

7 International Exhibition & Conference on Minerals, Metals, Metallurgy & Materials



CO-SPONSORED BY

Ministry of Steel Ministry of Coal Ministry of Environment, Forest & Climate Change **Ministry of Electronics & Information Technology NITI Aayog**

Council of Scientific & Industrial Research (CSIR)

Ministry of External Affairs () ECONOMIC DIPLOMACY DIVISION

25-26-27 AUGUST, 2022

Pragati Maidan, New Delhi, India

Concurrent International Conference on

"Resource Efficiency and Circular Economy in Mineral & Metal Sectors in India"

Organised by: The Indian Institute of Metals- Delhi Chapter

























Shri Jyotiraditya M. Scindia
Hon'ble Minister of Civil Aviation and Steel
Government of India

I am glad to know that The Indian Institute of Metals - Delhi Chapter and Hyve India Pvt. Ltd. is organizing MMMM 2022 international Conference and Exhibition during 25-27 August 2022 at Delhi.

Revolutionary changes have been brought in mineral and metal domain in the last few years in the country. Indian steel industry is brilliant example of transformation and turnaround with the joint efforts of government and industry, as it has come a long way by becoming 2^{nd} largest steel producer in the world.

Steelmakers all over the world are evolving strategies for making the manufacturing process more environmentally friendly and circular. One eption is enhancing scrap-based steelmaking which currently accounts for around 30% of global steel production, and can contribute in large reduction of green house gas emission in the steel sector. Presently steel sector is contributing 7-9 % of global emissions. Several policy initiatives have been taken in India to enhance scrap availability in the country.

Steelmakers, plant builders, environmentalists, consultants, artificial intelligence experts, all have to contribute for transforming the industry to be more circular, resource efficient, carbon-lean and environmentally responsible, With ever-plummeting costs of renewable energy generation, steelmakers must also plan to* harness the renewable energy for green steel production. india is endowed with some of the world's most abundant solar, wind and hydro resources. Total decarbonisation is a long journey, steelmakers can take short-term steps with incremental and stepwise sustainable approaches.

The global requirement of minerals and metals is growing. There is a great concern about future availability of these valuable resources. The theme of the International Conference, viz. Resource Efficiency and Circular Economy in Mineral & Metal Sectors is very topical and relevant in this context. I hope deliberation will be held on what is being done to make metal production as resource efficient as possible, and ensuring a rapid and global deployment of breakthrough technologies that can make metal production considerably greener and resource efficient than what is at present.

I wish the MMMM 2022 Conference and Exhibition all success.

(Jyotiraditya M. Scindia)





Shri. Arif Mohammed Khan Hon'ble Lt. Governor, Kerala

I am happy to know that Hyve India Pvt. Ltd. And IIM-DC are organizing MMMM-2022 from 25th to 27th of August 2022, at Pragati Maidan, New Delhi, and that a Souvenir cum Show Catalogue will be published to mark the occasion.

It is commendable that MMMM which has the presence of leading companies in the Mining, Metals and Machinery Industries, is cosponsored by the Ministries of Steel, Coal, External Affairs, Niti Aayog, Council of Scientific and Industrial Research (CSIR), Govt. of India and supported by World Metal Forum (WMF).

I convey my hearty greetings to everyone behind this venture and wish the Event as well as the publication all success.



Shri. Pinarayi VijayanThe Hon'ble
Chief Minister of Kerala

I am glad to note that MMMM 2022, a Grand Business Carnival is being organized so that new knowledge, cutting edge technologies and latest innovations relating to minerals, metallurgy, and materials can be showcased to the world.

I hope that it will serve as an avenue for various stakeholders to have meaningful interactions in such a way that infrastructure development in the country is benefitted.



Shri. KK Pahuja
President
Indian Stainless Steel
Development Association (ISSDA)

I am pleased to know that Hyve India Pvt Ltd along with the active support of World metal forum (WMF) is organizing the MMMM2022, and so located events on Mineral, Metal, Machinery, Manufacturing, and allied Industries during August 25-27, 2022, at Pragati Maidan, New Delhi, India.

Metals and Mining Sector plays an important role in the GDP of our country. Today our country needs to put in concerted efforts to enhance the growth of our GDP. A forum of Conference and Exhibitions of this nature can play a pivotal role to usher in rapid technological advancements in minerals and metals sector.

I am sure that the event will facilitate efforts towards modernization of our minerals, metals, metallurgy and metals sector.

I wish a grand success to the mega event.





Shri. Deepak Bhatnagar Secretary General Pellet Manufacturers Association of India

I am pleased to know that Hyve India in association with numerous paper industry I am happy to know that Indian Institute of Metals, Delhi Chapter with the active support of World metal forum (WMF) along with Hyve India Pvt Ltd is organizing the MMMM 2022, and co located events on Mineral, Metal, Machinery, Manufacturing, and allied Industries During August 25 27, 2022, at Pragati Maidan, New Delhi, India.

It is indeed very encouraging to note that Ministries of Steel, Coal, Mines, MoEF, S&T and NITI Aayog are Co-sponsors. With the Blessings of Govt of India, I am sure the event will get the fillip for rapid growth of Industry.

The Minerals and Metal Sector is one of the significant sectors in our National Economy as it has consequences for multiple downstream industries, particularly in manufacturing and infrastructure, Nature has given us abundant mineral resources. Just to Illustrate, India has nearly 30 billion tonnes of Iron Ore deposits. The Indian Steel Industry has been growing over the years and in years to come more growth is expected. The Government of India has set an ambitious target of 300 million Tonnes of steel production capacity by2030. With available mineral resources, technology, and manpower, I am confident that the above target would be achieved with the support of stakeholders of the minerals and metals sector. Iron Ore Pellets industry is the 5th largest in the world with a total capacity of 126 Million tones and plants spread in seven states of India. Pellets are a "Value-added green Raw material and help in sustainable development of mines, as they utilize iron ore fines, which cannot be used directly in Steel Making.

