Newsletter

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International Committee for Study of Bauxite, Alumina and Aluminium



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ICSOBA Newsletter is a biannual publication. In case you consider contributing in this forum, please contact the editors before writing your story. Deadlines for a June issue is 10th of June and for a December issue 10th of December.



FOREWORD

Dear ICSOBA Members,

Time flies! Already two months closed since Virtual ICSOBA 2020, the first of its kind Technology Conference. So, it's about time to look back and review the lessons learned from this event which, no doubt about this, will stay as a turning point in technology conferences format.

To do so we are fortunate as more than 120 of you completed our online satisfaction survey, ensuring a very good representativity of the results, which are further developed in this Newsletter.

Let me just highlight your overwhelming support to our decision to go virtual, to use an online platform rather than a webinar type format (89% support) and to the two main options of duplicated sessions and pre-recorded presentations (91% support each).

The main field for improvement you suggested is, without any surprise, to enhance interaction between participants (delegates, exhibitors) during such virtual event. A major challenge, but a common one for all virtual event organizers.

Your feedback is of incommensurable value for ICSOBA Board at the time when we are focusing on the preparation of ICSOBA 2021 in Manama, Kingdom of Bahrain, in the context the whole world is still engulfed in the COVID-19 pandemic.

In this perspective, it is worth mentioning that if most of the delegates favor hybrid (43%) or classical physical (32%) conference, still 20% support a full virtual conference, even in the case of no travel restriction!

So, rest assured we are exploring all possible avenues to ensure that the ICSOBA 2021 event benefits from all these lessons learned and be another memorable event. Stay tuned to the latest information by following us on LinkedIn and Twitter and regularly connecting to ICSOBA website.

Speaking about ICSOBA website, after the last year development of our brand-new site, we recently reached another major milestone with access to ICSOBA library being now available!

All ICSOBA published papers are available online as well as are being refenced by Google Scholar. I suggest that later you read in this Newsletter all the details on how to access the past papers. For the time being, only the four latest conferences are available, but the entire ICSOBA library (since 1963) will be progressively brought online. This is another strong advantage for authors to publish their latest innovation at ICSOBA Conference, which definitively has become "The Technology Conference of Aluminium Industry, for Aluminium Industry"!

For closing, let me wish you all the best for 2021! Please take care of yourself and your loved ones and stay safe.

Looking forward welcoming you in Manama,

With my best regards,

Dr Claude H. Vanvoren Chairman of ICSOBA



VIRTUAL (ONLINE) ICSOBA 2020





In all past years, the ICSOBA forum was the scene of five-day gatherings in various parts of the globe. Due to the COVID-19 a withdrawal of the 38th ICSOBA 2020 event in Jinan, China had to be induced. Containment strategies, travel restriction and overall economic situation of aluminium industry combine to challenge conference organisation in present time. However, it is important to realize that the businesses should continue to innovate so that they come out stronger once these tough times are over. Promoting industry players collaboration through exchange of ideas and know-how is as important as ever to endeavour a swift recovery from COVID-19 pandemic. Therefore, ICSOBA 2020 was maintained and was held as a virtual conference to ensure health, safety and comfort for all delegates, in line with our vision to be "the technology conference of aluminium industry, for aluminium industry".

The live webcasting of a 3-day virtual event took place Monday 16 November – Wednesday 18 November and featured most known forms like live seminars, live discussions, and even a virtual exhibition. Sadly, no plant visits and no excursions were possible this year.



A modern platform supporting such conference format, even if obviously not providing the face-toface quality of interaction, was nevertheless able to offer ICSOBA delegates, sponsors, and exhibitors a highly valuable experience. Delegates and speakers shared their latest developments with live Q&A sessions (chat and/or audio) among the delegates in a lively environment.

The forum proved again that ICSOBA has a unique opportunity to provide this valuable platform for exchanging experience and leaning. This was the forum to stimulate minds of the young engineers and scientist who must replace us one day with new ideas and future programs.

280 delegates registered from all around the world as the duplicated sessions enabled them to connect most often at convenient working hours. Eleven sponsors and seven exhibitors enjoyed increased visibility and contributed to the success of the event.

We strongly believe that the conference was a great success for a fraction of the cost and without travel and accommodation expenses.

Program of the Conference

Due to different global time zones, it was impossible to offer comfortable time-windows to all participants. To offer widest time zone coverage and best comfort to all delegates, daily sessions were duplicated. The priority was given to the public, whereas the speakers were requested to appear and present the corresponding material twice during the same day.

