



71st IFC



71st Indian Foundry Congress

Theme: Arise, Automate & Aatmanirbhar

71st Indian Foundry Congress, the flagship event of the Indian Foundry industry was held at India Expo Centre & Mart, Greater Noida, Delhi -NCR during 8-10 February 2023. All roads led to Greater Noida during the three days, where the *Mahakumbha* of the Indian foundrymen took place. Over 1500 delegates from the foundry,

equipment, raw materials, academies, government agencies and also other sectors participated in the IFC to review the various aspects of the metal casting industry. The three-day event of international standard offered an array of events like inaugural function, Fellowship conferring, Awards distribution, Technical Sessions, Cast Source Meets,

Casting Clinic, B2B Meetings, Special sessions on Railways, Defence, Cost savings by sustainable energy sources, Electric vehicles, CEO Meet, Entertainment programmes and Valedictory function.

A galaxy of eminent speakers from the industry, academies and government departments/agencies shared their views and valuable information on the Indian Foundry industry producing 12.45 million tonnes of castings; the second largest producer of castings in the world.

A number of presentations focusing on the Theme “Arise, Automate & Atmanirbhar” were made in various forums of the Congress. They reviewed the current status of the Foundry industry - Mother of all industries. Government representatives and technocrats also in their presentations threw light on the challenges faced by the industries and offered possible solutions.



Some eminent experts also deliberated on the future of the cast metals industry.

INAUGURAL FUNCTION

On Feb 8, 2023 evening the inaugural function of the grand show of 71st IFC was held before a large number of delegates in the Forace Hall at India Expo Centre & Mart; one of the best convention centres of the country with all modern facilities.

Mr Vikas Garg, Co-Chairman, 71st IFC Organising Committee in his opening remarks mentioned that organising committee members had to work hard and had to cross several hurdles while preparing for the mega event. It was very tough to organise two versions of the mega shows in one financial year 2022-23. However, he said, there was overwhelming response from the members and the industry as a whole.

Mr Garg then referred to the increasing demand for castings from the core sectors like Railways, Defence, infrastructure, mining etc. He also mentioned about

the special sessions of 71st IFC including session on Renewable sources of energy, from which foundrymen would have tremendous take-aways. He further mentioned about other speakers from EV sector, Government representatives, and automotive sectors.

Mr Pradeep Mittal, Chairman, 71st IFC Organising Committee in his welcome address informed that entire space for IFEX 2023 had been sold out. He said that a number of in-depth presentations would be made on very relevant subjects by prominent personalities from the industry, academies and govt departments/agencies. Apart from serious deliberation there would also be entertainment programme, Mr Mittal informed.

Guest of Honour Mr Ganesh Mani, President & COO, Ashok Leyland while addressing the inaugural session said that metalcasting technique is a very old practice. Foundry industry is mother of all industries, as castings are needed by all industries. He appreciated foundrymen's effort for the progress of the industry. He further said that metal casting industry would progress tremendously in the years to come. He informed that Ashok Leyland is celebrating the 75th year of its journey. Mr Mani mentioned that there has been a strong bond between IIF and Ashok Leyland for a long time.

INDIAN FOUNDRY INDUSTRY

- ▶ Total No. of foundries: 4500 (approx)
- ▶ Total Annual production of castings: 12.45 million tonnes
- ▶ Turnover: USD 19 billion
- ▶ Export: USD 3.1 billion
- ▶ 90 per cent MSMEs
- ▶ No. of Clusters: 21
- ▶ 1500 Foundries have International Quality Accreditation
- ▶ Total manpower in Foundry industry:
 - 5,00,000 (approx) directly
 - 15,00,000 indirectly
- ▶ Expected to generate 2 million additional employment in next 10 years



According to the Guest of Honour, the Theme of the IFC is quite relevant to the present situation. Mr Mani stressed the need for attracting youngsters to foundry industry to build professional career in this basic industry. He stated that making smart foundries (Foundry 4.0) is the way to attract young engineers to cast metals industry. He also mentioned the present Government's urge to move the country's economy to achieve 5 trillion mark. In this regard he referred to the necessity of using renewable energy to cater to the increasing demand for energy for development in various sectors of India.

Mr Mani emphasised on adopting automation and robotics for quality improvement and maximising production volume of castings, however, he also advocated for skill development by

the Institute,
conferred
every year,
jury Panel



imparting training on the shop-floor foundrymen.