We hope that the deliberations of the conference and participation of stakeholders in the exhibition will provide a forum to facilitate the promotion of joint efforts and ventures for modernizing and enlarging our minerals, metalls, metallurgy, and materials industry. On behalf of all pellet producers, who are members of 'Pellet Manufacturers Association in India *(PMA1), I extend my best wishes to the Organizers for a successful event.



Shri. Balkrishna Binani Chairman Indian Copper Development Centre, Kolkata

I am delighted to note that Hyve India Pvt. Ltd. and The Indian Institute of Metals, Delhi Chapter, with the active support of World Metal Forum (WMF) are organizing Minerals, Metals, Metallurgy and Materials 2022 Expo during August 25-27, 2022, at Pragati Maidan, New Delhi, India.

Metals and Mining Sectors play an important role in the GDP of our country. Today our country needs to put in concerted efforts to enhance the growth of our GDP. Conference and Exhibition of this nature provide the much-needed platform to share technical expertise and learn about the latest developments taking place around the globe.

I am sure this programme will be of great benefit to the participants.

I wish this mega event a grand success.





Shri. Vivek Adukia
Chairman
Steel Re Rolling Mills
Association of India

I am happy to know that Hyve India Pvt. Ltd. along with IIM-DC, with the active support of World Metal Forum (WMF) is organizing the 13th edition of MMMM, and co located events on Mineral, Metal, Machinery, Manufacturing, and allied Industries during August 25-27, 2022, at

Pragati Maidan, New Delhi, India. Though there have been lots of achievements and developments in the Indian metal industry, challenges never end. The Exhibition & International Conferences of MMMM 2022 at Pragati Maidan will provide a forum and platform for a comprehensive overview of new technological trends, intelligent solutions for future challenges and to form meaningful business partnerships amongst entrepreneurs, CEOs, Consultants, Government officials, Technology & Equipment suppliers & Engineers & professionals etc.

I wish the 13th edition of MMMM a huge success, and convey my thanks to the organisers for their initiative.



Shri. Vinkesh Gulati
President
Federation of Automobile
Dealers Associations

I am glad to know that Hyve India in association with leading trade associations is organizing the HTF + CWE and co located events on Mineral, Metal, Machinery, Manufacturing, and allied Industries, in the month of August 2022 in New Delhi.

I am sure such type of focused B2B events are helpful to link together and provide a common business platform for manufacturing Industries to showcase the new technologies, machinery, products, and services, as well as knowledge exchange. On the other hand, the buyers will also get the opportunity to experience the new technology & latest trends of the industry in general and especially in Fastener technologies.

Best wishes for a successful event.



Dr. A Sakthivel
President
Federation of Indian Export
Organisations (FIEO)

It is heartening to know that Hyve India and Leading Trade Associations are organizing the HTF + CWE and Co Located Events on Minerals, Machinery, Manufacturing and Allied Industries from August 25-27 at Pragati Maidan, New Delhi.

I hope this event will also provide opportunities for networking, best sourcing, technology, and knowledge transfer along with joint ventures in targeted industries.

As the new methodologies are the need of the hour for augmenting the productivity and capacity in the manufacturing sector, I am sure that the exhibitors and trade visitors will be able to draw maximum advantage from this event.

I am sending my best wishes for the success of this event.





Shri. S G Mokashi Hony. Secretary General Chairman Chemexil

I am delighted to know that Hyve India and many other trade associations are hosting the 20* edition of one of the largest exhibitions in India, HTF + CW and co located events on Mineral, Metal, Machinery, Manufacturing, and allied Industries during Aug 25-27, 2022 at Pragati Maidan, New Delhi, India,

Hope that such events will open new horizons for product showcasing and business interactions and address the needs of the manufacturing & metal industries. I am sure that

the participants from Delhi attending this event will draw the maximum advantage from this opportunity.

My best whishes to the organisation for a grand show.



Shri. Narinder Bhamra
President
Fastener Manufacturers
Association of India (Regd.),
Ludhiana

I am happy to know that Hyve India in association with leading trade associations is organizing the HTF and co located events on Mineral, Metal, Machinery, Manufacturing, and allied Industries during 25 – 27 August 2022 in New Delhi.

This exhibition will provide a meeting point for Power Tools, Fasteners certainly be providing opportunities for business networking, new product launches, technology interchange and more. Innovative tools & technologies will accelerate the manufacturing sector and thereby help the growth of the sector.

I am sure that such platform will be helping the Exhibitors & Business visitors to scale up their knowledge and business. I wish a great success to all participants and organizers of the event.



Shri. Rituraj Bos Hony. Secretary General The Indian Institute of Welding

I am pleased to know that Hyve India Pvt Ltd along with the active support of World metal forum (WMF) is organizing the MMMM2022, and so located events on Mineral, Metal, Machinery, Manufacturing, and allied Industries during August 25-27, 2022, at Pragati Maidan, New Delhi, India.

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I wish a grand success to the mega event.





Shri. Saharsh Damani CEO Federation of Automobile Dealers Associations

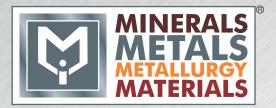
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The Organizer of





CO-SPONSORED BY

Ministry of Steel
Ministry of Coal
Ministry of Environment, Forest & Climate Change
Ministry of Electronics & Information Technology
NITI Ayog

Council of Scientific & Industrial Research (CSIR) सत्यमेव जयते Ministry of External Affairs () ECONOMIC DIPLOMACY DIMISION

and CO-LOCATED SHOWS













25-27 AUGUST 2022, PRAGATI MAIDAN, NEW DELHI, INDIA

Wish to Thanks

Industry for their Support







Media for their Support









99 MACHINERY FOR YOU













The **global steel market** is projected to cross over **USD 1.43** Trillion by the end of 2030.

