its intensive program includes workshop of world-renowned lecturers, round table discussions, seminars and three conferences. The Congress participants get the knowledge of industrial potential of Krasnoyarsk krai, visiting metallurgy enterprises. In addition to formal activities participants have an opportunity to join the social program including visits to Krasnoyarsk krai sights, initiation into Siberians and knowing of Russian habits and nature.

The conference will take place in *Siberia International Exhibition and Business Center* that is ideally located 5 km from downtown Krasnoyarsk.

Aviatorov Street, 19, Krasnoyarsk, Krasnoyarskiy kray 660000 Russia



The first recommended housing option is Siberia Hotel. No rooms are set for ICSOBA at the Siberia hotel. The rooms will be distributed on the first-come-first-served basis. Individual reservations may be requested directly using the hotel Email at: [info@siberiahotel.ru](mailto:info@siberiahotel.ru)

**Reservation department: +7 391 298-90-38**

Please feel free to contact the hotel for making a reservation or other questions:  
**+7 391 298-90-50 and +7 391 298-90-51**

Please mention that it is for ICSOBA conference participant. The special rate for a standard single room is 4700 RUB (Russian Rubel) for a superior room, and 5300 RUB for a business room, respectively per night. The price includes breakfast and internet. Other hotels are also available nearby. Do not delay your room reservation!

Please find below the list of Krasnoyarsk Hotels recommended by the Organizing committee. Besides the venue hotel Siberia, 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	<a href="http://www.siberiahotel.ru">www.siberiahotel.ru</a>
Krasnoyarsk	Uritskogo str., 94	+7 (391) 274-94-03	<a href="http://www.hotelkrs.ru">www.hotelkrs.ru</a>
Novotel Krasnoyarsk Center	Karla Marksa str., 123	+7 (391) 204-13-05	<a href="http://www.novotel.com">www.novotel.com</a>
Ibis Krasnoyarsk Center	Karla Marksa str., 123	+7 (391) 204-13-00	<a href="http://www.ibis.com">www.ibis.com</a>
Hilton Garden Inn	Molokova str., 37	+7 (391) 257-02-02	<a href="http://www.hilton.ru">www.hilton.ru</a>
Oktyabrskaya	Mira ave., 15	+7 (391) 223-08-08	<a href="http://www.hoteloctober.ru">www.hoteloctober.ru</a>
Lights of Yenisey	Dubrovinskogo str., 80	+7 (391) 227-52-62	<a href="http://www.oe-hotel.ru">www.oe-hotel.ru</a>

## Exhibition

During the Conference, an Exhibition of latest technologies, equipment and other devices for the aluminium industry is planned (17 - 19 September). Please confirm your participation at the earliest.

The exhibitors' registration is available on the NFM Congress website: <http://www.nfmsib.com/>.

## ***RUSAL and Russia 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 from clay using hydrochloric acid and bauxite residue valorization. The Company is also developing new products, including new types of alloys and is upgrading its production facilities.

## ***Plant Visits***

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

- Achinsk alumina refinery
- Krasnoyarsk aluminium smelter (including eco Soderberg and foundry production)
- Sayanogorsk aluminium smelter (RA-550, foundry production)

The timing of plant trip visits on Friday, **September 20** is as follows:

- Achinsk alumina refinery, Achinsk (6 am – 5 pm)
- Sayanogorsk smelter, Sayanogorsk (6 am – 11 pm)
- Krasnoyarsk smelter, Krasnoyarsk (9 am - 12 am)
- Nature reserve “Stolby”, Krasnoyarsk (10 am – 3pm)

If you would like to visit both the Krasnoyarsk smelter and Sayanogorsk smelter, please contact organisers - **Mrs. Margarita Berngardt** [margo@lmltd.ru](mailto:margo@lmltd.ru) for options.





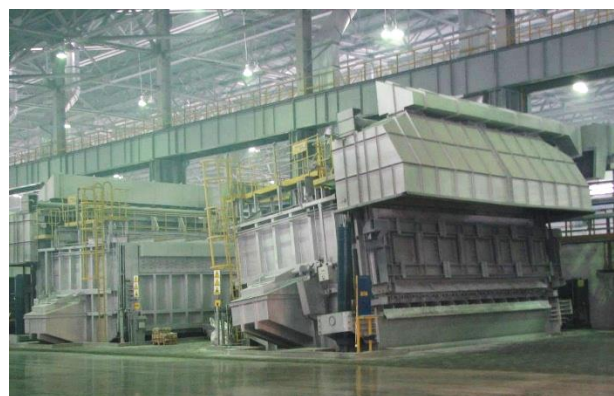
Achinsk Alumina Refinery



RA-550 pots



Khakass Aluminium Smelter



MECHATHERM Furnaces



ROCHOT Casting Line



HERTWICH Casting Line

## *Language*

Presentations will be in English and Russian. The papers and presentations will be published in English and Russian. Live translation will accompany all sessions and events.