Mr Akshay Sangwan, Executive Director - Development & Commercial, Sonalika Industries /ICML, who graced the occasion as Chief Guest, while speaking on the occasion said that India will progress in a big way in near future. The country's economy is already in the fifth rank in the world with nominal GDP of \$3.8 trillion in 2022. He also informed that demand for castings from the core sectors would increase tremendously. India's export of castings is also encouraging. He further mentioned, every machine that is exported contains castings.

The Chief Guest also spoke about the challenges faced by the foundry industry like the dearth of skilled manpower, heavy price fluctuation of raw materials, higher cost of energy. He thanked the Government for slashing import duty on raw materials in the recent past. Mr Sangwan said that India's castings are appreciated in the international markets however, surface finish of the castings





need to improve. In his opinion, production of intricate casting and value-added castings is need of the hour to lead in the global market. Delivery commitment is another area which needs to be focused to improve. He advised Indian foundrymen to visit overseas foundries, foundry exhibitions.

Guest of Honour Mr B B Swain, Secretary, Ministry of Micro, Small & Medium Enterprises, Government of India, while addressing the inaugural session said that MSME sector is the backbone of Indian economy. He informed that most of the country's casting units belong to MSME sector. Mr Swain further stated that there are a number of government schemes available for the MSMEs. He suggested that foundries in this sector could take benefits of those schemes. He specially mentioned about the Credit Guarantee Scheme (CGS) from where small foundries could have loans. He said that the Government is providing considerable monetary funds for the MSMEs through the scheme.

Mr Vinit Jain, President, IIF in his address said that out of total production, more than six crores of MSMEs produces 45 per cent, sharing 30 per cent of the country's GDP. IIF President welcomed the Government's proposal for allotting 22138 crores for the MSME Sector. He also welcomed the Central Government's proposal to exempt tax for MSMEs as per Sec 42 B in the current Budget. IIF President Mr Jain also mentioned about the Government's Campaign - "Make in India" and "Zero defect and zero effect".

He said that the Theme of the 71st IFC is in line will the Hon'ble Prime Minister's aim achieving 5 trillion economy and Aatmanirbharta. IIF President also mentioned about various activities of IIF including its centres of excellence.

IIF's highest honour IIF Fellowship was awarded to Mr VP Premkumar and Mr V Narasimhan.

Mr Subodh Panchal, Chairman, 70th IFC Organising Committee was felicitated by presenting a memento and a certificate.

The 72nd Indian Foundry Congress is scheduled on 2, 3, 4 Feb, 2024 in Bangalore. IIF-Southern Region team had been on the dais to cordially invite all to the 72nd IFC and IFEX 2024.

Mr Saurabh Gupta, Chairman, IIF-Northern Region offered vote of thanks.





IFEX

2023



India's Largest Exhibition of Foundry & Equipment Industries

IFEX 2023, the largest exhibition showcasing castings, foundry equipment, raw materials, software etc, was held during 8-9 Feb 2023 at India Expo Mart, Greater Noida, the country's one of the most modern exhibition centres. Spread over an area of 10,000 square metres, more than 250 sophisticated stalls showcased quality intricate castings, foundry equipment, raw





exhibitors from foreign countries like USA, Germany, Russia, UK, Norway, Brazil, UAE, KSA, China, Japan, Thailand etc showcased their products and services. Over 12,000 visitors had been at the IFEX 2023 to witness the latest developments of the Foundry and allied industries during the three days.

In the inaugural session, Mr Pradeep Mittal, Chairman, 71st IFC Organising Committee while welcoming the dignitaries and delegates hoped that visitors at IFEX 2023 would have huge take aways on latest developments in the industry.

Mr Shashi Kumar Jain, Chairman, Exhibition Committee in his address mentioned that IFEX 2023 is a successful exhibition in all respects.

Chief Guest Mr Sanjiv Anand, Vice President – Manufacturing, Swaraj Division, Mahindra & Mahindra Ltd in his address stated that Foundry industry is the backbone of all industries as they all are dependent on this basic industry. He also said that growth of Foundry industry is the barometer for measuring the growth of the country's manufacturing sector. According to

him, Indian Foundry industry, the 2nd largest castings producer in the world is facing several tough challenges. Quality of Indian castings are well accepted in the international markets. The Chief Guest further said that Indian auto industry, one of the world's leading auto industries, consumes 32 per cent of the total production of castings. Mr Anand was hopeful that demand for castings by the core sectors like Railways, Defence, infrastructure, mining would increase tremendously in future. Country's GDP growth rate of 6.5 per cent indicates significant increase in castings demand. In his opinion, focus areas of the cast metals industry are sustainability, use of renewable energy, recycling, pollution control through using green technology, skill development of workers.