India is the world's second-largest producer of crude steel and has produced **120 million** tonne (MT) of crude steel during financial year ended March 31, 2022, the output was about **18 per cent** higher compared to the country's production in the preceding fiscal year which was **102 MT steel** in 2021.

The growth in the Indian steel sector has been driven by the domestic availability of raw materials such as iron ore and cost-effective labour. Consequently, the steel sector has been a major contributor to India's manufacturing output.

India's finished steel consumption is anticipated to increase to **230 MT** by 2030-31 from **133.596 MT** in FY22.

Government of India is aiming to scale the Steel production upto **300 Million** Tons and increase the per capita steel consumption upto **160 kgs** by 2030-31 as per National Steel Policy. The liberalization of industrial policy and other initiatives taken by the Government have given a definite impetus for entry, participation and growth of the private sector in the steel industry.

Indian Steel Industry is witnessing consolidation of players which will presents an opportunity for global players to enter the Indian Market, while the existing units are being modernized/expanded, a large number of new steel plants have also come up in different parts of the country based on modern, cost effective, state of-the-art technologies

Huge scope for growth is offered by India's comparatively low per capita steel consumption and the expected rise in consumption due to increased infrastructure construction and the thriving automobile and railways sectors.

Under the Union Budget 2022-23, the government allocated **Rs. 47 crore** (US\$ 6.2 million) to the Ministry of Steel.







MMMM is, by far, the largest and the most prestigious event on Minerals, Metals, Metallurgy & Materials with presence of a large number of leading companies of Mining, Metals and Materials industries. The event has always received worldwide appreciation from all over the industry and proved to be the best international business platform in India. The event is being jointly organized by Indian Institute of Metals – Delhi Chapter (IIM-DC) and Hyve India Pvt. Ltd., the Indian subsidiary of Hyve Group PLC (UK).

MMMM 2022 was Co-sponsored by the Ministries of Steel, Coal, External Affairs, Niti Ayog, Council of Scientific & Industrial Research (CSIR), Government of India and supported by World Metal Forum (WMF). The show was collocated with 5 concurrent events: HTF - for Advanced Hand Tools, Power Tools and Fasteners, CWE - for Advanced Cutting and Welding Equipment & Technology, IMEX - for Latest Machine Tools CNC, Laser, Measuring & Testing Equipment, UMEX - for Economical Pre-owned machinery in the industry, TECHINDIA - for Engineering and Manufacturing.

A high level concurrent conference on "Resource Efficiency and Circular Economy in Mineral & Metal Sectors in India" organized by Indian Institute of Metals – Delhi Chapter (IIM-DC) was a conclave of Policy Makers, CEOs, Industry experts, Scientists, Academia and Engineers associated with Metals, Minerals, Metallurgical and Allied Industries.

The event was inaugurated by Shri Jyotiraditya M. Scindia; Hon'ble Minister of Civil Aviation and Steel, Government of India in the presence of other Government officials, Trade Bodies and eminent leaders from Metal, Manufacturing and allied Industry.

Exhibitor Profile

Metal Manufacturer and Suppliers

- Aluminium
- Copper
- Pipes and Tubes
- Steel and Steel Structures
- Stainless Steel
- Zinc
- Wire
- Lead

Minerals

- Mineral Developments Corporations
- Minerals Exploration Technology
- State Governments
- Handlina & Processina
- Transportation and Logistics

Machinery & Technology for Mineral Mining & Processing

- Communication System & Technology
- Conveyor Belting & Components
- Drilling and Crushing
- Earth Movina Equipment and accessories
- **Environment & Geology and Mining**
 - Related Services
- Fans and Dust Collectors
- Locomotives, Lubricants & Greases
- Mines Safety Equipment
- Process Control Systems
- Rock Drilling Equipment

Metallurgical Equipment's & Technology

- Foundry Machinery & Technology
- Welding Equipment & Technology
- Rolling Mill equipments

Machinery & Technology for Steel & Metal Manufacturina

- Automation & Instrumentations
- Energy Conservation
- Engineering and Design
- Environment protection
- Filtration & Separation
- Induction Furnace and Heat Treatment
- Nano-Technologies
- Palletisation

- Project Management & Consultation
- Pumps & Valves
- Quality control
- Refractories
- Safety Equipment & Technology
- Scientific Research & Development
- Scrap Collecting and Recycling
- Sheet metal, tube, section (ferrous and nonferrous)
- Sintering
- Smelting and Refining
- Software technology

Metal Working Machinery & Technology

- Bearing & Shafts
- Cutting, Shaping, Bending & Welding
- Extrusion
- Finished products, components, assemblies
- Flexible sheet metal working
- Forging, Casting equipment and accessories
- Formina
- Foundry Engineering
- Furnace and Heat Treatment
- Gears, Motors & Compressors
- Joining, fastening
- Lappina
- Laser Claddina
- Lubricants
- Machine Tools and Dies
- Polishina
- Spray Painting Systems
- Surface Treatment & Corrosion Technology
- Tube / Section processing
- Vibrator De-burring Machines &

Consumables

Material Handling Solutions

- Cranes & Lifting Equipment
- Hoists & Aerial Work Platform
- Industrial Trucks, Forklifts & Accessories
- Innovative Logistics Solutions
- Loading & Unloading Equipment
- Robotic Systems & Automation
- Warehouse Technology & Systems