## *Visa Support*

### **How to obtain a Russian business visa**

To obtain **the business visa** to Russia you will need to receive the official invitation from the company-organizer (Light Metals Ltd.), which is issued by the Department of the Federal Migration Service of Russia. Light Metals Company will file a petition to the Department on your behalf. After that the Federal Migration Service will start preparing the invitation. This procedure takes **22 working days**, because the documents should be checked by the Ministry of Foreign Affairs of Russia.

When the invitation is ready the organizing committee will send you the electronic version of it by e-mail. Then you should print it and apply for a business visa to the Embassy of Russia in your country.

Please contact **Mrs. Margarita Berngardt** [margo@lmltd.ru](mailto:margo@lmltd.ru) and she will assist you in obtaining a visa.

Take into account, that visa support costs 35 USD per participant to cover visa fee and invitation letters to the Russian federal migration service.

Please note that the official invitation does not guarantee you will be granted a visa. Organizing committee cannot send the letter to an embassy or consulate for you nor can we contact the embassy or consulate on your behalf. It is the sole responsibility of the participant to obtain the necessary paperwork for entry to Russia.

## *Retired & Student Incentives*

ICSoba offers great incentives for retired delegates and for students (including post docs) to attend the conference. From reduced fees to free meals to award opportunities, students can receive all the benefits the conference has to offer at a low cost.

This conference is a great opportunity to communicate your achievements to the aluminium community and to meet other experts in the field.

## *Sponsorship*

The event host sponsor is **UC RUSAL**. Other organizations that already declared sponsorship are: **Solvay**, **GEA Wiegand GmbH** and **Nalco Water, An Ecolab Company**. Several other organizations expressed their interest in becoming sponsors. Details of the 2019 sponsor fees and benefits are in [www.icsoba.org/Sponsors](http://www.icsoba.org/Sponsors).



## ICSOBA MATTERS - Life of the Association

To help you stay informed, here is the most recent news about ICSOBA. Happy reading!

### *ICSOBA 2019 President*

Beginning in 2015 the ICSOBA President is elected by the Board of Directors and comes from the organization becoming the host sponsor of the annual event. The 2019 President of ICSOBA and at the same time the representative of the host sponsor is Viktor Mann, Technical Director at UC RUSAL.



Viktor Mann, 2019 ICSOBA President

### *ICSOBA Financial Situation*

ICSOBA fiscal year with Revenue Quebec and Revenue Canada is from 1 January to 31 December. Management of ICSOBA is responsible for the preparation of these financial statements in accordance with Canadian accounting standards for not-for-profit organizations. Continuing our dedication to transparency ICSOBA finances are audited. Since 2013 a public accountants' office of Gariépy & Bussière CPA INC is requested to carry out the annual task. Gariépy & Bussière have reviewed the accompanying financial statements of ICSOBA that comprise the balance sheet as at December 31, 2018, and the statements of income, changes in net assets and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Summary of operations revenues and expenses (in CAD\$) for years ending 31 December 2018, 2017, 2016 and 2015 is as follows:

	2018	2017	2016	2015
EXPENSES	253,661	318,793	215,340	182,640
REVENUES	282,365	380,933	246,096	262,443
EXCESS OF REVENUES OVER EXPENSES	28,704	62,140	30,756	79,803
ASSETS CURRENT (Cash, GIC, Receivables, Prepaid expenses)	415,953	344,760	280,220	250,789
LIABILITIES CURRENT	47,793	5,304	2,904	4,229
NET ASSETS	368,160	339,456	277,316	246,560



Almost all liabilities of 2018 correspond to deferred Corporate Membership paid for several years to come. In the 2018 financial statements of the auditors we read: “Based on our review, nothing has come to our attention that causes us to believe that the financial statements do not present fairly, in all material respects, the financial position of ICSOBA as at December 31, 2018, and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.”.

