

ACTIVITY
REPORT
2021



icda^{cr}
INTERNATIONAL CHROMIUM
DEVELOPMENT ASSOCIATION



MISSIONS & VALUES

Representing the chromium industry worldwide and across the value chain since 1984, the International Chromium Development Association promotes sustainable uses of chromium in innovative applications and provides health, safety and environmental studies as well as independent market research. It is the reference organization for whoever is interested in chromium.

The ICDA and its members are committed to sharing best practices, the association works to unite the industry around the common goal of continuous improvement.

We are guided by our mission and values

Acting responsibly to protect people and the environment

Developing the market sustainably

Sharing scientific and technical information

Serving our members

Providing benchmark knowledge

SUMMARY

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PRESIDENT OVERVIEW

“ It is our opportunity to innovate and create this strong, resilient and sustainable chromium industry together ”

As we entered 2021, with optimism, following an unprecedented year which marked a turning point in our modern history, the ICDA continued to grow, to perform, to deliver value and to bring the industry together across the world and the chromium value chain.

In 2021, whilst production recovered from the pandemic, major markets around the world remained affected, with some containment measures and variant looming. Logistic chains remained disrupted, with both bulk and container shipping affected by shortage and port congestion.

In 2021, South Africa and China remained the biggest trading partners and China confirmed its position as the chromium industry driving force.

It is in this challenging environment that I was appointed by the newly elected ICDA Council to lead the ICDA, with the support of Seyda Caglayan appointed Vice President.

Our goal was to transform the challenges into opportunities for the ICDA and the chromium industry; Following the ICDA Council strategy session and feedback from the outcome of the Members survey, we agreed that the direction set by my predecessor was the right one and that we should ensure continuity and pursue the objectives set for sustainable development, expanding the market

research offering, implementing the highest governance standards, and most importantly, remaining the lifeblood of the chromium industry, a forum where, whoever has an interest in chromium, would be welcome.

The ICDA organised several webinars and online conferences, gathering each time between 100 and 200 participants; this high level of attendance proved the relevance and the necessity of having these conferences.

The Paris networking event was a success and showed how human interaction is paramount. As we start to gather control over this pandemic, we will organize more regional and international events, your health being our priority, however, rest assured that the ICDA Management and the Team are ready to kick off the organisation of physical events as soon as possible.

The ICDA has managed to overcome these challenging years thanks to the sound financial management of the association and our strategic anticipation capacity.

We warmly thank you, the members, for your support. Your loyalty to the ICDA is precious in these unprecedented times. The near future is probably never going to look like the past nor the present, it is our opportunity to innovate and create this strong, resilient and sustainable chromium industry together.

Zelda du Preez
ICDA President



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THE ICDA COUNCIL

WELCOME TO THE NEWLY ELECTED COUNCIL!

A new ICDA council has been elected by the ICDA ordinary members.

From 2021 to 2023 the council members will have the task to take strategic decisions for the association, ensure activities are conducted in line with compliance rules and that we reach the goals we have set. Council members are volunteers dedicating their time for the benefit of the chromium community, they meet at least twice per year and exchange ideas on the best way forward for the organisation.



Zelda du Preez,
Rand York Minerals
President



Seyda Caglayan,
Afarak Group Turk Maadin
Vice President



Carl Landuydt
Aperam



David Kovarsky
Sibanye Stillwater



David Kramer
TELF AG



Deepak Kumar
Mohanty
IMFA



Dmitriy Pastour
Unichrome AG



Eric Waldmann
Elementis
Chromium



Gerhard Pariser
ELG Haniel GmbH



Jill Wolfe,
AngloAmerican



Konstantin
Pravednikov
ERG



Lei Fei,
Samchrome



Lydia Yuan,
Xin Gang Lian



Martti Sassi,
Outokumpu



Michelle Taylor,
Tharisa Minerals



Jonathan Qiu,
Mintal



Richard
Thongoana
Masa Chrome



Pankaj Kumar
Satija, Tata Steel
Mining Limited



Sven Friedrich
Glencore



Yasar Ozdirek
Yildirim Group



Yoran Guenegou
DCX Chrome



Yuji Kubo
NSSC



Sheraz Neffati
ICDA

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STANDING COMMITTEES

Standing committees oversee critical areas of activity. Each specialist committee, comprised of member company representatives, coordinates the delivery of topic-specific strategy, projects and outcomes for members.

HSE and Sustainability

Dirk Radermacher, Afarak Group, Elektrowerk Weisweiler, Chairperson
Annelie Papadopoulos, Yilidirim Group, Vargön Alloys, HSE Europe
Derek Baker, Tharisa Minerals, HSE Southern Africa
Pankaj Kumar Satija, Tata Steel, HSE India

China

Jonathan Qiu, Mintal, Chairperson
Debby Huang, Ehui Group
Hongbo Sun, China National Minerals
Lydia Yuan, Xin Gang Lian
Wen Jiang, ICDA

Chrome chemicals and metal

Mike Techow, Voelpker Spezialprodukte GmbH, Chairperson
Zelda du Preez, Rand York Minerals
Yoran Guenegou, DCX Chrome
Michael Haw, AMG Superalloys

Market research

Greg Taurog, Tharisa Minerals, Chairperson
Gorkem Kavçak, Yilidirim Group
Ravi Prakash, Tata Steel
Ivan Rudenko, TELF AG
Andrey Seliverstov, ERG
Richard Thongoana, Siyanda Resources
M. Venkatesh, IMFA
Victor Constant, ICDA

Market development

Yuji Kubo, NSSC, Chairperson
Denny Berger, TELF AG
Dr Franck Ehrenberg, Outokumpu
Sven Friedrich, Glencore
Carl Landuydt, Aperam S.A.
Gerd Oehm, Swiss Steel Group
Dr Gerhard Pariser, ELG GmbH

Management

Seyda Caglayan, Afarak Group – Turk Maadin, Chairperson
Zelda du Preez, Rand York Minerals
Sven Friedrich, Glencore
Yasar Ozdirek, Yilidirim Group
Jonathan Qiu, Mintal
Michelle Taylor, Tharisa Minerals
Jill Wolfe, Anglo American
Sheraz Neffati, ICDA

The background of the slide features a blue-to-teal gradient. Overlaid on this gradient is a pattern of numerous small, semi-transparent blue circles of varying sizes, creating a bubble-like or cellular effect.