Buying and Sourcing Mineral Processing

HE PROFILE

- Mineral Development Corporation
- Mineral Processing Units
- Public Sector Enterprises
- MSME and Private companies
- State Government Departments & agencies
- Contractors
- Scientific Research & Development Institutions

Steel and Metal Manufacturers

- Metal producing companies
- Allov manufacturers
- Material testing agencies
- Ferrous and Non-ferrous metal production plants and units
- Foundry Engineering Units

Buying and Sourcing of Metal & Metal Working Machinery:

- Aerospace & Defense
- Automobile Industry
- Casting, Forgings and Foundry
- Component Manufacturers
- Consulting Service providers
- Electrical & Electronics Industry
- EPC Companies
- **Fabricators**
- Iron and Steel Production
- Non-Ferrous Metals Production
- **OFMs**
- Power Transmission and Distribution
- Railways
- Rolling Mills
- Sheet Metal Fabricators
- Sheet Metal Products.
 - Components Manufacturers
- · Shipbuilding and Ship Repair Industry
- Steel & Aluminum Construction
- Tube and Pipe Sector
- Water Supplier Sector















Shri Jyotiraditya M. Scindia

Hon'ble Minister of Civil Aviation and Steel, Government of India formally inaugurated the event in presence of other leaders of steel & allied Industries.

Shri Atul Bhatt CMD, RINL

Shri Amarendu Prakash Director I/c, Bokaro Steel Plant, SAIL

Shri D K Mohanty Director (Prod.), NMDC Ltd.

Shri Parmod Sagar MD & CEO, RHI Magnesita

Dr. S BasuDirector, CSIR-IMMT

Dr. S K Jha CMD, MIDHANI

Mr. Ulrich Greiner Pachter, CEO, Region India & Asia Pacific, SMS Group

Ms Soma Mondal Chairman, SAIL

Dr. S K Jha CMD, MIDHANI

Shri S K Tripathy Tata Steel











272 **EXHIBITING COMPANIES**



Ministry of Coal

Ministry of Environment, Forest & Climate Change **Ministry of Electronics & Information Technology NITI Aayog** Council of Scientific & Industrial Research (CSIR)

VENT HIGHLIGHTS

Ministry of External Affairs () ECONOMIC DIPLOMACY DIVISION



China, Germany, India, Sweden, Taiwan, United Kingdom





3 DAYS CONFERENCE ON "Resource Efficiency and Circular Economy in Mineral & Metal Sectors in India"

CO-SPONSORED BY Ministry of Steel



VISITING COUNTRIES

Algeria, Bahrain, Bangladesh, Brazil, Canada, China, Ethiopia, Ghana, India, Iran, Italy, Japan, Luxembourg, Nepal, Nigeria, Oman, Poland, Russian Federation, Singapore, Sri Lanka, Sudan, Switzerland, Taiwan, Thailand, Tunisia, Turkey, United Arab Emirates, USA, Zimbabwe



INVITED NATIONAL & INTERNATIONAL TRADE DELEGATIONS FROM **5** COUNTRIES



SUPPORT FROM MAJOR TRADE ASSOCIATIONS AND WORLD METAL FORUM



Panel Discussion: Industry-Academia Conclave on Resource

Efficiency & Circular Economy

Chairman Ms. Ruchika Chaudhry Govil, Addl. Secretary, (Steel)

Panel Members Shri Atul Bhatt, CMD, RINL

Shri Amarendu Prakash, Director I/c, Bokaro Steel Plant, SAIL

Shri D K Mohanty, Director (Prod.), NMDC Ltd. Shri Parmod Sagar, MD & CEO, RHI Magnesita

Dr. S Basu, Director, CSIR-IMMT

TECHNICAL SESSION I

Decarbonisation and Green Metal Production

Chairman Dr. Sanak Mishra, Former, President, INAE

- 1. Challenges in deep decarbonisation of steel industry Dr. Debashish Bhattacharjee, Tata Steel (Invited)
- 2. Decarbonizing the steel sector in India; An analytical perspective on the role of circular economy
 - Dr. Sachin Kumar, Shakti Foundation (Invited)
- 3. Danieli's way forward towards low carbon Future Shri Manoranjan Ram, Danieli India Ltd.
- 4. SAIL on a greener path through circular Economy Shri S K Das, EMD-SAIL
- 5. Role of Mining & Iron Ore in Green Initiatives Shri Ramakrishna Chinnamsetty, AMNS

TECHNICAL SESSION II

Resource Efficiency and Circular Economy in Metal Sector

Chairman Shri S S Mohanty, CEO & MD, Essar Minmet Ltd

- 1. Resource efficiency and circular economy of mineral and metal sectors Shri Ravi Ranjan, ESL
- 2. HPPI for circularity and wealth creationfrom Wastes Shri P K Tripathy , Tata Steel
- Resource Efficiency through by-product Recycling and waste material utilization in the development of metal production / recycling technologies – DMRL initiatives Dr. Ch RVS Nagesh, DMRL
- 4. Enhancing resource efficiency of metal scrap recycling sector in India Commodre Sujeet Samaddar, MRAI
- 5. Acid leaching of cobalt and lithium from Li-ion batteries in presence of copper reductant Dr.Chenna Rao Borra, IIT, Kharagpur
- 6. Improving resource efficiency in steel Industry through world class manufacturing -The Toyota way
 - Shri A N Singh, Lean Solutions
- 7. Resource Efficiency in mining and metal sector Shri Sanjay Dutta, MECON Ltd.

TECHNICAL SESSION III

Manufacturers & Exhibitor's Presentation

Chairman Mr. Manoranjan Ram, Danieli India Ltd.