As the financial statements reveal the excess of revenues over expenses was CAD28,704 last year, compared to losses in some of the previous years (2013, 2014). This was chiefly possible due to better than expected delegates participation from Brazil. Also, no services were hired to do local organization tasks as all contributions came from ICSOBA and HYDRO staff. The support from sponsors and exhibitors (\$106,116) was better than last year.

Following the financial review, the tax declarations were filed with Revenue Quebec and Revenue Canada for 2017. Confirmations have already been obtained that ICSOBA does not have taxes to pay and retains its not-for-profit status.

ICSOBA primary revenue leaders are the events and sponsors. We would like to take this opportunity to thank sponsors and exhibitors for your invaluable support. It is such a privilege to be able to count on a strong and devoted community. Your support makes a real difference. As a not-for-profit, ICSOBA focuses on using all resources to advance the association’s mission. The available funds belong to the association and are meant for the development and promotion of ICSOBA and future events. Some money reserve is necessary for rainy days and to continue uninterrupted operations and monetary advances. Present ICSOBA monetary reserve should help to ensure continuity of ICSOBA.

It is fair to acknowledge that it is not possible to have ICSOBA management working very hard and very long hours without some compensation. Also, several volunteers provide significant amounts of time to the activities of the organization. Because of the difficulty in assigning values for such services, the value of donated time is not reflected in the financial statement. At the same time, we admit that any compensation needs to be transparent.

Some changes to compensations of ICSOBA management and organizing staff were proposed. For example, the Board of Directors has resolved to waive the conference registration fee to assist active organizers and help them participate in the events.

## ***ICSOBA Membership***

ICSOBA is a well-recognized international not-for-profit association of members with the vision of being the “Technology Conference of the Aluminium Industry, for the Aluminium Industry”.

ICSOBA members are active in different fields and specializations, and they work within different social and economic frameworks, but there is one thing they have in common: they share the same conviction of the strategic role of aluminium in the present stage of world development.

There are two (2) classes of members in the association namely Individual Members and Corporate Members. Membership is typically renewed every year (however Corporate Members are encouraged to subscribe multiyear membership) with a cycle time starting on the first day of the yearly conference and ending on the eve of the first day of following year conference.

### **■ *Individual Membership Conditions and Benefits***

Any delegate who registers for an ICSOBA yearly conference automatically becomes a member for one year (ICSOBA cycle time as described above).

As Individual member of ICSoba you will benefit from:

- ▣ A unique exposure to different facets of our industry across the world
- ▣ Higher potential and technical competence
- ▣ Access to any technical paper from ICSoba 55 years conference proceedings
- ▣ Influencing ICSoba strategy and strategy deployment with your vote during the Annual Member Meeting which is taking place during the yearly conference
- ▣ Receiving twice a year the ICSoba Newsletter with news and articles from members

A person who does not attend the annual event could retain membership by paying US\$ 100 annually.

#### ■ *Corporate Membership Conditions and Benefits*

By becoming an ICSoba Corporate Member you intend to:

- ▣ Support, in the long run, the vision of ICSoba to become the “Technology Conference of the aluminium Industry, for the aluminium Industry”.
- ▣ Support, in the long run, the ambition of ICSoba to organize the best annual Technology Conference of the aluminium industry as well as achieve ICSoba mission.
- ▣ Influence, in the long run, ICSoba strategy and strategy deployment to achieve the above vision and mission through a dedicated Corporate Members Council, meeting twice a year (1 member = 1 vote).

As Corporate Member of ICSoba you are part of the global community of bauxite, alumina and aluminium industry and would be able to freely exchange ideas and results of work with the best of scientific researchers and domain specialists from the fields of bauxite, alumina and aluminium from all five continents at ICSoba conventions and through its website. You have access to all past events papers and presentations (in the years where presentations were available).

As Corporate member of ICSoba your company and its workforce will benefit from the annual events because they:

- ▣ Allow your company delegates to learn, grow personally and expand their professional horizons and to widen their circle of contacts
- ▣ Offer unique exposure to different facets of our industry across the world
- ▣ Result in higher potential and technical competence of your professional workforce.

As Corporate Member, a 10% discount applies to the registration fee at all stages for each delegate of your company.

As Corporate Member of ICSoba you will increase the visibility of your company in the bauxite, alumina and aluminium industry through your Company logo displayed in ICSoba Newsletter, website and general communication.