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MESSAGE FROM THE EXECUTIVE DIRECTOR



2021 It was the start of a second year of living with Covid-19, in between periods of calm bringing a spark of hope and strong Covid waves bringing uncertainty.

This is without counting our optimism and commitment in supporting our industry, which enabled us to adapt effectively and over time to this unprecedented situation.

As travelling was heavily restricted, our priority was to keep the ICDA network connected, and thus we provided webinars, online conferences, a networking platform, and we reinforced our presence in social media. The access to quality information is even more key during turbulent times.

The ICDA published several research papers covering some of the most topical issues, such as maritime freight, the Russian export tax, market digitisation, macro-economic outlooks, China chrome industry analysis and a comprehensive overview of the South African chrome industry.

Furthermore, the ICDA continued to deliver and to improve on the usual ICDA services, launched a weekly newsletter covering the Chinese chrome market and ensured the continuity of committee activities through online sessions.

The ICDA continued to raise awareness on sustainability questions. We released the 3rd edition of the LCA report for HC FeCr, whilst planning similar assessments for

LC, MC FeCr, chrome metal and chrome chemicals. Several experts on climate change were invited to deliver presentations during the online event and 14 companies took the Responsible Chromium evaluation conducted by Ecovadis. We fast adapted to the new times as we understand that this agility is the key to our successful organisation.

In 2021, our new China Representative was fully integrated into the team, the pandemic did not stop our recruitment strategy, Mrs Wen Jiang's determination and professionalism proved our choice was right,

we are now looking forward to meeting in person, hopefully soon.

Likewise, Mrs Nataliia Bortnik joined the ICDA just before the start of the pandemic and quickly became a valuable team member.

The ICDA Membership remained stable and 3 new Members joined the association in 2021, confirming the critical importance of

being part of such an industry network.

The outstanding Paris event was a breath of fresh air for all of us and we look forward to the opportunity of hosting an international conference soon.

We sincerely thank the ICDA members for their loyalty and trust, the ICDA council and management for their support and guidance and the team for its dedication.

Sheraz Neffati
ICDA Executive Director





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ICDA TEAM



Nataliia Bortnik
Executive Assistant



Victor Constant
Senior Market Analyst



Wen Jiang
ICDA Representative in China



Sheraz Neffati
ICDA Executive Director

The ICDA team

is a rather small but effective and collaborative team of 4 people in charge of implementing the strategy decided by the ICDA council, the team progress is monitored monthly by the ICDA management. We are goal-driven, innovative and most importantly we are passionate about delivering great value to the chromium industry.

We work with the support of experts in the field of HSE and regulatory compliance and have developed an extensive network over the years enabling us to provide valuable information and support to the members.

Our role is also to ensure that the history of the organisation is safely kept and passed on to the next generation of chromium industry leaders. We also ensure that the administration of the association is in compliance with the applicable law.

Our team members speak French, English, Spanish, Japanese, Chinese (Mandarin), Russian and Ukrainian.

Feel free to reach out!

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WHAT MEMBERS THINK

Feedback from the members is decisive to set up relevant goals for the ICDA. We regularly poll the members, and we are ready to hear any feedback as we see opportunities in every challenge. The constructive return from the members is helping the Council selecting strategic issues and finding the appropriate solutions. Our goal is to achieve 100% member satisfaction.

98%

are satisfied
with the
**WORK
DELIVERED**
by the ICDA team

ICDA become
modern
organization with
a new branding.
It has helped its
members to go
through very
tough times for
the industry. Good
teamwork from all
parts, mainly
Management co.
and Paris office.

91%

are satisfied
with the launch
of the
**RESPONSIBLE
CHROMIUM
PROGRAM**

87%

think that they
have **VALUE**
for their annual
membership fees

The quality of the
weekly and
quarterly chrome
information has
improved.

For example,
the infographics.
The data net has
been widened.
Examples are stain-
less steel stats and
the paper put out a
few weeks ago on
shipping

98%

are satisfied
with the
DELIVERABLES
provided
by the ICDA
in Covid-19
times

ICDA team is very
active and playing
a very important
role keeping the
industry at levels.

75%

agree that
the ICDA
successfully
contributed to
**RAISE
AWARENESS
IN HSE AND
SUSTAINABILITY**
issues within
the industry

The events are
one of a kind.
It is a perfect
combination of
information,
networking
and leisure.

83%

think that
the ICDA
successfully
adapted its
**SERVICE
OFFERING
TO THE
MILLENNIAL
GENERATION**

92%

are satisfied
with the
**ONLINE
EVENT
PLATFORM**
set up by
the ICDA
during
the pandemic

72%

of the members
think that the
ICDA is an
**EFFECTIVE
VOICE**
for the chromium
industry

Market Research,
it provides
prompt news and
information perio-
dically and timely

94%

are satisfied with
**THE MARKET
DEVELOPMENT**
efforts to support
uses of chromium

98%

are satisfied with
the
**ICDA
DIGITAL
OFFER**



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THE ICDA
IN 2021

As the pandemic continued to impact people's life and businesses in 2021, we decided to maintain the measures put in place in 2020 to protect the health of our delegates and employees by replacing travels with the fast development of online services.

We know that networking is even more vital for businesses at this time of very limited social interaction, and we are proud to have offered regular webinars and conferences to our members in addition to the usual market reports, the development of new services as well as the publication of market research reports.