- 1. Decarbonisation in blast furnace iron making Mr. Kaushik Mukhejee, Danieli Corus
- 2. Pathways for decarbonization of the steelmaking industry Shri Praveen Chaturvedi, TENOVA
- 3. Energy efficiency through lubricants which can contribute in environment conservation
 - Shri Arighna Banerjee Exxonmobil Lubricants Pvt. Ltd.
- 4. Role of repair, refurbishment and life extension services in circular economy Ms Surbhi Sood, Industrial Processors & Metallizers Pvt. Ltd.
- 5. Utilization of slags and co-products Shri Abhijit Gupta, Harsco India





TECHNICAL SESSION IV

Utilization of slag and Co-Products

Chairman Dr. S K Jha, CMD, MIDHANI

- 1. Value addition of LD slag: a by-product ofsteel industry, an opportunity for agriculture Dr. Bhupinder SICAR-IARI
- 2. Steel slag road: a sustainable green Utilization of steel slag in road construction Shri Satish PandeCRRI
- Valorization of iron and steel slag for value- Added products in cement and construction Applications Dr. Rama Murthy, Tata Steel
- 4. Development of cement free concrete using Slags produced in iron and steel plants Shri Gautam Banerjee, AMNS
- Utilization of LD slag in developing new Composite/blended cementitious binder Dr. S K Singh, CSIR-CBRI
- Comparative study on low coast Ca/Mg/Al/Fe layered double hydroxide (LDH) derived from EAF slag with standard TiO2 for waste water remediation Dr. S K Singh, CSIR-CBRI
- 7. Slag sand: A sustainable way to reuse slag Dr. Satish Kumar, JSW, Vijaynagar

TECHNICALSESSION V

Utilization of Lean Grade Ores

Chairman Dr. S Basu, Director, CSIR-IMMT

- 1. Challenges in utilization of lean grade iron ores for sustainable iron making Dr. Rameshwar Sah, JSW Vijaynagar
- 2. Production of pellet grade concentrate from sub-grade iron ore using enhanced gravity Separation

Dr. G V Rao, NMDC Ltd.

- 3. Recovery of values from low and lean grade Iron ore resources Dr. A K Sahu, CSIR-IMMT
- 4. Utilization of iron ore bearing co-products through sinter and pellets Shri Dharmendra Rajak, JSW, Dolvi
- Characterization and pelletization studies of chromite overburden for smelting in Submerged arc furnace Shri S K Tripathy, Tata Steel
- 6. Utilization of lean grade iron ore fines in Beneficiation process at JSW Steel Ltd. Shri S S Yadav, JSW, Vijaynagar
- 7. Requirements and challenges of high pellet charging in blast furnace Shri Manda Rajananda Kumar, MECON Ltd.



TECHNICAL SESSION VI

Energy and Environment

Chairman Ms Neha Verma, Director, Ministry of Steel

1. Integrated sustainability assessment of Steel manufacturing in India:

a comparative LCA

Shri Souvik Bhattacharjya, TERI (Invited)

2. Technological interventions towards reduction in energy consumption and GHG emission in SAIL plants

Shri Partha Banerjee, RDCIS, SAIL

- 3. Present practices and future plans to minimize GHG emission at AMNS Shri V. Pokharna, AM/NS
- 4. Circular economy solutions: refractories recycling Shri Jaydeep Bagchi, RHI Magnesita
- Trends in non-ferrous metal production industry- the future of metals is circular, digital and carbon neutral Mr Amol Paliwal, SMS India Pvt. Ltd.,

Day-3

27th August 2022

TECHNICAL SESSION VII

New Technology

Chairman Dr. Mukesh Kumar, Director, SRTMI

 A new solution for metal recovery with special plasma arc furnace technology with least emissions and high efficiency Shri Raghuram Rao, Proman Infrastructure/ Masercata Oy

2. Lanza Tech: Recycling carbon, creating value

Ms. Preeti Jain, Lanza Tech Pvt. Ltd.

- 3. Latest developments in wet and dry gas cleaning Shri Kaushik Mukherjee Danieli Corus
- 4. Advanced Iron Ore Beneficiation of Low Grade resources through DMS Technology Shri Sunil Yadav, Exagogi
- Beneficiation of Lean iron ore and tailings: A waste to wealth management initiative at Dalli Mechanized mine, BSP, SAIL Shri S Manoj Kumar, BSP, SAIL

Panel Discussion Industry View

Chairman Shri P K Bajaj, Former MD, Durgapur Steel Plant
Panellist Shri R P Sharma, Recycling & Environment Industry
Shri Deepak Bhatnagar, PMAI, Shri D Kashiva, SIMA

Shri Kamal Aggarwal, AIIFA, Shri K K Pahuja, ISSDA



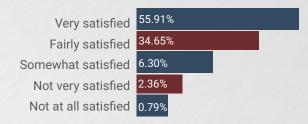
VISITOR STATISTICS

OVERALL SATISFACTION



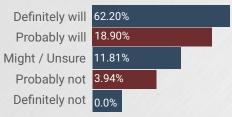
95% are Overall Satisfied with shows

IMPORTANCE OF EVENT



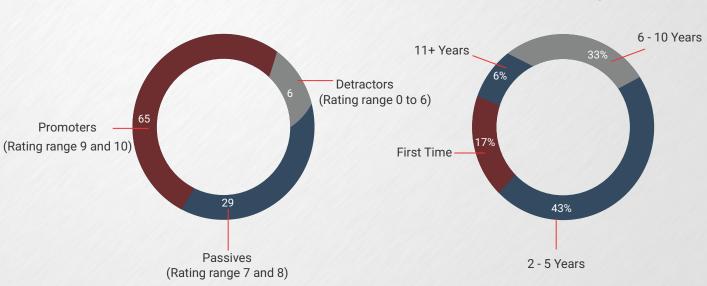
97% Feel the Importance of Event

LIKELIHOOD TO RETURN TO ATTEND



NETTROMOTEROS

NET PROMOTER SCORE NUMBER OF PREVIOUS EXHIBITS



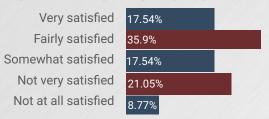
OVERALL PURCHASE RESPONSIBILITY

93% are likely to attend for MMMM 2024 next edition.