The corporate membership is renewed annually. As corporate membership is associated with a “long run” support mindset, we encourage multi-year engagement:

5 years (corresponding to strategic plan)	US\$ 4200
4 years	US\$ 3400
3 years	US\$ 2600
2 years	US\$ 1800
1 year	US\$ 1000

## The 2019/2020 Corporate Members are:

 <b>ALUM SA Tulcea (ALRO)</b> <a href="http://www.alum.ro/en">http://www.alum.ro/en</a>	 <b>Amber Development</b> <a href="http://www.amber-development.com">http://www.amber-development.com</a>	 <b>BOKELA GmbH</b> <a href="http://www.bokela.com">http://www.bokela.com</a>
 <b>Carbone Savoie</b> <a href="http://www.carbone-savoie.com">http://www.carbone-savoie.com</a>	 <b>Cronus Technology AS</b> <a href="http://www.cronustechnology.no">http://www.cronustechnology.no</a>	 <b>Dadco /AOS Stadte</b> <a href="http://www.dadcoalumina.com">http://www.dadcoalumina.com</a>
 <b>Dynamic Concept</b> <a href="http://www.dynamic-concept.ca/">http://www.dynamic-concept.ca/</a>	 <b>Emirates Global Aluminium</b> <a href="http://www.ega.ae/en">http://www.ega.ae/en</a>	 <b>Fives Solios</b> <a href="https://www.fivesgroup.com/">https://www.fivesgroup.com/</a>
 <b>Hatch</b> <a href="https://www.hatch.com/">https://www.hatch.com/</a>	 <b>Hindalco</b> <a href="http://www.hindalco.com/">http://www.hindalco.com/</a>	 <b>Norsk Hydro</b> <a href="https://www.hydro.com/en">https://www.hydro.com/en</a>
 <b>MAL Magyar Aluminium</b> <a href="http://www.mal.hu/">http://www.mal.hu/</a>	 <b>Markert Gruppe</b> <a href="https://www.markert.eu/">https://www.markert.eu/</a>	 <b>Nalco - Ecolab Company</b> <a href="https://www.ecolab.com">https://www.ecolab.com</a>
 <b>Outotec GmbH</b> <a href="http://www.outotec.com">http://www.outotec.com</a>	 <b>Réel Group</b> <a href="http://www.reel-alesa.com/">http://www.reel-alesa.com/</a>	 <b>Rio Tinto</b> <a href="https://www.riotinto.com/">https://www.riotinto.com/</a>
 <b>Sefar BDH Inc</b> <a href="https://www.sefar.com/en/">https://www.sefar.com/en/</a>	 <b>Solvay/ Cytec Industries</b> <a href="http://www.cytec.com/">http://www.cytec.com/</a>	 <b>STAS</b> <a href="https://www.stas.com/">https://www.stas.com/</a>
 <b>Vedanta</b> <a href="http://www.vedantaresources.com">http://www.vedantaresources.com</a>		

The cycle time starts on the first day of the yearly conference and ends on the eve of the first day of following year conference. For example, for cycle time 2017 – 2018 the start date is 01/10/2017 and the end date is 27/10/2018.

We trust you understand ICSoba vocation very well and we all are grateful for your continuing help. Without this help ICSoba would not be able to accomplish its mission. Please provide our secretariat with your PO number to set up an invoice. Our desire to help others is the reason behind the Corporate Members Council. With great abilities come great possibilities.

For further information, feel free to contact one of ICSoba Director. Contact emails are available at <https://www.icsoba.org/board-directors-offices>.

For the businesses that decided to become corporate members we thank you so much for your support of ICSoba. We all are grateful for your continuing support because with it ICSoba may carry on its mission. One cannot forget that ICSoba is an international association of members and partnership with the industry enriches the society and active professionals and is a guarantee of ICSoba continuity and growth. Once more many thanks.

At ICSoba, the Board is constantly working on evolving ideas and schemes on how to provide special benefits to its corporate members over and above the few standard ones like receiving of regular NEWSLETTERS, position in the organization, discount in registration fees, preferential access to the past TRAVAUX volumes, etc. Two new initiatives were launched at the last 36<sup>th</sup> ICSoba conference in Belem:

[A] - **"Corporate Membership council"** was formed, through which the ICSoba Board will constantly seek advice and suggestions regarding what more can be done to benefit corporate members. In Belem the first meeting of the council took place with the full ICSoba Board. Currently there are 18 corporate members and the number is continuously growing. The present list of corporate members includes major Bauxite, Alumina, Aluminium producers, technology creators and service providers. Surely, the members are bound to benefit immensely in the long run by being members of this special global industry group.