Speakers prepared their presentations before the event. All presentations were obtained prerecorded (pseudo real time). The 15-min presentations were run within the time slots designated by the conference agenda and each author was asked to be available online to answer questions. The questions were limited to 2 or 3 per speaker to limit the time. Keynote presentations were entitled to 30 minutes, including Q/A and were broadcasted on both streams.

Even if ICSOBA 2020 was not a physical conference, networking opportunities were maintained by supporting delegates' interactions like chat, web meeting, etc.

Speaker Program

Most aspects of the conference remained the same as usual, i.e. abstract submission, full paper submission and peer-review process. Due to the conference format the number of papers that could have been accepted for presentation was limited. Selection of papers for oral presentations was done by the Subject Organizers based on their quality and innovation.

The paper review was made by ICSOBA Technical Committee under the leadership of the Program Director (Michel Reverdy) and Subject Organizers.

Subject	Subject Organizer
Keynote	Michel Reverdy
Bauxite, Alumina, Bauxite Residue	Andrey Panov
Aluminium Reduction Technology	Vinko Potocnik
Carbon	Houshang Alamdari



The review process assured a remarkably high technical quality of papers and presentations, as well as uniform formatting, defined in the Templates.

The ICSOBA 2020 Technical Committee was composed as follows:

Program Director: Michel Reverdy

Subject	Subject organizer	Reviewers	
Keynote	Michel Reverdy	According to subject	
Bauxite,	Andrey Panov	1. Bijoy Satpathy	
Alumina, Bauxite		2. Carlos Suarez	
Residue		3. Efthymios Balomenos	
		4. Frank Feret	
		5. Linus Perander	
		6. Martin Fennell	
		7. Roberto Seno	
		8. Stephan Beaulieu	
		9. Steven Healy	
		10. Yin Zhonglin	
		11. Yves Occello	
Aluminium	Vinko Potocnik	1. André-Felipe Schneider,	
Reduction		2. Dagoberto Severo	
Technology		3. Kristian Etienne Einarsrud	
		4. Stephan Broek	
		5. Yasar Kocaefe	
		6. Bingliang Gao	
Carbon	Houshang	1. Gisele Azimi	
	Alamdari	2. Duygu Kocaefe	
		3. Hicham Chaouki	
		4. Yasar Kocaefe	
		5. Viktor Buzunov	

Due to the limitations imposed by the conference format, some papers were not accommodated for recorded oral presentation. However, all reviewed and accepted papers were published in the TRAVAUX 2020 book No. 49. The corresponding presentations were available to the delegates during the conference.

There were 75 high quality papers collected from the authors, and 6 distinguished keynote speakers who covered the full spectrum of subjects pertaining to bauxite, alumina and aluminium production and market.

Sessions were organised around two parallel streams:

- Stream A: Bauxite, Bauxite Residue and Alumina
- Stream B: Smelting and Carbon

with the keynote presentations shown on both streams simultaneously.



The distinguished **Keynote Speakers** were:

Speaker Paper name		
	Abdulla Habib , Chief Operating Officer, Aluminium Bahrain	KN01 - Alba's Journey to 1.5 Million Tonnes Site Capacity - Challenges and Opportunities.
	G.G. Pal , Chief Operating Officer, Vedanta Limited, India	KN02 - Growth of Indian Aluminium Industry and Vedanta.
	Paul Adkins , Managing Director, AZ China Limited, Hong Kong	KN03 - China's Aluminium Industry – Why It Is in Seriously Bad Health.
	Christopher Baylis , Deputy Secretary General, International Aluminium Institute, United Kingdom	KN04 - Long Term Sustainability of the Aluminium Sector (2020-2050).
	Jerome Lucaes , Director Marketing and Sustainability, RUSAL, Switzerland	KN06 - Evolution of Low-Carbon Aluminium in the Market for More Sustainable Economic Development.
	Carl Firman Principal Analyst <i>and</i> Uday Patel Senior Research Manager, Wood Mackenzie, United Kingdom	KN05 - Aluminium Market Outlook Across the Value Chain.



To all speakers: On behalf of ICSOBA please accept our deep appreciation of your time and effort to prepare and submit your paper with presentation and to speak at the conference. We also trust that this experience will advance your professional career.