Advisory Influence Only Sole Responsibility Joint Responsibility No Influence 33.86% 6.30% 50.39% 50.39%

91% have Overall Purchase Responsibility

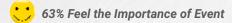
OVERALL SATISFACTION





IMPORTANCE OF EVENT





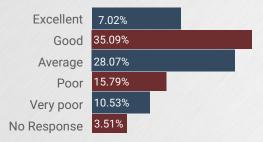
EXHIBITOR'S FEEDBACK

LIKELIHOOD TO RETURN NEXT YEAR



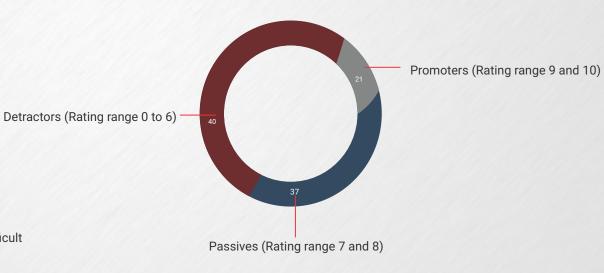
67% are likely to return for MMMM 2024 next edition.

OVERALL RETURN ON INVESTMENT



42% exhibitors agree that exhibition delivered a better ROI for them



























































































All exhibitors placed remarkable efforts to set up impressive displays at the event and the jury members appreciated their efforts in some categories of awards.

Design & Concept

Exxonmobil Lubricants Pvt Ltd

Intercalative Stand Display

Shri Balaji Impex

Green Concept Display

Castrol India Ltd

Innovative Technology Display

First Electrotherm (India) Ltd.

Second Rollcon Engineering Co Pvt Ltd

SPECIAL COMMENDATION - MACHINERY & EQUIPMENT DISPLAY

PP Rolling Mills Mfg. Co. Pvt. Ltd.

MRL

Largest Exhibitor International Sector

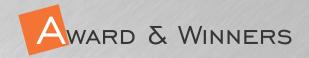
Sinosteel MECC, China

SPECIAL COMMENDATION - DEBUT PARTICIPATION

National Engineering Industries Ltd ATS Techno Pvt Ltd Neles India Private Limited

SPECIAL COMMENDATION - NATIONAL

Eastern Bearings Pvt. Ltd.



SPECIAL COMMENDATION - STEEL SEGMENT

JSW Steel Limited

SPECIAL COMMENDATION - PUBLIC SECTOR ENTERPRISES

Bharat Petroleum Corporation Ltd













The Best of Steel & Metallurgy in India, at the Metals & Minerals Exhibition

The Grand Business Carnival on Mineral, Metal, Machinery, Mumbai News Network Latest No Manufacturing and Allied Industries

India to the necessitive goal productor of caude vised in the ended and has produced 122 vertices because of caude stand during the frameway were social March 21, 2023. The capacities about 18th implies somptimed to the converse to the companies of the somewhat is the converse of the converse

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The show is heing posity organized by MIF-DC and Hyre

HIP & STRATEGY



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DIGITAL TRANSFORMATION

The MANAGEST WITH WITH

The more believe with personal

Friday, 25 August 2022.

SHRI JYOTIRADITYA M SCINDIA, HON'BLE MINISTER OF STEEL & CIVIL AVIATION, GOI ASSURES FULL SUPPORT TO THE 'MINERALS, METALS, METALLURGY & MATERIALS' INDUSTRIES & REAFFIRMS COMMITMENT TO ENABLE INDIA TO MORE THAN DOUBLE ITS STEEL PRODUCTION CAPACITY TO 300 **MTPA BY 2030**



Visiting MMMM 2022, India's most credible global trade expo on Minerals, Metals, Metallurgy & Materials, Shri Scindia assured full support to these vital sectors to upgrade its procurement, production and supply chains

MMMM 2022 - co-located with 5 other major B2B expos of allied industries is being held from upto 27th Aug 2022 at Pragati Maidan. New Delhi

New Delhi: 26th Aug 2022 At a special ribbon cutting ceremony of the 13th edition of MMMM 2022. India's most comprehensive trade event on the Minerals. Metals, Metallurgy & Materials sectors, Shri Jvotiraditya M. Scindia, Hon'ble Minister of Steel & Civil Aviation, Govt. of India said that, in last few years, Revolutionary changes have been brought in mineral and metal domain and Indian steel industry is brilliant example of transformation and turnaround with the Joint efforts of the government and industry. We have come a long way by becoming 2nd largest steel producer in the world. "Shri Scindia further added," Steelmakers. all over the world are evolving strategies for making the manufacturing process more environmentally friendly and Circular economy is the need of the hour.

Jyotiraditya Scindia Assures Full Support to the Minerals, Metals, Metallurgy and Materials Industries

#/yotiradityaScindia #SteelProduction #SteelSector

Source: Indian Institute of Metals Delhi Chapter



EVENTS











EDIA SPEAK

United News of India

India's Multi Lingual News Agency

usiness & Economy W Entertainment

Parliament



NEW DELHI, AUG 26 (UNI):- Union Minister of Civil Aviation and Steel Jyotiraditya M Scindia inaugurating the international conference on 'Resource Efficiency and Circular Economy in Mineral & Metal Sector', in New Delhi on Friday, UNI PHOTO-6U

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Public Ki Shatabdi

प्रगति मैदान...