As a corporate member, the companies can obtain access to specialized information to support their own technology development efforts.

[B] - **"ICSoba platform for Industry-University cooperation for innovation"**: The second major initiative introduced in Belem was a special session at which all representatives of corporate members sit with ICSoba Board and representatives of western Universities to discuss the government – industry sponsors of global research and technology developers. Professor Houshang Alamdari of Laval University and Director of the highly successful **Industry - Academia** collaboration program (REGAL in Quebec, Canada) organized this special session. The idea behind the session was to review technology development efforts in three selected countries.

The subjects discussed involved:

- (i) joint research programs
- (ii) availability of grants and funds for the same available from various industry and government and non- government programs
- (iii) corporate members' specific needs for globalizing their internal R&D efforts.

## **Website**

Printed proceedings of past ICSoba events, the so-called TRAVAUX volumes, have been scanned to separate searchable pdf files. The Tables of Contents of the scanned TRAVAUX volumes have been made public on the website <https://www.icsoba.org/proceedings>. If you are a member please apply to [info@icsoba.org](mailto:info@icsoba.org) to obtain a copy of any past proceeding.

Please note that the past NEWSLETTERS are currently available on the ICSoba website.

ICSoba has launched the project to upgrade website that will be completed before the Krasnoyarsk conference.

Your feedback to make the website more attractive is welcome.

## **Publication Ethics (ICSoba Conference Proceedings)**

### **Editors**

TRAVAUX Proceedings have a Program Director and Subjects Organizers who are recognized experts in the field. The full names and affiliations of the editors are provided on the ICSoba website [https://icsoba.org/sites/default/files/Call\\_for\\_papers\\_ICSOBA\\_2019.pdf](https://icsoba.org/sites/default/files/Call_for_papers_ICSOBA_2019.pdf).

### **Authors**

- There are no fees or charges for manuscript processing and/or publishing papers in TRAVAUX. Templates for abstracts, papers and presentations, as well as the submission procedures are clearly stated on the website. Authors must comply with the Templates
- Each paper is accompanied by a presentation which must be presented at the conference by one of the authors or in exceptional case by another delegated person
- All abstracts, papers and presentations are reviewed in order to guarantee high quality and the authors should follow corrections and instructions from the reviewers
- Citations of the text or figures should be referenced
- Financial support and permission to publish can be acknowledged
- Acknowledgment can be given to contributors to the paper or research who are not the authors
- Authors should make sure that the published material has been reviewed and authorized by the companies or organizations contributing to the technical material or who gave financial support for the published research
- If some of the content of a paper has been already published before, most of the material must be new for an ICSoba paper; otherwise the paper will be refused.

### **Review Process**

- Subject Organizers are responsible for the review process in their subject. They can be assisted by nominated reviewers. The Program Director is responsible for the review of Keynote papers

- The review process assures high technical quality of papers and presentations, as well as uniform formatting, defined in Templates
- Reviewers should avoid conflict of interest with authors
- Reviewers should point out relevant published work which is not cited in the paper
- Reviewers should keep the papers confidential until they are published.

### **Publication Ethics**

Editors shall identify and refuse the publication of papers which are strictly commercial. Editors shall identify and refuse the publication of papers that contain unsubstantiated, conflicting or misleading results and claims. Editors shall accept a corrected version of a paper by the authors and make it available in appropriate electronic version.

### **Copyright and Access**

ICSoba papers are not copyrighted and can be freely reproduced and distributed publicly. The papers from recent years are available on ICSoba website to which internet browsers also give access.

### **Archiving**

ICSoba has archived all the past TRAVAUX which can be made available on request to ICSoba.

### **Name of Proceedings**

TRAVAUX is a unique name for ICSoba Proceedings.

## ***Public Relations and Communication***

### **User Privacy Notice – New EU Rule (GDPR)**

We have updated our User Privacy Notice to reflect changes we've made to strengthen your privacy rights. This is part of our ongoing commitment to be transparent about how we use your data and keep it safe. We have included changes to address the new standards introduced by the European data protection law known as the General Data Protection Regulation (GDPR).

Keeping your data safe and increasing transparency are important to us, and we are committed to these changes. The new GDPR law goes into effect on May 25, 2018 and many ICSoba contact persons around the world will benefit from the added privacy protections this law affords.