Mr Vinit Jain, President, IIF while addressing the inaugural function of IFEX 2023 stated that Foundry industry is the mother of all industries. India producing 12.45 million tonnes of castings is atmanirbhar (self-dependent). Indian castings are well accepted in the international markets. He informed that a large number of Indian foundries are in the process of technological

materials, software, safety items etc in several colossal halls, concurrently with 71st IFC. Apart from Indian companies,





transformation for sustainability. IIF President appealed to the members to take benefits of IIF App. Purpose of this App is to provide members better service seamlessly. Mr Jain mentioned about training of foundry manpower through video shows. He hoped that delegates at 71st IFC would be benefited by attending various forums where eminent speakers would made valuable presentations and also by visiting a large number of stalls at IFEX 2023.

Mr Rakesh Sharma, Chairman, IEML in his address said that India Expo Mart is one of the most modern and largest convention cum exhibition centres of India. A number of exhibitions are held in the Expo Mart throughout the year. He thanked 71st IFC and IFEX 2023 Organising Committees for choosing India Expo Mart for holding the mega events.

Addressing the inaugural session, Mr Carsten Kuhlitz, President, World Foundry Organization (WFO) said that IFEX 2023 is one of the biggest industrial exhibitions. He appreciated the efforts put in by the Organising Committee members to make the mega event a success. He hoped that a large number of delegates would participate form India in the forthcoming GIFA 2023 exhibition.

He stated that India is a very prominent member of WFO. The second largest castings producing country has provided several Presidents for WFO so far.

According to Mr Kuhlitz, foundry manpower needs to be trained for their skill development. Youngsters require to be attracted to foundry industry to build the professional career in this sector. He also mentioned about the WFO Technical Forum where a number of quality

technical presentations would be made. The best paper would be awarded.

Mr Vikas Garg, Co-Chairman, 71st IFC Organising Committee while delivering vote of thanks said that it was very difficult to organize two IFC/IFEX in one financial year. He thanked Organising Committee members for their hard work to make the mega event successful in all respects.





Technical Sessions

A number of quality technical presentations on latest developments in metalcasting technology, newer materials, energy conservation, pollution control, foundry management, skill development, automation, machine learning, Industry 4.0/ Foundry 5.0 etc were made in three Technical sessions as part of the 71st Indian Foundry Congress, held during Feb 8-10, 2023 at India Expo Mart Ltd, Greater Noida.

Session Chairmen individually conducted their respective session efficiently with a brief note highlighting the importance of the session; introduced the speakers as well as concluded the session with a vote of thanks.

Technical presentations made in various sessions are as follows:

Technical Session 1

Chairman – Dr S K Gupta, Professor, Department of Applied Mechanics, IIT Delhi

Paper 1: Aluminium in Grey and Ductile Irons – Friend or Enemy ?

- Swapan Kumar Biswas, Chris Ecob and Manish Kumar, Elkem

Paper 2: Employees Skill Development

- Sandeep Rege and Niraj Kishore

Paper 3: Recarburisers – Do we really know what we are buying and using at our foundry ?

- Kumar Kislay and Chris Ecob, Elkem

Paper 4: Latest in Furan and Alphasert technology – Lower binder demand, improved strength and cleaner than ever before

- Dipak Kumar Ghosh

Paper 5: Defect Prediction by Machine Learning for Casting Industries using Casting Simulation Software

- S Shamasundar Santhosh, A S Pavan, Ajay Rai, A Girish and B Waghle

Technical Session 2

Chairman – Dr S K Gupta, Professor, Department of Applied Mechanics, IIT Delhi

Paper 6: The Effect of Barium and Strontium on the Efficiency of Magnesium Recovery During Ladle Treatment Using Complex AEM-Containing Modifiers

- IV Bakin, A Ya Dynin, AV Kalyaskin, M S Kuznetsov, A N Shapovalov



Paper 7 : In-situ Coating Preparation - A Latest Trend in Refractory Coatings with Cost Saving Opportunity for Automotive and Jobbing Foundries

- Vinayak Ghotge, Foseco India

Paper 8 : Development of Soft PVD Coating in Piston Rings

- M Govindrajan

Paper 9 : Intelligent Inspection Device for Investment Casting

- Nabhan Yousef and Dr Amit Sata

Paper 10: Foundry 5.0 – Driving the Digitalisation of Metal Casting Operations

- Christian Kleeberg, Ronald Kreft and Dileep Yadav

Paper 11: An Engineering Design Model to Continuously Improve the Melting Process and Keep it at Optimum Using IIoT and Optimisation Algorithms