All papers (TRAVAUX No 49 proceedings) and pdf presentations are presently available for download from ICSOBA website (<u>https://icsoba.org/proceedings/</u>) according to the Knowledge Dissemination Policy.

The Best Paper Award

Among the 75 papers submitted to the ICSOBA 2020 Virtual Conference, ICSOBA Technical Committee selected one Best Paper in Bauxite, two in Alumina, one in Bauxite Residue, one in Carbon and two in Aluminium, considering the number of submissions in each Subject:

BAUXITE

• BX02 - Dry Beneficiation of Bauxite Minerals Using a Tribo-Electrostatic Belt Separator *Kyle Flynn, Lucas Rojas Mendoza, Frank Hrach and Abhishek Gupta*

ALUMINA

- AA10 Predictive Analysis of Industrial Precipitation Cycles Using Population Balance and Deep Learning Methods *Vladimir Golubev, Dmitriy Chistyakov and Iliya Blednykh*
- AA16 Iron Removal from Bayer Liquors: The Ma'aden Alumina Refinery Experience Ahmed Ibrahim, Ahmad Hommadi, Abdullah Otaibi and Peter Swash

BAUXITE RESIDUE

• BR01 - Evaluation of Bauxite Residue Rehabilitation Strategy: One Year Monitoring Assessment Yuuki Miura, Ronaldo Pantoja, Adriana de Cassia Souza, Paschoal Cataldi, Daniel Arvani and João Wendell Santos

CARBON:

• CB05 - Sustainable CPC Production at the Vizag Calciner Les Edwards, Maia Hunt, Pankaj Verma, Peter Weyell and Julia Koop

ALUMINIUM:

- AL10 State and Development Prospects of Technologies for the Use of Unshaped Lining Materials in Aluminum Reduction Cells Aleksandr Proshkin, Vitaly Pingin, Viktor Mann, Aleksey Zherdev, Andrey Sbitnev and Yury Shtefanyuk
- AL17 Minimizing SPL Generation via Redesigning Pot and Life Enhancement Mahesh Sahoo, Amit Gupta and Sushant Badajena



Exhibition

During the Conference, a virtual Exhibition of latest technologies, equipment, and other devices for the aluminium industry took place (16 - 18 November). Each exhibitor and sponsor obtained a "virtual booth", in which the selected company information was placed. In the booth selected activities and realisations were presented, supported by documents, video, audio, and chat. Dedicated web meetings with customers could have been organised as well.



GEA, Hatch, Hwapeng, Metso:Outotec, Profotech, Reel Group and Tokai Carbon Group arranged their exhibition booths.



Sponsorship

There was no event host sponsor this year as the conference was entirely organized by ICSOBA. Several organizations expressed interest in becoming sponsors. The virtual ICSOBA 2020 conference was supported by 11 sponsors: **Alba, Amber Development, Hydro, Markert, Metso:Outotec, Mytilineos, Rusal, Sohar Aluminium, Trimet, Vedanta, Vimetco**. Sponsors were promoted during the conference and their logos were displayed in the main lobby. A short video portraying each sponsor was also available to the delegates for viewing. You can still see this information on the ICSOBA website.



Plant Visits

Sadly, the Plant Visits, which have been synonymous with the annual ICSOBA event, could not take place at ICSOBA 2020.

Language

All presentations were given in English. The papers and presentations were also published in English.

Post-conference Survey

As every year, an online satisfaction survey was carried out following Virtual ICSOBA 2020. As this conference was a first of its kind, a significant number of the 44 questions dealt with the virtual aspect of the conference. Main results could be summarized as follows:

- A response rate of 44% confirms strong interest of ICSOBA delegates to provide feedback. 123 responses were collected which is the second highest number of responses for the last 5 years we conducted such online survey. This ensures a very good representativity of the results.
- The main feedback is a very strong support to ICSOBA decision to go virtual in 2020: not only the way we addressed this very special year (90% good or excellent) but also the choice to use a virtual platform (89% support) rather than a "simple" webinar type conference.
- Duplicated sessions (91%) and pre-recorded presentations (equally 91%) were overwhelmingly supported.
- NexTech platform was very well rated both in term of connection, navigation and comfort in watching presentations.
- Two points require further developments should we experience another virtual conference:
 - The time allocated for and format of Q&A and also exchanges at large between delegates and/or delegates and speakers
 - The attendance to virtual exhibition and interaction between delegates and exhibitors

We received numerous suggestions regarding those two points which give us a great confidence for improved format in the future.