You are encouraged to subscribe to the mailing list at:

[https://my.sendinblue.com/users/subscribe/js\\_id/381ht/id/1](https://my.sendinblue.com/users/subscribe/js_id/381ht/id/1)

## ***Associated Organizations***

The list of associated organizations can be found on the ICSoba website at: <https://www.icsoba.org/associated-organisations>. These organizations are: Aluminium Association



of India, ABAL, AlCircle, Aluminium International Today, Aluminium Network, AZ-China, Brazil Mineral, China Nonferrous Metals Industry Association (CNIA), Chalco Zhengzhou R&D Center, International Aluminium Institute, International Aluminium Journal, Light Metal Age, Metal Bulletin, METALS - Open Access Metallurgy Journal, Minerals & Metals Review Online, Non-Ferrous Metals Siberia, Quartz Business Media and Red Mud Project.

So far in 2019 ICSOBA closely collaborated with three Associated Organizations and was represented at the corresponding events:



INCAL 2019 Conference was held from 31 January to 2 February by the Aluminium Association of India (AAI) in the East Indian city of Bhubaneswar and attracted over 750 delegates. Claude Vanvoren, Andrey Panov (Rusal) and Michel Reverdy (EGA) and B.S. Pani took part in the conference. Claude Vanvoren presented a paper: **“Contribution of ICSOBA in setting development trends in global Bauxite, Alumina and Aluminium industry”**. Andrey Panov invited all participants to Krasnoyarsk during his BR presentation. Exhibition impressive (organized by Reeds). Proposal was made to organize one of the next ICSOBA conferences in India.

The event has clearly evidenced the future market opportunities and rising demand for technologies in the aluminium industry on the Indian continent. The next INCAL will be held in 2021.

Also in January, Claude Vanvoren gave an interview published in METALWORLD, in which he highlighted ICSOBA and made some market predictions.



[www.icsoba.org](http://www.icsoba.org); [www.futurealuminiumforum.com](http://www.futurealuminiumforum.com)

22<sup>nd</sup> - 23<sup>rd</sup> May 2019, Marriott Hotel, Warsaw, Poland

Within the 2019 Future Aluminium Forum held on 22<sup>nd</sup> and 23<sup>rd</sup> May in Warsaw, Poland (<https://futurealuminiumforum.com/>) a full day ICSOBA session was organized on 22<sup>nd</sup> May under

the theme: 'Adopting Digital Initiatives' - "Aluminium 4.0: when process approach meets a data approach in mining, refining and smelting".

This session provided a unique opportunity to hear practical cases testimonies from companies who already started the journey towards Industry 4.0. Nine industry leader's speakers presented their cases followed by a panel discussion addressing the highest hurdles and boost to digitalization of the "mine to metal" businesses.

The Conference program covered a range of topics including:

- Seeing Double with Digital Twins
- Closing the Loop beyond the Smart Factory
- Supply Chain Management
- Furnaces of the Future
- Using Vision, Artificial Intelligence, Robotics and Augmented reality in an Industrial Environment
- Selecting and Substituting Materials in the Digital Age
- AI+AL: Optimizing Aluminium Production with Machine Learning

The companies that already started their journey towards Industry 4.0 were represented by speakers as follows:

- Digital Transformation Applied to Bauxite and Alumina Business System – BABS 4.0 – Israel Rocha – Hydro
- Benefit of Digital Project Delivery: from improved project execution to optimized operations – Carlo Cristofari - Hatch
- Pretium Plant Optimizer Application – Michael Missalla – Outotec
- Aluminium Industry Digitalization: an example of digital solution bringing the user and supplier organisations closer – Serge Despinasse – Fives
- Use of digital twins in optimization of aluminium production – Hans Erik Vatne – Hydro
- Digital Twin in smelters – Ioannis Karnachoritis – AoG and Laith Al-Hindawi – GE
- EGA road map for Industry 4.0 – Abdalla Al Zarouni – EGA
- Aluminium smelter process optimization through the European Monsoon project – André Augé – Rio Tinto
- Applying digitalization to processes at UC Rusal Aluminium Smelters – Viktor Buzunov – UC Rusal

This forum, which brought to the same place aluminium producers, equipment suppliers, IT providers and experts, also provided an exceptional opportunity to network and to support aluminium industry collaborative approach to the challenge of digitalization. Altogether 120 participants registered for the session.

### ***ICSoba's Executive Office***

ICSoba is registered with Industry Canada.

ICSoba executive office is located at 128 Des Fauvettes, Saint Colomban, QC, J5K0E2 Canada.

All inquiries are to be sent to ICSoba by email to [info@icsoba.org](mailto:info@icsoba.org).