- Ankan Adhikari

Technical Session 3

Chairman : S Kuppusamy, Hon Treasurer, IIF

Paper 12 : Nano-Ausferritic Austempered Ductile Iron for Extreme Tribological Applications

- Uma Batra, Manpreet Singh, Sandan Kumar Sharma

Paper 13 : Sand Expansion Defects (The Solution)

- Andrew Tagg

Paper 14: Effect of Cast Casting Section Geometry on Stresses and Deformation by ProCast

- Nandita Gupta, Himanshu Khandelwal, Sarita Kumari, Rahul Kumar and Ashish Nayak

Paper 15: Design Optimisation of Steel Wheel Casting Using Casting Simulation

- Himanshu Khandelwal, Sanjay Kumar and Anand Kumar

Paper 16 : Prospects of Using Light Weight Metal Matrix Composites in the Automotive Industry

- Bhukya Praveen and Ajay Kumar

Technical Session 4

Chairman : Salil Gupta, Director, Instinct Infra Power Ltd

Paper 17 : Right Charge-Mix in Grey Cast Iron Production

- R Veeravignesh, Manager- Applications, Snam R&D Centre

Paper 18 : Environment Social Governance in a Foundry

- Sunil Sharma, Deputy Manager – Foundry Operations, M&M Ltd

Paper 19: Metallography – A Powerful Tool for Steel Foundry Quality Control

- Adhitya Karivaratharajan, R&D, Peekay Steel Castings Pvt Ltd

Paper 20 : New Generation Coatings for Steel Casting – Zero Dependency on Zircon

- Sondip Bor, Solution Manager, Ferrous Coatings, Foseco India Ltd and Archis Patankar

Paper 21 : Energy Efficiency in Indian Foundry : A Study of Scope and Remedy

- Asifur Rahman, Syed Zahidul Hassan and Shamim Haidar, Aliah University



Cast Source Meet

Cast Source Meet was one of the most attractive events of 71st Indian Foundry Congress. Five sessions were held during Feb 8-10, 2023 at India Expo Mart Ltd (IEML), Greater Noida, where casting buyers made presentations on their specific requirements for castings in terms of quantity, quality, delivery schedule etc. They also explained their policies regarding doing business steadily with their suppliers as partners. A total of 27 presentations were made by the representatives of a number of renowned companies, from diversified sectors in India and abroad.

Presentations made in various sessions are as follows:

Session 1 : Export Session

Chairman : Mr Sanjay Arora

Presentations

- ▶ **DANA** – Rajesh Aggarwal, Purchasing lead for Off-highway Business; Kamlesh Soni, Sr Manager, Casting Commodity Purchase
- ▶ **Carraro** – Alberto Buso and Shashikant Jadhav, Sr General Manager
- ▶ **American Axle & Manufacturing** – Shardul Joshi, DGM, Purchase
- ▶ **IBCC** – Paul Heiss, President; Bharath Shripathy, Executive Director, Country Head
- ▶ **LCB** – C M Bhide, Principal Co-Founder, LCB Sourcing; Ajay Shinde, Partner, LCB Sourcing

Session 2

Chairman : Mr V P Prem Kumar, Director-Marketing & Quality, Nelcast Limited

Presentations

- ▶ **Escorts Kubota India Pvt Ltd** – Aswani Malik, Chief Officer, R&D and Innovations – EAM & ECE
- ▶ **CNH Industrial** – Pritiman Panigrahi, Sr General Manager, Purchasing
- ▶ **Mahindra & Mahindra** – Vikas Nadgir, Deputy General Manager, Strategic Sourcing
- ▶ **TAFE** – P Nagaraj, Sr General Manager, Materials; Sachin Dhote, DGM Sourcing
- ▶ **Tata Motors Ltd** – Vijay Khadke, DGM, Ferrous Casting-Purchase; Saroj Padhi, General Manager, Casting – Purchase

Session 3

Chairman : Mr Prashant Mestry, Strategic Sourcing, Casting, Farm Division, Mahindra & Mahindra Ltd

Presentations

- ▶ **Yantra India Ltd** – Sanjiv Narang, Joint General Manager; Pawan Jeet Singh, Deputy General Manager
- ▶ **Atlas Copco** – Chandrakant Bande, Supplier Quality Assurance Manager
- ▶ **Action Construction Equipment** – B D Mathur
- ▶ **Danieli Corus India Pvt Ltd** – Ravi Tiwari, Deputy Manager, Quality Engineering
- ▶ **Kirloskar Engines** – Suresh Patil, GM, Strategic Sourcing Abhijit B Koparde, DGM