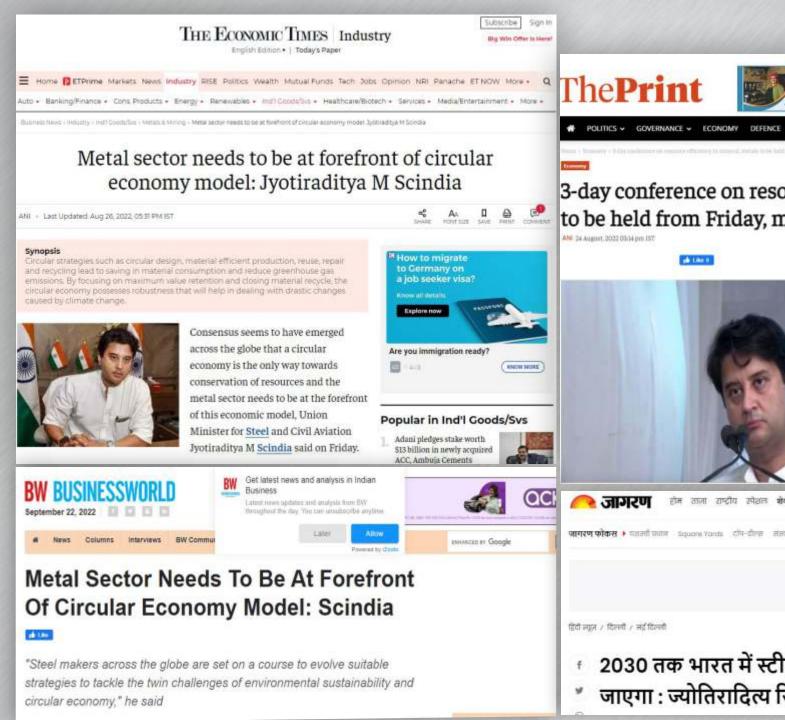
प्रगति मैदान में खनिज और धातुओं पर 3 दिवसीय ग्लोबल प्रदर्शनी शुरू





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3-day conference on resource efficiency in mineral, metals to be held from Friday, minister Scindia to inaugurate



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- 2030 तक भारत में स्टील का उत्पाद दोगुना हो
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PREVIEW

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Warre Myta Forum ## 300 + Lauding exhibition have & countries instating China, Tatwork Demails (A) ** hate risters for serosi be gate

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> Hyre India's MMMM. 2012) overall brings begit her imbustry stakeheiders or own necessary and a first plant of centered with other caragoroon, and aumierate the provided New India."

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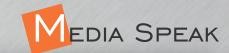
AMAN INDIA

प्रगति मैदान में खनिज और धातुओं पर भारत की सबसे भरोसेमंद 3 दिवसीय ग्लोबल प्रदर्शनी शुरू

August 25, 2022 - Akram Choudhary



एमएमएम 2022 एक्सपो का यह 13वां संस्करण आयोजित किया जाएगा



प्रगति मैदान में खनिज और धातुओं पर भारत की सबसे भरोसेमंद 3 दिवसीय ग्लोबल प्रदर्शनी शुरू

🗏 August 25, 2022 . 📤 Udai Bhan Rajbhar 🕒 प्रिजनेस







नई दिल्ली। खनिज: धल, धलओं के खनन और मटीरियल के क्षेत्र में 3 दिलसीय एमएमएमएम एक्सपी के 13वें सरकरण का उदाबाटन दिल्ली के प्रगति मैदान में गुरुवार को किया गया। इंडर्स्ट के दिगाओं की मौजूदगी में एमएमएमएम 2022 का आयोजन पांच दसरी सदावक इंडर्स्टीज, पावर दसरा और फास्टर्स (प्यक्षीपफ) के लिए एडवान्ड हैंड दुरस, आधुनिक मार्थिन दुरस के लिए आईएम(एक्स, इजीनिवरिंग और मैन्युरेक्चरिंग के लिए देक पुढ़िया, एवजन्स करिंग एड वेन्डिंग इक्विप्पेट के लिए मीडब्ल्युई जैसी सहायक इंडस्टीज के साथ मिनकर किया गया। लेजर टेक्नोलीजी और लेकेड हैंड मशीजरी के लिए वारमारिक्स का प्रदर्शन भी हम एक्सची में किया जाएगा।

उद्भावत्य समारोह में प्रमुख औद्योगिक दिम्पाज शामिल हुए। उनका मानना है कि एमएमएमएम जैसे बिजनेस प्लेटफॉर्म ध्यापरिक दील की आसान और सहज बनाने बनाने की प्रक्रिया में काफी बोमदान देते हैं । उन्होंने कड़ा कि हैंडशेक नेटक्किंग और खरीदारों और राप्तामर्स की खोड़ के लिए इससे व्यापार के लिए नए इरवाजे खुलेंगे। इसमें अधुनिक तकमीक की पहचान में मदद मिलेगी और इससे कारोबारी अपने को अपनेट कर सकेगे।

प्रगति मैदान में खनिज और धातुओं पर भारत की सबसे भरोसेमंद 3 दिवसीय ग्लोबल प्रदर्शनी शरू