- With regards to the future, it is worth mentioning that if most of the delegates favor hybrid (43%) or classical physical (32%) conference, still 20% support a full virtual conference, even in the case of no travel restriction!
- We noted with great satisfaction that the technical quality and content, applicability, as well as innovative nature of the papers are well rated at 65 to 75%.
- Keynote presentations were better rated than last year (73% vs 60%) and Keynote as introduction to technical session looks to be a good alternative to a single Keynote session.
- A very large swing regarding the preferred communication channel with a strong come back of the bi-annual newsletter and a corresponding diminishing of significance of social media.
- Amongst conference delegates, producers are still the most represented with a percentage in the range of previous years.



• Also, with regards to delegate's attendance, we observed a lower attendance for B&A (38% vs 48% last year) with corresponding increase for Carbon + Smelting (15 + 45= 60%).

ICSOBA Board needed a comprehensive feedback on Virtual ICSOBA 2020 to stir future ICSOBA events toward the most efficient and beneficial format. Your input is highly appreciated, and we thank you for your participation.

ICSOBA MATTERS – Life of the Association

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

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.

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.

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

At the time this Newsletter is released, major industry players are supporting ICSOBA as Corporate Members (*https://icsoba.org/corporate/*). We are very pleased to welcome **Alba**, **Alcoa** and **Alvance** as the latest members of ICSOBA Corporate Council.



Aluminium for the world https://www.albasmelter.com/	Alcoa https://www.alcoa.com/	ALVANCE https://alvancealuminiumgroup.com
AMBER DEVELOPMENT For Bauxite & Alumina Business http://www.amber-development.com	BOKELA http://www.bokela.com	CRONUS TECHNOLOG
DADCO http://www.dadcoalumina.com	EGA الإمارات العالمية للألمنيوم emirates global aluminium http://www.ega.ae/en	fives https://www.fivesgroup.com
HATCH https://www.hatch.com	ADITYA BIRLA HINDALCO http://www.hindalco.com	Hydro https://www.hydro.com
http://www.mal.hu	https://www.markert.eu/en	Metso:Outotec
नालको 🐼 NALCO	An Ecolab Company https://www.ecolab.com	https://www.reelinternational.com/en
RioTinto https://www.riotinto.com	RUSAL https://www.rusal.com	SEFAR https://www.sefar.com/en
SMS () group https://www.sms-group.com	SOLVAY	STAS https://www.stas.com/en
SUNSTONE http://www.sun-stone.com/En	TOKAI CARBON https://www.tokaicarbon.co.jp/en	ktp://www.vedantaresources.com
	http://www.alum.ro/en	



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 2020 - 2021 the start date is 16/11/2020 and the end date is one day prior to the beginning of the 2021 conference.

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 <u>https://icsoba.org/leadership/</u>.

For the businesses that decided to become corporate members we thank again 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.

ICSOBA Regional Representation (IRA)

To support its strategic objectives, ICSOBA aims to increase its worldwide visibility and capacity to regularly interact with Bauxite, Alumina and Aluminium players around the world. For this purpose, a network of "regional ambassadors" was deployed.

ICSOBA Regional Ambassadors (IRA) are persons demonstrating the willingness to support ICSOBA future by effectively identifying new Corporate Members as well as contributing to the success of ICSOBA annual conference. There could be several IRA for the same region with the purpose of covering all subjects of forthcoming ICSOBA conference (for example: B&A, Smelting, Academia, ...). ICSOBA Regional Ambassadors demonstrating the willingness to be associated to ICSOBA on the long run and achieving results will be rewarded and incentivized.

ICSOBA Regional Ambassadors (IRA) are proposed to the Board and are appointed by the Board. In order to promote the IRA, to ensure their visibility and to formalise their official status within ICSOBA organisation, the Ambassadors are publicized on the ICSOBA website. Their portrait, professional details, and addresses (including @icsoba.org email addresses) also appear on the website in <u>https://icsoba.org/leadership/.</u> Among present ICSOBA Ambassadors we have:

- Bertrand Allano (France)
- Dr. Efthymios Balomenos (Greece)
- Dr. Pratapaditya Mishra (India)
- Roberto Seno Junior (Brazil)

• Dagoberto Severo (Brazil)

- Carlos Enrique Suarez (USA)
- Dr. Gu Songqing (China)
- Dr. Yi Xiaobing (China)

Congratulations!