Session 4

Chairman – Mr Harpreet Singh Nibber, Managing Director, Pritika Auto Industries

Presentations

- ▶ **ZF Wind Power Coimbatore Pvt Ltd** – Shreedhar Bapat, Sr Deputy General Manager
- ▶ **Ashok Leyland** – M Niruban, Head, New Parts Development, ICV & MHCV
- ▶ **Regal Rexnord Corporation** – Vijaykumar Chepyala, Sr Commodity Manager
- ▶ **John Deere India** – Shrikrishna Kulkarni, Commodity Manager; Laxman Dewali
- ▶ **BEML Ltd** – Sunil Kharad, Chief General Manager & Head of Corporate Materials; Shantanu Roy, Executive Director

- ▶ **Vikram Sarabhai Space Centre, ISRO** – Alok Agarwal, Scientist / Sr Engineer

Session 5

Chairman – Mr Ajay Rai, Executive Director, Pritika Group of Industries

Presentations

- ▶ **Gandharva Engineers Pvt Ltd** – Suhas Kulkarni, Director; Sandip Kulkarni, Director
- ▶ **METSO** - Anshul Madan, Manager, Casting & Forging
- ▶ **Automotive Axles Ltd** – C Jagadish
- ▶ **NTPC** – Harbans Singh, Ex Regional Executive Director
- ▶ **Hindustan Aeronautics Ltd** – Dr N Krishna Ramana Murthy, Chief Manager, Planning and Outsourcing



IIF Fellowship

The highest honour of IIF is its Fellowship. IIF Fellowship is conferred on desired members every year during the Indian Foundry Congress. The Fellowship Jury Panel adjudges the eligibility of the candidates.

Mr V P Premkumar and Mr V Narasimhan were awarded IIF Fellowship on Feb 8, 2023, the first day of 71st IFC at India Expo Mart, Greater Noida. A memento and a Certificate were handed over to Mr V P Premkumar. In absence of Mr V Narasimhan, Mr K Suryaprakash Rao, Executive Director, Brakes India Ltd-Foundry Division received the memento and certificate on his behalf.

Brief bio-data of Mr V P Premkumar and Mr V Narasimhan are as follows:

Mr V P Premkumar

Mr V P Premkumar, a metalcasting expert, has been active in the industry for the last 44 years. A Graduate Engineer (Mechanical) from Guindy Engineering College, he obtained ME from IIT Madras. He is presently pursuing PhD at Hindustan Institute of Technology.

He has vast practical knowledge in all the areas of Foundry industry. At present, Mr Premkumar is the Director – Marketing & Quality at Nelcast Limited. Mr Premkumar's significant contribution to metalcasting industry through Nelcast: Implementation of Quality Management System, Environment Management Systems (ISO 14001: 2015), Occupational Health & Safety Management Systems (ISO 45001:2018) and Energy Management systems (ISO 50001:2018). He also started a number of Quality Circle teams and was instrumental in creating R&D Centre at Nelcast. He introduced returnable packing concept for several OEMs. Mr V P Premkumar strengthened in-house machining capabilities alliance with machining pioneers resulting in supply of about 70 per cent machined castings.



Mr V Narasimhan

Mr Narasimhan graduated in Mechanical Engineering from REC, Trichy and Masters in Industrial Engineering from IIT Madras. He underwent Executive Management Programme from INSEAD, France.



Mr Narasimhan has been serving the Foundry industry for over fifty years. He served Brakes India Ltd- Foundry Division in various areas like General Management, Marketing, Management Service, Manufacturing Systems Engineering, General Management.

Under his leadership Brakes India received several prestigious awards like Deming Prize in 2003, TPM Excellence Consistency and Special awards.

Mr Narasimhan has been actively associated with IIF for fifteen years. He was a National Council member for three years, Co-Chairman of 68th IFC Organising Committee, member of Editorial Committee. He is also actively

associated with CII.

He has published a number of papers/articles on Foundry Technology and Management.



IIF Awards 2021-22

The Institute of Indian Foundrymen (IIF), to recognise capacities, capabilities and performance of its members (Industry and individual), Regions, Chapters, authors of technical/management papers etc, by presenting awards annually. IIF Awards Committee under Chairmanship of Mr S Kuppusamy, Hon Treasurer, IIF adjudges the nominations for the awards. Awards for 2021-22 were distributed on Feb 9, 2023, the second day of 71st IFC at India Expo Mart, Greater Noida.