The ICDA increased its presence on social media which are a valuable platform to communicate with the outside world, we established new partnerships and reinforced the existing ones.

Despite the challenging times the ICDA remained focused on its strategic goals and delivered a valuable service to its members.

Kick off for the ICDA Responsible Chromium program in partnership with Ecovadis.

Our long-standing member, Outokumpu, was the first company awarded following an Ecovadis Platinum rating and setting the bar high from the start.

The ICDA is granted the Team Stainless chairmanship for the year,

Team Stainless is informal network made up of stainless-steel associations and its alloying elements and whose aim is the promotion of sustainable and innovative uses of stainless steel.

The ICDA New Year dinner banquet in China is postponed for the second year in a row due to the pandemic.

Voelpker Spezialprodukte GmbH joins the ICDA membership.

The ICDA hosts a webinar in partnership with Roskill, providing an analysis of the year 2020 and expert opinion on supply chain management during challenging times.

The ICDA Members in China meet in Changsha on the sidelines of the FerroalloyNet 20th Nickel & Chrome & Stainless-Steel industry forum, ICDA delivered a presentation during the event.



The ICDA Ordinary members approved of the **ICDA annual financial statement**.

ICDA Ordinary members vote for their **new Council**.

The newly elected ICDA Council unanimously appoint **Zelda du Preez (Rand York Minerals)** ICDA President and **Seyda Caglayan (Afarak Turk Maadin)** ICDA Vice President for a two-year mandate.

Dirk Radermacher (Afarak Elektrowerk Weisweiler GmbH) succeed Dr Juha Ylimaunu (Outokumpu) as the Chairperson of the ICDA HSE Committee.

Annelie Papadopoulos (Yildirim Group – Vargön Alloys) becomes the Chairperson of the EU and CIS HSE Committee.

**Ilja D Graulich (Tharisa) is appointed
Chairperson of the ICDA Communications
Committee.**

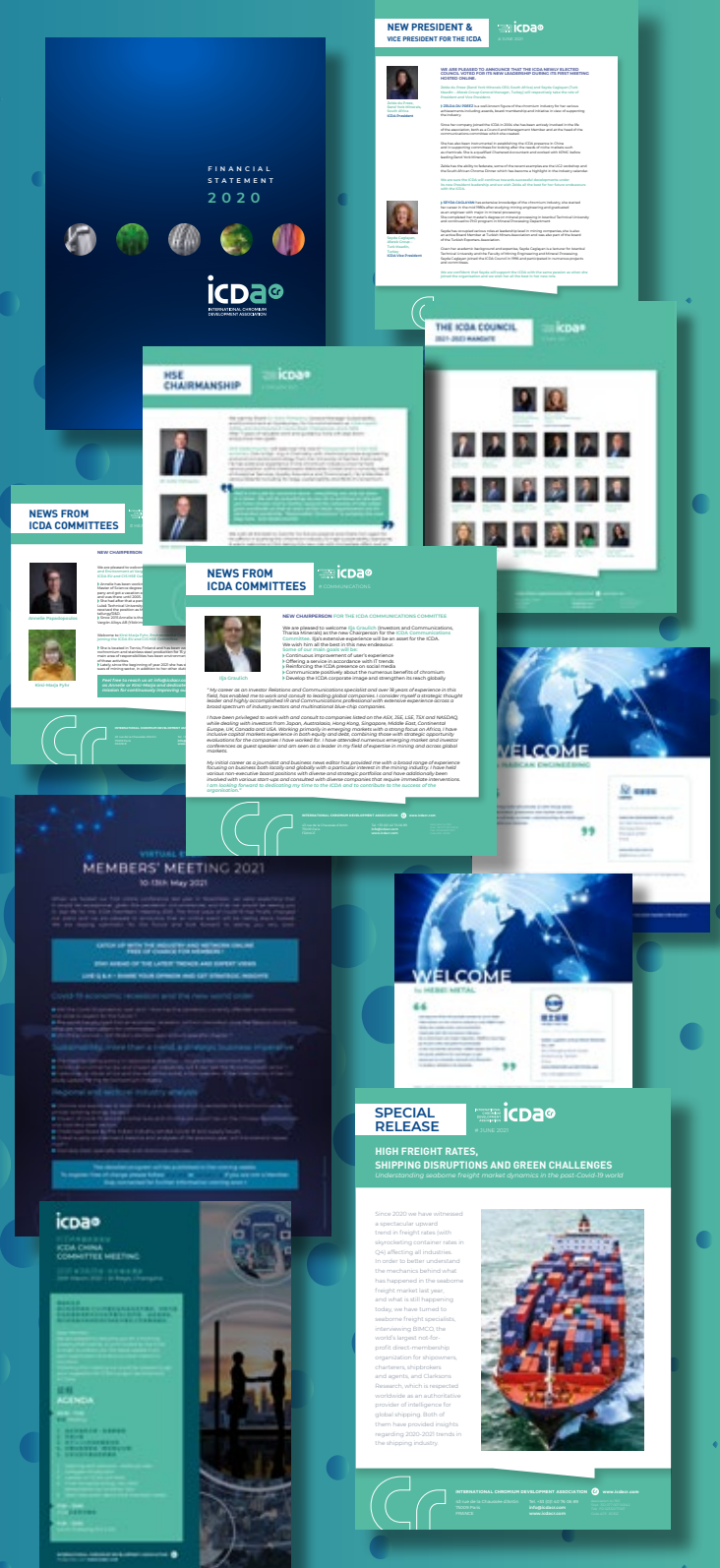
The ICDA Management decides that events will remain online given the uncertain context. The ICDA Members Meeting 2021 is hosted online with more than 200 participants.

Hebei Logistics Group Metal Materials Co., Ltd. and Harcan Engineering Co., Ltd. join the ICDA membership.