August 25, 2022 / www.saroivarta.in

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दिल्ली : खनिज, बात, बातओं के खनन और प्रटीरियल के क्षेत्र में 3 दिवसीय प्रमायमध्य प्रकारों के 13वें संस्करण का उद्धायन दिल्ली के प्रमति मैदान में किया गया। इंटररी के दिगानों की मीज़दगी में एमएमएमएम 2022 का आयोजन पांच दुसरी सहापक इंटररीज पावर टास और फास्टनर्स (एवटीएक) के तिए एडवॉस्त हैंड ट्रस्स, आधूनिक मधीन ट्रांस के तिए आईएमईएक्स, इंजीनियरिंग और मैन्यफेक्करिंग के तिए टेक इंडिया, एडवॉस्ड करिंग एंड वेरिवेंग इकिपमेंट के लिए सीडब्ल्युई वैसी सम्रापक इंडस्ट्रीब के साथ मितकर किया गया। तेजर टेक्नोसॉजी और किफायती और सेकेल हैंल मंत्रीनरी के लिए पएमईएका का प्रदर्शन भी इस एकापों में किया जाएगा

उद्घाटन समारोह में प्रमुख और्थोगिक दिगाज शामित हुए। उनका मानना है कि एमएमएएएम वैसे बिजनेस प्लेटफॉर्म ज्यापारिक तील को आसान और सहज बनाने बनाने की प्रक्रिया में काफी पोगदान देते हैं । उन्होंने कहा कि हैंटखेंक नेटवर्किंग और खरीदारों और सप्तापर्स की खोज के लिए इससे आपार के लिए नए दरवाने खलेंगे। इसमें आइनिक तकनीक की परुवान में मदद मिलेगी और इससे कारोबारी अपने को अपदेत कर सकेता।

उम्मीद है कि 2039 तक भारत अपनी स्टीन उत्पादन की क्षमता को 300 मिलियन टीपीए तक पहुंचा देगा। अभी टीन उत्पादन की क्षमता 145 मितियन टीपीए हैं। स्टील मंजानय ने कॉन्टेंबर प्रोबंबर डिवेलपबेंट सेल का मिंगल पॉइट स्थपित कर लिया है। इससे निवेश प्रक्रिया के विभिन्न चरणों में नेपानत स्टीत पॉतिसी 2017 के तहत निवेश को आकर्षित किया जाएगा।

इस प्रदर्शनी में 6 देखों की 300 से ज्यादा कंपनियां भाग तेगी, जिसमें सीन, लाइनान, जर्मनी, ब्रिटेन शामिल हैं। यह एशिया के मेना बिजनेस प्लेसफॉर्म में से एक बन गया है। प्रदर्शनी के 2022 के संस्करण ने 4 देखों के 25 से ज्यादा सदस्यों के राष्ट्रीय और अंतरराष्ट्रीय ज्यापारिक प्रतिनिधिमंडतों को आकर्षित किया है। इस 3 दिक्सीय प्रदर्शनी में 10,000 मेहमानों के शरीक होने की उम्मीद है, जिसमें उदानी, सीओ, कंसलटेटेस, वरिष्ठ सरकारी अधिकारी, नीति निर्माता, वितरक और आर एंड ही प्रोफेशनल शामिल हैं।



processivation from all issue provinced have given a be the best introduced events, sucketing HTF. the deficits imported for extra, business platform in bells advanced bank power will be attending the event tion of players which will see August 26, 2000. The show is having jointity cogni-

> VISITORS. **EXHIBITORS AND** SPEAKERS WILL SHARE THEIR EXPERTISE ON TOPICS INCLUDING INNOVATIVE MATERIALS, SMART TECHNOLOGIES, ETC

NAME OF THE PARTY noted by the printeries of The MMMM in the largest of earl, east, extremel affairs, affect industries.

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the industry and proted to will feature concerned Ayetroditya M Scindia, min tools and forteners, CMEX leter of filed & Civil Arts. for letest muchine teads. tion, precrument of India. Tech India for engineering & manafacturing and CWE windows experienced & large onlines Additionally, those will be UMEX - fer now oid Pre-evened machinery in

The gread business rared gathering of trade violate contracts analysis of a handware constant of CEOs, plant managers, material manand display are products, used by USE DC and Myre quality heads, production newstated with design, man-

"It was a wonderful experience as we participated for the first time, the exhibition helped us in reaching out to our customer base at one place"

Urvashi, SRCT (Berix Bearing)

"It was a wonderful experience at MMMM 2022. We found many helpful customers here for our business growth, Thank you"

Preeti, Eastern Bearing

"This was a very well managed exhibition by team Hyve. They did an excellent job of networking a plethora of industries associated with the MMMM sector. I wish them the best of luck for future events."

Saranjit Das, BPCL

"All mineral & metal industry will come they have started visiting us rather we are getting good response since morning. You can visit several industries at one go that helps in building up the market."

Prime Roll, C R Chandalia

"This type of exhibition must be there & govt. should promote such exhibition and by far we have seen a very good response and we are very happy so far"

Rollcon, Indetjit



"A good platform for steel industry to come and meet the technology leaders in various fields. Needs to be promoted more vigorously. Keep it up & Congratulations"

YK Bhatia, PP Rollings

"Exhibition was very helpful in terms of getting to network with customers, at the same time to understand how the technology is advancing and what is the future holding for us"

Vasant, Exxon Lubricants Pvt. Ltd.

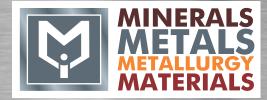
"When you visit such an exhibition, you get to see the different technologies that are emerging and how they can help the industry become more profitable and efficient in terms of production".

Sharat Chojar, Electrotherm

"We had a very good turnout the customers which visited us were very new, we would like to compliment the entire team for the good job done and we believe it can further grow more"

MGM Varvel, Mr. Ravi Krishnamurthy





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Website: india.hyve.group, www.hyve.group

Chennai Office

Hyve India Private Limited
Workflo by OYO, Greeta Towers 99
Industrial Estate Perungudi Phase 1
Old Mahabalipuram Road
Chennai, Tamil Nadu – 600096, INDIA



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Hyve Group Plc
The Studios
2 Kingdom Street Paddington
London W2 6JG