Award : Laxman Rao Kirloskar Award – For Foundry of the Year

Winner : Peekay Steel Castings (P) Ltd, Calicut, Kerala



Award : K R Santhanam Memorial Award – For Foundryman of the year

Winner: Sujay More, Head – Supply Chain, Menon and Menon Ltd, Kolhapur, Maharashtra



Award : Gargi Huttenes Albertus Green Foundry of the Year Award

Winner : Ghatge Patil Industries Ltd, Kolhapur, Maharashtra



Award : Forace Polymers Young Foundryman of the Year Award

Winner: Aditya Kiran Patil, Director – Operations, Ghatge Patil Industries Ltd, Kolhapur, Maharashtra



Award : Casting of the Year Award – Ferrous Category
Winner: Shivanand Technocast, Rajkot, Gujarat



Award : Export Excellence Award – Medium Scale Category
Winner : Secan Invescast India Pvt Ltd, Coimbatore, Tamil Nadu



Award : Casting of the Year Award – Non-Ferrous Category
Winner: Rapsri Engineering Products Co Ltd, Bangalore, Karnataka



Award : Export Excellence Award – Small Scale Category
Winner : Technocast Foundry, Coimbatore, Tamil Nadu



Award : Export Excellence Award – Large Scale Category
Winner : Peekay Steel Castings (P) Ltd, Calicut, Kerala



Award : Jayaswal Neco Quality Award
Winner : Menon and Menon Ltd, Kagal Division, Kolhapur, Maharashtra



Award : Chandran Menon Memorial Award for Applied Research & Innovative Technology

Winner : Dr Amit Sata, Udhyog 4.0, Rajkot, Gujarat



Award : Viswamitra Kapur Memorial Award – For IIF Chapter of the Year

Winner : Coimbatore Chapter



Award : Foundry Kaizen Award

Winner : Koso India Pvt Ltd, Foundry Division, Coimbatore, Tamil Nadu



Award : Membership Growth Award – Small Chapter Category

Winner : Batala Chapter



Award : 5S Excellence Award

Winner : Kirloskar Ferrous Industries Ltd, Koppal, Karnataka



Award : Best Technical Papers published in Indian Foundry Journal for the period Apr 2021 – Mar 2022 – Ferrous Category

Winner : Dr Nandita Gupta, Rakesh P S and Rajeev Kumar Singh, NIAMT Ranchi and SAIL Ranchi



Award : IIF Region of the Year Award **Winner :** Southern Region



Award : Membership Growth Award – Large Chapter Category **Winner :** Chennai Chapter



Award : Best Technical Papers published in Indian Foundry Journal for the period April 2021 – March 2022 – Non-Ferrous Category

Winner : Shreya Khare and Ashok Sharma, Department of Metallurgical and Materials Engineering, MNIT, Jaipur, Rajasthan

Award : Best Technical Papers published in Indian Foundry Journal for the period April 2021 – March 2022 – General Category

Winner : B Ramachandran, McBram Associates, Chennai

71st IFC

Casting Camp at 71st IFC

For the first time a Casting Camp was organised during the 71st IFC. The event was very unique of its kind ever held in IFC. Congratulations to 71st IFC team and the Organising Chairmen, Mr P Mittal and Mr V Garg, who took special interest and followed it till the 3rd day. The whole programme was nicely coordinated by Mr Anant Bam, a non-ferrous foundry expert and panellist for the Casting Camp.

Foundry experts from different fields of foundry technology, who covered ferrous, non-ferrous, MS, SS, Mn steel, moulding, sand technology and foundry mechanisation; all were discussed and members had for the first time the opportunity to speak to the experts face to face and get the first-hand information across the table in their local languages. Apart from foundry consultants, FOSECO extended their experts, which were ready with the latest of simulation and riser techniques. The programme entertained the members, who had registered

for the Casting Camp, came prepared with the drawings and details of the problems they were facing.

Dr N P Sinha, a foundry expert in steel and S G iron, discussed the problems with members in his story telling style and opening his Pandora's box, which had moulding gadgets like ceramic filters, chaplets, coolhead and antiscab nails for easy demonstration to the members. Members would crane out their neck to see what comes out next from the Pandora's box. He showed them a few drawings of case studies in steel castings, as how the shrinkage problems were solved.

The Casting Camp was conducted for three days and recorded twenty registered members, apart from on-spot visitors, who had their casting problems discussed at this Casting Camp. With better publicity it will be a much-hyped session at the 72nd IFC in Bengaluru next year.