Publishing of a special report Understanding the dynamics and challenges for the maritime freight industry

The ICDA delivered a presentation in **Nanjing** during the 18th China Ferro-alloys International Conference and another one in Tianjin during the 2021 Ferroalloy International Ferroalloy & Mineral Products Summit.

DCX Chrome (Ecovadis Silver) receives the Responsible Chromium label.



The newly elected Council established the list of strategic goals for the ICDA with strong focus on sustainability, improved service offering for the members including regular publishing of relevant scientific and market research reports, reinforcing our governance and compliance, remain the reference organisation for whoever is interested in chromium.

Pelagic comes back in the ICDA membership in the ordinary category.

The ICDA hosts a webinar in partnership with CRU, providing an analysis on Q2 2021 market situation. The experts debated whether recovery was there or the returning strong demand was only a post-Covid-19 catch up effect.

Publishing of several special reports:

- Commodity trading in Covid-19 times – the rise of trade tech
- The end of happy globalization? A macro-eco viewpoint of commodity trading in Covid-19 times
- A comprehensive overview – Russia export duty on ferrous and non-ferrous metal products.

Publication of a comprehensive study on the special steels market and applications in partnership with SMR.

The ICDA hosted its HSE Committee meeting online with the participation of companies from EU, CIS, Turkey and South Africa.

Release of a new service for Member, a weekly newsletter covering the Chinese chromium industry and compiled by ICDA Representative in China, Mrs Wen Jiang.

Several companies receive the Responsible Chromium label:

- AMG Superalloys (Ecovadis Gold)
- Aperam (Ecovadis Gold)
- Elementis Chromium (Ecovadis Gold)
- ERG – Kazchrome (Ecovadis Silver)



After almost 2 years without any gathering the ICDA hosts a networking event in Paris, despite the travel limitation the event is a success in terms of attendance, quality of the presentations delivered and most importantly satisfaction of the participants.

Given the travel restrictions and the Covid-19 variants looming, the ICDA hosts its Chromium 2021 conference online, more than 200 delegates attended the conference which spread over 4 days and covered highly topical questions (supply chain and systemic issues, chromium market analysis and regional outlooks, sustainability and net-zero goals for the industry).

The ICDA delivered a presentation during the 2021 stainless steel and raw material market summit forum in Zhangjiagang.

Release of the Life Cycle Assessment results for HC FeCr. The HC FeCr industry efforts must focus on turning to decarbonised source of electricity and finding substitute to the use of coke as a reductant such as bio-char.

Publication of a report about the strategic importance of chromium plating applications including interviews of plating associations and end-users.


Several companies receive the Responsible Chromium label


- Acerinox (Ecovadis Gold)
- Voelpker Spezialprodukte GmbH (Ecovadis Silver)
- Vopelius Chemie (Ecovadis Silver)

Publishing of several special reports

- Overview of the Chinese stainless-steel industry
- China – Carbon neutrality goals and the rise of protectionism
- The geopolitics of natural resources in a post Covid and ecological world
- The China-US trade war – understanding the rules of economic warfare

Publication of the long-awaited strategic overview of the South African chromium industry.



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International Chamber of Commerce
Diplomatie des Nations Unies • 15 Avenue du Maréchal Foch • 75008 Paris • France

ONLINE EVENT
CHROMIUM 2021
Adaptability is the key to success

22nd – 25th November 2021

The pandemic has reshaped the world, how will we adapt, what is shaping the world beyond COVID-19, what will recovery look like, what nations have we learnt?

Our online conference will see invited speakers try and answer these difficult questions

SUSTAINABILITY AND DECONSTRUCTION ARE NOW INDISPENSABLE TOPICS FOR BUSINESS. HOW CAN CLIMATE CHANGE FUELING AN UNPRECEDENTED ENERGY CRISIS OVERHAUL THE BUSINESS ECOSYSTEM? HAS CHANGED, DIGITALIZATION, SUSTAINABILITY AND RECONSTRUCTION ARE GOING FORWARD?

WILL THE RECENT ECONOMIC COLLAPSE BE THE START OF A NEW ECONOMIC ORDER? WILL THERE BE A RESILIENT SUPPLY CHAIN IS THE MOST DIFFICULT TASK EVER AMONGST FAST CHANGING MARKET, PANDEMIC RISK, TRADE BARRIERS, GEOLOGICAL, THREATS, AND IMPROVING CLIMATE?

INDISCIPLINED TRADE IS CHINA RELATIONS, COLD WAR AND MILITARY CONFLICT? RIGHT OR WRONG IN THE GLOBAL ECONOMY?

HOW RESILIENT ARE CHROMIUM MARKETS AND WHAT ARE THE REGIONAL STRATEGIES TO PROTECT THE BUSINESS? WHAT ARE THE CHALLENGES OF THE FUTURE? CHINA, SYSTEMIC DIFFICULTIES, AND THREATS OF REGIONAL PROTECTIONISM?

The event will provide you with excellent online networking opportunities

It will allow you to attend

- A live panel discussion with invited coffee break breaks
- A live panel discussion with invited coffee break breaks
- A live panel discussion with invited coffee break breaks
- A live panel discussion with invited coffee break breaks

Registration is free of charge for ICDA Members, plus for your next event. Sign and register now to attend. The ICDA Members of your firm have the opportunity to pay less for your attendance, please contact info@icda.com

We look forward to welcoming you soon online!

INTERNATIONAL CHROMIUM DIPLOMATICS ASSOCIATION

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INTERNATIONAL CONFERENCE OF
DEVELOPMENTAL ANALYSTS

#QUARTER 4 - 2021
CHROME ORE & FERROCHROME
PRODUCTION & TRADE ANALYSIS

icda 2021
INTERNATIONAL CONFERENCE
ON DATA ANALYTICS

A STRATEGIC OVERVIEW OF SOUTH AFRICA
NOVEMBER 2021









Christian Herbulot
 is a French strategist specialized in international relations. He is director and co-founder of the School of Economics, Warfare and Intelligence of the consulting firm Spin Doctors, specialized in economic intelligence.