Election to the Board of Directors

At the ICSOBA 2020 conference an election should have taken place because the mandate of four Board Members had expired. As an open election forum could not have been offered to all the



delegates at this time, an exception had occurred. Given the circumstances, the election was postponed to the next year conference.

ICSOBA Website Revamping

Intense work on the new ICSOBA website resulted in a modern and graphically attractive platform:

- o In About Us *Mission*, *Policies*, *Leadership*, *Financial* and *ICSOBA History* are covered;
- Preliminary information about ICSOBA 2021 already <u>appears</u>;
- In **Events** all past conferences are described in *detail*;
- In Membership all benefits of the Individual and Corporate Membership *are given*;
- The biggest change arrives in **Publications**.
 - ✓ Past ICSOBA <u>Newsletters</u> are freely available for download.
 - ✓ Printed proceedings of past ICSOBA events, the so-called TRAVAUX volumes, have been scanned to separate searchable pdf files. Each conference has its own image and description. The dates, venue and heading are clearly indicated. Tables of Contents, as well as each individual paper published in the past TRAVAUX volumes are being made public (*https://www.icsoba.org/publications*). To enable link by Google Scholar, all files have their own URL distinct for individual papers and separate for the TRAVAUX volume.





There are several rules for accessing papers. The two main types of access on the site are: corporate account (CM) and individual user (IM). Access to the CM or IM accounts is granted after earlier registration.

Corporate members have access to all materials of all conferences including the ppts of the last 10 conferences. In each conference, they can download any TRAVAUX Book. A CM becomes a user with corporation domain: name@site.com.

Individual members (IM) can download the TRAVAUX Book of the conference they attended during their year of membership.

Guest can download a maximum of 5 papers after registering (personal detail, professional affiliation, job title, email).

For *Individual Members* and *Guest*, different options are proposed to download TRAVAUX volumes outside their entitlements according to the <u>ICSOBA Knowledge Dissemination Policy</u>:

	ICSOBA advantages/offers	Corporate members	Delegates / members	Public
	Abstract download prior to the event via ICSOBA Whova app.			
3A	PDF file of the ICSOBA proceeeding in USB key			
e SOE	PDF file of the presentations in USB key			
ent year ICS conference	Purchase hard copy of proceeding	200 USD	200 USD	200 USD (*)
yea	List of experts via ICSOBA directors			
Current year ICSOBA conference	Download of the individual papers via ICSOBA website	>	>	Free with registration
С	Download of the proceeding via ICSOBA website	>	>	100 USD
	Download of the presentations PDF file via ICSOBA website		>	
Past ICSOBA Conferences	Download of the individual papers via ICSOBA website	×	Free	Free with registration
	Download of the proceeding via ICSOBA website	>	50 USD	100 USD
	Download of the presentations PDF file via ICSOBA website	>		
Pas	Purchase hard copy of proceeding (if available)	200 USD	200 USD	200 USD
	List of experts via ICSOBA directors			

(*) – if available

Guests can see the short versions of all papers and they can navigate through the conferences.

Your feedback to make the website more attractive is welcome.

Associated Organizations

The list of associated organizations can be found on the ICSOBA website at: <u>https://www.icsoba.org/associated-organisations</u>. Among the aluminium associations closely collaborating with ICSOBA we have: Aluminium Association of India, ABAL, European Aluminium and International Aluminium Institute. The associated organizations are: Chalco Zhengzhou R&D Center, Non-Ferrous Metals and Minerals Russia, as well as Red Mud Project.



In 2020 ICSOBA closely collaborated with 4 events:

Bauxite & Alumina seminar 2020 <u>https://www.metalbulletin.com/events/bauxite-alumina-seminar/details.html</u>



The International Aluminium 2020 <u>https://www.metalbulletin.com/events/international-aluminium-conference/details.html</u>



Bauxite Residue Valorisation and Best Practice Conference https://conference2020.redmud.org/



Future Aluminium Forum www.futurealuminiumforum.com



These forums, which bring to the same place aluminium producers, equipment suppliers, IT providers and experts, also provide an exceptional opportunity to network and to support aluminium industry collaborative approach to current challenges.



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*.

The Scsoba Annual Event is the Technology Conference of the Aluminium Sndustry, for the Aluminium Sndustry.