Opportunities for Foundries in Defence

The Government of India is now promoting the policy of 'Aatmanirbhar Bharat Abhiyan'. One of the main constituents of the policy announced by the Prime Minister of India is self-reliance in defence procurement. Defence sector requires huge castings of both ferrous and non-ferrous metals. As per the Government's Aatmanirbharta policy for manufacturing sector including defence, Indian Defence sector, one of the core sectors consuming huge cast components, has opened the doors for the private sector foundries for supplying castings of various types. Thus casting suppliers irrespective of their sizes can now grab the opportunity of partnering with the defence in respect of supplying cast components.

On this backdrop the session on "Opportunities for foundries in defence" evoked a lot of interest among the delegates of 71st IFC. The session was held on Feb 9, 2023.

Mr D S Chandrashekar, Vice President, IIF chaired this important session.

Mr Naresh Garg, Past President, IIF in his opening remarks called the Foundry industry as mother industry. He said all engineering

industries are significantly dependent on Foundry industry. Country's economy also owes to Foundry industry as the mother industry significantly contributes to the national exchequer. Mr Garg hopefully said, as the Government has opened the door for sourcing from private companies, now foundries even in SME sector would take this golden opportunity.

Session Chairman **Mr D S Chandrashekar** in his address stated that casting is an essential part of human civilisation. From morning till night casting is present in daily life of the people in the society. Mentioning the Prime Minister's announcement of the policy of Aatmanirbharta, Mr Chandrashekar said that there would be huge demand for castings from core sectors like Railways, Defence, Construction, Mining, etc.; which would help Indian Foundry industry grow in a big way.

Mr Venkatesh M S, Executive Director, Head of Foundry & Forgings, Hindustan Aeronautics Ltd, initially mentioned of various metalasting processes - conventional and special advanced technologies. Then he referred to the non-ferrous precision cast components that are used in aeroplanes.

The speaker also presented the global scenario of aerospace

IIF PAVILION AT IFEX 2023

IIF pavilion was a very busy counter during all three days (8-10 Feb 2023) of IFEX 2023 in Hall No.14 at India Expo Mart, Greater Noida. Representatives of IIF Head Office and three centres of excellence of IIF – Centre for Education & Training (CET), Foundry Informatics Centre (FIC) and National Centre for Technical Services (NCTS) were present at IIF pavilion to do the needful.

A number of publications of the Institute were displayed at the stall for sale. Visitors collected copies of publications including Indian Foundry Journal and Indian Foundry Directory. New members were enrolled and existing members renewed their membership by making payment at IIF stall. Many visitors enquired about membership of IIF, its facilities etc.

The Chief Guest along with other dignitaries visited the IIF stall.



Opportunities for Foundries in Defence (contd. from previous page)

and defence castings. He mentioned a number of aerospace cast components with their technical specifications, that are required by Indian Defence sector. Future plans for defence components were also dwelt upon by Mr Venkatesh.

The speaker explained the speciality of aerospace castings, their rigorous inspection and testing. Thus he pointed out the challenges of supplying defence casting. He gave several recommendations for the foundries supplying defence castings. Mr Venkatesh further discussed the latest technologies for producing aerospace castings involving automatic systems, prototyping, Industry 4.0 etc.

Mr Mandeep Singh, Plant Head, Mahindra Defence while speaking about his company, informed that Mahindra Defence is a dedicated company manufacturing defence castings. He showed models of various armoured vehicles produced by Mahindra Defence and castings required for those vehicles. He

specifically mentioned the quantity and quality of those cast components. He also detailed on the technical specifications of the castings. He further pointed out the challenges to be faced in supplying such casting.

Dr Sanjay Kumar Jha, Chairman & Managing Director, MIDHANI while presenting the profile of MIDHANI spoke on super alloy steel. He detailed on the product range of the company producing defence components. He showed several diagrams related to casting production process.

Mr Parimal Kumar, Scientific Advisor to Chief of Integrated Defence Staff in his address said that GDP target in Foundry sector is 20 per cent. The current rate is 15 per cent. Mr Kumar while highlighting the importance of Foundry industry said that Foundry industry is a good employment generating industry. He also referred to the criticality of defence components and the challenges involved in supplying defence castings.



Focused Session on Cost Savings by Sustainable Energy Sources

In energy-intensive Foundry industry, energy is consumed in various forms at various stages of production of castings. Out of total energy consumption in a casting unit, about 70 per cent is consumed for metal melting. Thus considerable carbon foot-print is left in the environment by the Foundry industry. Scientists are seriously searching for sustainable energy sources for the mother industry. Governments in many countries across the globe are introducing stricter environmental norms for pollution control. In the backdrop of heavy competition, reduction in energy cost is a dire necessity in today's world. There is a lot of scope for cost savings in foundries and casting manufacturers are now striving for producing castings at lower cost to increase their competitiveness. In view of the above, the Organising Committee of 71st Indian Foundry Congress organised a special session on "Cost savings by sustainable energy sources".