On March 12, 2008, Christian Herbulot was promoted to the rank of **senior Representative** by the French Minister of Defense and is a lecturer in economic intelligence for the French Army Staff.

Since 2009, he has been the scientific counsel of the General Staff of the French Superior de la Formation and is a Director of the Strategy (SCSP) and of the International Institute of International Relations and Strategic Intelligence.

YOU ARE AN EXPERT IN ECONOMIC INTELLIGENCE AND HAVE BEEN THINKING ABOUT ECONOMIC WARFARE SINCE THE 1980S. WHAT RECENT NEWS, OBSERVATIONS OR CHALLENGES HAVE INSPIRED YOU TO WRITE THIS BOOK?

WE'VE SEEN THE RISE OF GAS TARIFFS, REDUCED SECOND HANDS REVENUE AND A NEW CERTAIN IGNORANCE ABOUT ECONOMIC HISTORY. THERE IS NO SUCH THING AS A POLITICAL BUBBLE SPEAK ANYMORE.

FOR A VERY LONG TIME, THE ANALYSIS OF ECONOMIC WARFARE WAS DERIVED BY THE ECONOMISTS AND NOT BY THE ORGANIZATIONS REPRESENTING THE BUSINESS WORLD.

On the right side of the page, there is a large, faint, stylized graphic of a globe or a network of connections, serving as a background for the right column of text.

**SPECIAL
RELEASE**

icda
INTERNATIONAL CARBON DEVELOPMENT ASSOCIATION
8 NOVEMBER 2013

**WHAT MAY CHANGE IN THE LIGHT OF CHINA'S RESPONSE
TO CARBON NEUTRALITY AND EXPORT TAXES?**

Despite current downward trends, China remains the major importer of chrome ore and ferrochrome as well as the largest producer of ferrochrome and stainless steel. China is a major driver for our industry and all eyes are on the country whether a strategic or regulatory move is made by authorities. Be it the country's response to export taxes and its protectionist measures or its strategy for reducing carbon emissions, it will have a significant impact on the entire chromium industry. We have interviewed experts from China who kindly agreed to share their personal thoughts on these topical issues.



INTERNATIONAL CARBON DEVELOPMENT ASSOCIATION www.icda.org

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President
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RESPONSIBLE CHROMIUM
 ACTING NOW
 FOR TOMORROW

THE RESPONSIBLE CHROMIUM LABEL

We are proud to announce that 9 of the ICDA Members have received the Responsible Chromium award. These companies have been successfully evaluated by independent CSR rating agency, Ecovadis, the world's most trusted business sustainability ratings. Congratulations to them for going above and beyond the standard requirement, opening the way to Responsible action.

 OUTOKUMPU FINLAND Ecovadis Platinum	 ACERONIS SPAIN Ecovadis Gold	 AME SUPERALLOYS UNITED KINGDOM Ecovadis Gold	 AFERAM LUXEMBOURG Ecovadis Gold	 ELEMENTS CHROMIUM USA Ecovadis Gold
 DCX CHROME FRANCE Ecovadis Silver	 KAZCHROME KAZAKHSTAN Ecovadis Silver	 VOELPKER SPECIALPRODUKTE GERMANY Ecovadis Silver	 VOPELUS CHEMIE GERMANY Ecovadis Silver	

We thank you for your commitment and for adhering to the Responsible Chromium values.

- Safe processes and best practices
- Ethical management of people and communities
- No child labour and no modern slavery
- Limiting the environmental impact and safeguarding the environment
- Fighting corruption

Responsible companies, acting now for tomorrow.

ICDA®
 International Chromium Development Association

Do not miss to attend our event to learn the Responsible Chromium approach: www.icda-association.com

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INTERNATIONAL CRUDE
DEVELOPMENT ASSOCIATION

icda®

ICDA 2023 ANNUAL MEETING & EXHIBITION

REPORT BACK FROM THE CHINA STEELLESS STEEL
ASSOCIATION ANNUAL EVENT

ANALYSIS OF THE TRENDS OF THE SUPPLY AND DEMAND PATTERNS OF THE CHINA STEEL
LESS ASSOCIATION IN THE FIRST THREE QUARTERS OF 2023

REVIEW OF THE CHINA STEELLESS STEEL MARKET IN THE FIRST THREE QUARTERS OF 2023

PERSPECTIVES FOR THE CHINA-STEEL MARKET IN 2023 AND THE FUTURE

● GLOBAL PRODUCTION RETURNS

● NORMAL LIFESTYLE CHINA'S POWER
AND PRODUCTION RESTRICTIONS
ARE ELIMINATED

The price of 254 cold rolled steel this year,
▲ 54%, increase, a cumulative increase of
82% compared to last year's lowest price,
560,528. This year's highest price is
21,900 yuan, at the beginning of the year
14,200 yuan, and last year's lowest was
12,000 yuan.

The price of 430 cold rolled steel, which
has increased by 23%, has increased by 59%
compared with last year's lowest price of 10,200.
This year's highest price is 16,000 yuan, at
the beginning of the year 14,000 yuan, and
last year's lowest was 8,850 yuan.

High ferro-manganese prices: 38% increase
this year: high-carbon ferrochrome up 82%.





09

SUSTAINABILITY GOALS

First, I would like to thank Dr Juha Ylimaunu again for the work he has done over the past few years as Chairperson. I know he's enjoying his retirement now, but he's still connected to the chrome industry.

The footprints he has left are very large and I will try to continue on the path he has taken by adding additional, new aspects. The priorities in the coming period will certainly be the transformation of our business towards more climate-friendly production.

We are happy to help in the network with the communication of new or best available technologies, also in terms of protecting employees with regard to occupational safety and protecting the environment of chrome production facilities.

Already 30 years ago when the ICDA established the HSE Committee the operators of chrome production plants were also aware of the importance of safety at work and environmental protection.

In particular, the social commitment in the vicinity of the works was a factor why people liked to work in the chrome industry and are still working. In the meantime, sustainability and climate protection have also come into geopolitical focus. 30 years ago, hardly anyone thought about climate change.

Nowadays, the focus is that future generations can also live and work in a

world worth living in. The chrome industry should also make its contribution to these efforts.

In my short time as Chairperson, but also during my time as a member of the EU/ CIS HSE Committee, I have already had the opportunity to work with many colleagues from the industry. I am very grateful for that because it also helps to better understand mentalities in other parts of the world and thus to work better together.

It is precisely in this regard that we see the continental HSE committee being re-formed in India, for example, and increasingly asking

for technologies to achieve environmental and sustainability goals. This also has a lot to do with persuasion, which we are happy to help with.

Our greatest task in the future will certainly be to reduce the CO2 footprint.

For many years we have been creating LCAs for the industry (mainly for the mainstream product HC FeCr) to document our progress in reducing our carbon footprint.

In a next step, we will also do this for LC FeCr and other intermediate products. Unfortunately, we see that not all companies are willing to provide data, even if it is processed anonymously, cooperation is paramount to succeed. In the future, there is still work to be done in persuasion in order to obtain reliable data. On behalf of the



ICDA, we have already dealt with the use of biomass as a reducing agent.

We want to continue pursuing such topics in the future. However, as can be seen from the current LCA for HC FeCr, **our main CO2 impact on the product is the electricity or the energy source for the electricity. Here it is necessary to do political persuasion or to support the industry in promoting and using locally renewable energy and/or more climate-friendly production away from electricity production with coal.**

Especially with regard to the EU Green Deal, which will provide for punitive tariffs when certain CO2 footprint marks are reached (CBAM), we will have to undertake increased activities to reduce the CO2 footprint if not only the price but also the security of supply and sustainability are in focus.

We are pleased to see that many companies have signed in for the Responsible Chromium program, currently customers are increasingly committed to responsible purchasing. This not only in relation to the protection of human rights, but also in relation to environmental protection and sustainability and this is more than a trend now it is a business imperative.

With a rating from Ecovadis as part of the «Responsible Chromium» program, every producer can prove that he is acting responsibly and he can immediately see where there is still a need for action in his company. Not to mention a marketing tool.

Dirk Radermacher

HSE Chairperson



The program was successfully launched in January 2021, 14 companies have been evaluated, 9 companies have currently been eligible to the Responsible Chromium label

Congratulations to the awarded companies for going above and beyond the standard requirement.

1

ECOVADIS PLATINUM

OUTOKUMPU

Finland

2

ECOVADIS GOLD

ACERINOX

Spain

AMG SUPERALLOYS

United Kingdom

APERAM

Luxembourg

ELEMENTIS
CHROMIUM

USA

3

ECOVADIS SILVER

DCX CHROME

France

KAZCHROME

Kazakhstan

VOELPKER
SPEZIALPRODUKTE
GMBH

Germany

VOPELIUS CHEMIE

Germany

WHAT?

Raw materials are used in a wide range of applications that are directly and indirectly part of the life of millions of consumers across the globe. It is essential that we produce and sell our products in a sustainable and responsible way.

The social, ethical and environmental footprint of our products and services cannot be dislocated from the final applications they enable. Our industry has a duty and has set the highest standards to guarantee a responsible product reaches the hands of the users and consumers.

The ICDA has partnered with Ecovadis, a global CSR rating company based on international standards, to conduct individual sustainability performance assessments of the industry.

The evaluation will help all of our learnings, allowing us to take fast, remedial actions to improve our practices whilst reinforcing our strengths - We are acting now for tomorrow.

WHY?

It is necessary to create an easily recognisable label which will certify the company has been duly and successfully evaluated by an independent third party, Ecovadis.

AIM

Highlight those companies that are investing in their human, material and intellectual capital to innovate towards responsible goals.

- >> Safe processes and best practices
- >> Ethical treatment of people and communities
- >> No child labour and no modern slavery
- >> Limiting the environmental impact and safeguarding the environment
- >> Fighting corruption

OUR BELIEFS

Lead by example, we believe it will encourage more companies to develop responsible behaviour and bring our industry to the highest standards of compliance.

HOW?

The Responsible Chromium label is granted for one full year from the date of certification after a company has been successfully evaluated by Ecovadis.

This evaluation is covered by the ICDA as part of the services it provides to its members.

The Responsible Chromium label is granted Ecovadis silver status following ICDA's official communications.

OWNERSHIP OF THE LABEL AND USE

The ICDA is the unique owner of the Responsible Chromium label and reserves the right to allow a member company to use this label on the condition the company has received at least a silver certification from Ecovadis.

In case of any serious breach during the year of obtention, the ICDA has the right to cancel a company's responsible chromium status with immediate effect.

It is strictly forbidden to use the Responsible Chromium label without having been successfully evaluated by our partner Ecovadis and authorised by the ICDA. Certified companies will be listed in a related register on an annual basis



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MARKET
DEVELOPMENT



The long-awaited study on chromium in special steels was published in September. The study was conducted in partnership with Steels Metals and Market Research (SMR) and provides a comprehensive overview of a complex market representing about a 23% share of ferrochromium applications, mostly LC FeCr.

In 2021, it was the ICDA's turn to take over the chairmanship of Team Stainless.

Team Stainless is an informal cooperation between associations of the stainless steel and alloying elements industries and their recycling, their mission is to showcase and support stainless steel as a solution for a sustainable society.

In 2021 the Team Stainless group has been meeting every quarter to follow-up the development of its projects.

Yuji Kubo

Market development Chairperson



The Global Life Cycle of stainless steels

In January, Team Stainless published “The Global Life Cycle of Stainless Steels”, a summary of the results of a study which quantifies the stocks and flows cycle of stainless steels. Conducted by Barbara Reck, Senior Research Scientist at Yale University, the study “Comprehensive Multilevel Cycle of Stainless Steel in 2015” concluded that on average, 85% of stainless steels are recycled once they reach their end of life, either to become new stainless steels (56%) or a valuable iron source for carbon steels (29%).

The recycled content of stainless steels

The study also considered the recycled content of stainless steels (the amount of scrap used in the production of new stainless steels). Globally, the average recycled content of stainless steel was 44% (32% stainless steel scrap and 12% carbon steel scrap). However, there were significant regional differences, for example, in the USA and Europe recycled content of stainless steels was 71% and 70% respectively. The global figure is strongly impacted by China which, in 2015, produced 52% of the world's stainless steels but contained on average only 23% recycled content. It is likely that this reflects the fact that the availability of scrap stainless steel in China is lower because most in-use stainless steels have not yet reached their end of life.

End use sector specific end-of-life flows

The study also analysed end use sector specific end-of-life flows. Household appliances and electronics and metal goods had the lowest yet high end-of-life collection rate at 80%, while building and infrastructure had an 85% end-of-life collection rate and transportation and industrial machinery accounted for the highest end-of-life collection rate at 90%.

85 %

of stainless steels are recycled once they reach their end of life, either to become new stainless steels (56%) or a valuable iron source for carbon steels (29%).

70 %

It is the average recycled content of stainless steel in Europe, on average the ratio is 44% globally.

80 %

Household appliances and electronics and metal goods had the lowest yet high end-of-life collection rate at 80%

Water project promotion

In October, Team Stainless published a new video part of the Water project and the benefits of stainless flexible service lines and how easy they are to install, the video is available on Youtube and the Team Stainless website.

As part of the Water project promotion, Team Stainless reminded that stainless steel flexible service lines are a solution to help solve the water loss problem. Globally water losses from drinking water supply networks amount to 346,000,000,000 liters per day! If these water losses were reduced by only 30%, 800 million people could be supplied with already treated water. Stainless steel flexible service lines reduce water loss, are corrosion resistant, durable, hygienic and recyclable.

30 %

Globally water losses from drinking water supply networks amount to 346,000,000,000 liters per day! If these water losses were reduced by only 30%, 800 million people could be supplied with already treated water.

2 new stainless steel standards

In December, AISC (American Institute of Steel Construction) has published two new stainless steel standards.

ANSI/AISC 370-21 Specification for Structural Stainless Steel Buildings and ANSI/AISC 313-21 Code of Standard Practice for Structural Stainless Steel Buildings are available to download free of charge at Current Standards | American Institute of Steel Construction (aisc.org).

The availability of these eagerly anticipated standards will help engineers, materials specifiers and designers take full advantage of the outstanding properties of stainless steel in building, construction and large infrastructure projects such as bridges, opening up new opportunities for growth in these sectors. These codes are significant because they are the first US specifications for structural use of heavier gauge hot rolled and welded stainless steel sections. The AISC codes are also used by structural engineers in many other global regions.

Team Stainless consultants Nancy Baddoo (Steel Construction Institute, UK) and Catherine Houska, along with steel producers and product manufacturers have worked closely with AISC over the last three years to develop these important new standards.

2

new stainless steel standards

ANSI/AISC 370-21 Specification for Structural Stainless Steel Buildings et ANSI/AISC 313-21 Code of Standard Practice for Structural Stainless Steel Buildings sont disponibles en téléchargement gratuit sur Current Standards | Institut américain de la construction en acier (aisc.org)

The background of the entire page is a blue gradient, transitioning from a darker blue at the bottom to a lighter blue at the top. Overlaid on this gradient is a pattern of numerous blue spheres of varying sizes, creating a textured, bubble-like effect.

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MARKET RESEARCH



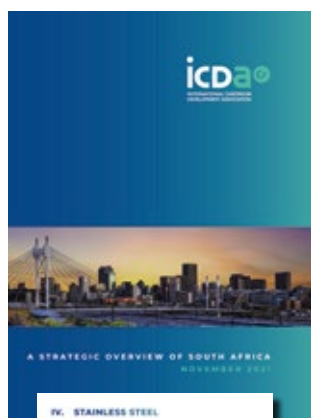
As we entered a second year of uncertainty with limited opportunities to travel, the market research activities have never been so dynamic as in 2021.

Having access to quality research reports is critical, it is even more critical when social interactions are very limited.

In 2021, in addition to its quarterly reports and infographics, the ICDA hosted several webinars, published expert interviews and a long-awaited and insightful report on South Africa. This report is the first of a series dedicated to chrome-related countries and providing both an analysis of the industry as well as of the macro context.

We have heard the ICDA members following the survey conducted in 2021 and we are committed in providing more in-house research papers.

Greg Taurag
Market research Chairperson





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THE ICDA
IN CHINA



While the pandemic continued in most parts of the world, the situation in China was under control, allowing many events to take place.



Our new representative, Mrs Wen Jiang, who joined the ICDA last year attended these conferences and took the opportunity to meet with our members to follow up on our activities locally.



A new weekly newsletter service covering local industry was launched in September thanks to the excellent market knowledge of Wen Jiang.



Jonathan Qui
China Chairperson





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**ICDA NETWORKING
EVENT IN PARIS,
20th OCTOBER 2021**

Since the start of the pandemic the ICDA Members finally could gather in Paris for the ICDA Networking event. A perfect format for busy schedules, - in one afternoon delegates could network, get latest market insights and attend a cocktail reception.

The event took place in one of the most historical locations in Paris, in the exclusive private business club overlooking the famous Champs Elysées and the Place de la Concorde.

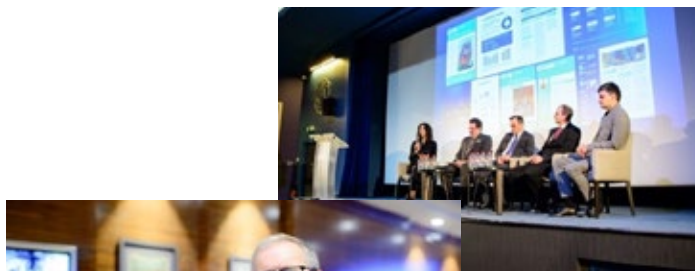
7 professionals in their spheres made very insightful presentations.

We are very happy that at least some part of a big ICDA Family could unite after 2 years of not seeing each other in real!

Zoom, webex, teams would never replace the power of a handshake greeting, of a sincere smile and these talks and laughter with a cup of coffee or a glass of wine.

Almost 50 delegates

not only from Europe, but also from South Africa, Hong Kong the United States of America could enjoy a face-to-face networking event.



Ordinary Members

- Acerinox S.A. (Spain)
- Afarak Group (Finland)
- Al Tamman Indsil Ferro Chrome LLC (Oman)
- Albchrome (Albania)
- AMG Superalloys UK Limited (United Kingdom)
- Anglo American Platinum Limited (South Africa)
- Aperam S.A. (Luxemburg)
- Brother Enterprises Holding Co., Ltd. (China)
- China National Minerals Co., Ltd. (China)
- Chongqing Changyuan Group Limited (China)
- CRONIMET Group (Germany)
- DCX Chrome - Groupe Delachaux (France)
- Dedeman Madencilik Sanayi ve Ticaret AS (Turkey)
- Ehui Group Limited (China)
- Elementis Chromium (USA)
- ELG GmbH (Germany)
- ERG Sales AG (Switzerland)
- Eti Elektrometalurji A.S. (Turkey)
- Ferbasa (Brazil)
- Glencore (South Africa)
- Hubei Zhenhua Chemical Co., Ltd. (China)
- Indian Metals & Ferro Alloys Ltd. (IMFA) (India)
- JFE Material Co., Ltd. (Japan)
- Jindal Stainless Limited (India)
- Masa Chrome (Pty) Ltd. (South Africa)
- Merafe Resources Limited (South Africa)
- Minerals Technologies (South Africa)
- Mintal Group Chrome Industry Science and Technology Co., Ltd. (China)
- Nippon Chemical Industrial Co., Ltd. (Japan)
- Nippon Steel Stainless Steel Corporation (NSSSC)
- Novotroitsk Plant of Chromium Compounds (Russia)
- Ore & Metal Company Ltd. (South Africa)
- Outokumpu Chrome Oy (Finland)
- Pelagic Resources (Singapore) - [Newly Joined](#)
- RFA International LP / ChEMK (Switzerland)
- RusChrome GmbH (Germany)
- Sail Holding Pty Ltd (Singapore)
- Samancor Chrome (South Africa)
- Sibanye Stillwater (South Africa)
- Soda Sanayii A.S. - Sisecam Group (Turkey)
- Swiss Steel Group (Germany)
- Tata Steel Limited (India)
- Tharisa Minerals (Pty) Ltd. (South Africa)
- Tsingshan Holding Group Company Ltd. (China)
- VISA Steel Limited (India)
- Vishnu Chemicals Limited (India)
- Xin Gang Lian Metallurgy Co., Ltd. (China)
- Yildirim Group / Eti Krom A.S. (Turkey)
- Zimasco (Pvt) Ltd. (Zimbabwe)

Associate Members

- Asia Steel & Metals Ltd. (Hong Kong, China)
- Baometal Minerals International Trade Limited (China)
- BF International Limited (Japan)
- COFERMIN Chrome GmbH & Co. KG (Germany)
- Cometal SA (Spain)
- EK-Company (EKC.AG) (Germany)
- F.W. Hempel Intermétaux S.A. (Switzerland)
- Galmet SPA (Italy)
- Gunvor Singapore Pte Ltd. (Singapore)
- HANWA Co.,Ltd. (Japan)
- Harcan Engineering Co., Ltd. (China) - [Newly Joined](#)
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- Marubeni Tetsugen Co., Ltd. (Japan)
- Metal Partner GmbH (Germany)
- Mitsubishi Corporation (Japan)
- Mitsui & Co. Ltd. (Japan)
- Noble Resources Int. pte. Ltd. (Singapore)
- North American Minerals Chrome Sales Ltd. (USA)
- Pacific Linkage Limited (China)
- Plomp Minerals Services (the Netherlands)
- Possehl Erzkontor GmbH Co KG. (Germany)
- Prince (USA)
- PURMETALL GmbH & Co. KG (Germany)
- Rand York Minerals (Pty) Ltd. (South Africa)
- "RMK" Ltd. (Russia)
- Sojitz Corporation (South Africa)
- Southern Development Ltd. (SODEVCO) (UAE /USA)
- Sumitomo Corporation (Japan)
- TELF AG (Switzerland)
- Tianjin Maxore International Trade Co. Ltd. (China)
- Traxys North America LLC (USA)
- UniChrome AG (Switzerland)
- Vopelius Chemie AG (Germany)

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- Canada Natural Resources Ministry (Canada)
- CellMark Metals / Sonaco Trading AB (Sweden)
- CMMP (France)
- Cromochimica Industriale SRL (Italy)
- Exxaro FerroAlloys (Pty) Ltd. (South Africa)
- F.W. Winter Inc. & Co. (USA)
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- Metal Line Projects (South Africa)
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- Monteagle Logistics Limited (South Africa)
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- SIBELCO (France)
- SNCZ (France)
- Tenova Mining & Minerals (Pty) Ltd. (South Africa)
- Voelpker Spezialprodukte GmbH (Germany) - [Newly Joined](#)





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