In the beginning, Session Chairman Mr Navneet Agarwal briefed on the importance as well as relevance of holding this special session on Feb 8, 2023 at India Expo Mart Ltd, Greater Noida, as part of 71st Indian Foundry Congress.

A number of presentations were made in this session.

Ms Meenakshi Jain, Founder and

Managing Director, Positive Climate Care through her presentation dwelt on the following points related to their company:

- ▶ Global climate and CDM
- ▶ How to save energy?
- ▶ Switching to energy efficiency technologies
- ▶ Replacing cupola to divided blast cupola





- ▮ Switching cleaner fuel – coke-based to natural gas cupola
- ▮ Carbon credits via fuel switching
- ▮ Project Cycle : Availing Carbon Credits
- ▮ Carbon trading : Advisory services
- ▮ Switching to cleaner fuel – energy-efficient technologies/ sustainable energy etc

Mr Archis Patankar, Head, Marketing and Technology – Ferrous, Foseco India Ltd dwelt on the activities of Foseco regarding sustainability. He elaborated on the following points:

- ▮ What is sustainability?
- ▮ Sustainability – Foseco way
- ▮ Formal sustainability strategy launched in 2020 on four pillars
- ▮ Foseco way of working – Solution and services allow customers to optimise usage, lower rejections, increase yield percentage and reduce energy consumption
- ▮ Development of INSTA Coatings – technology, packaging, benefits,

progress during 2019-2022

- ▮ Activities considered for CO₂ emission – manufacturing, transportation, power consumption, recycle/disposal of packaging materials, diesel consumption
- ▮ Contribution of INSTA towards sustainability

Mr Indukalpa Saikia, Head, Business Development, CleanMax, North & East India made a presentation on “Cost savings opportunity for foundry industry by sourcing renewable power”.

He detailed on the following points:

- ▮ Introduction of CleanMax as a leading renewable energy developer in Asia
- ▮ Open access firm experience – Karnataka, Gujarat, Tamil Nadu
- ▮ Innovative cost-effective solutions for foundry industry
- ▮ Inter-state/intra-state transmission system open access [ISTS]
- ▮ Solar energy – fluctuating in nature

He presented two case studies as given

below.

- ▮ **Case study** – ISTS offering in Odisha : Renewable energy capacity, consumer’s load details, annual consumption / renewable energy consumption (cr unit), renewable energy replacement (%), lapsed unit (%), net savings potential (INR cr).
- ▮ **Case study** – Solar in Chhattisgarh (82.5 mwp/ RTC (load; operational through 365 days), renewable energy replacement 73%. Flexibilities, assumptions – average running load, power/commodity tariff, details of utility scale of commercial and industrial projects executed/ under-execution/ operational portfolio of 1.5 gigawatt (gw) (Mar’23), under development of pipeline of 3 gw etc.

In question-answer session, queries of the participants were clarified by the speakers. Vote of thanks was given by Mr Pradeep Mittal, Chairman, Organising Committee, 71st Indian Foundry Congress.

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71st IFC

FOUNDRY CEO MEET

CEO Meet was one of the Special Sessions organised during 71st IFC at Greater Noida. The special session took place on Feb 9, 2023, the second day of the mega event.

CEOs of various large companies, Government representatives, technocrats participated in the CEO Meet.

Mr Sanjay Jaju, Additional Secretary, Ministry of Defence Production, Government of India and Dr Rajneesh, Additional Secretary & Development Commissioner, Ministry of MSME, Government of India were the Guests of Honour.

Keynote speakers were, Mr B Vinod Babu, Director, CPCB; Dr Ashish Kumar, Senior Consultant, I/C Technical Regulation (TR), Light Engineering Industry (LEI) and Project Development Cell (PDC), Department of Promotion of Industry and Internal Trade (DPIIT); Mr Sachin Kumar Goel, Vice President & Head, Ashok Leyland Foundries and V Srinivasa Reddy, Executive

Director (Technical), Synergy Green Industries Ltd.

Mr Vikas Garg, Co-Chairman, 71st IFC Organising Committee in his address said that Foundry industry scenario is changing constantly. He referred to the Government of India's policy of Aatmanirbharta. He mentioned that the costs of domestic goods are lower compared to imported ones. He further referred to various Government schemes specifically available for MSMEs and advised MSME foundries to avail the benefits of those schemes. Mr Garg also mentioned about PLI and RoDTEP schemes.

Mr Vinit Jain, President, IIF in his address explained the objective of organising the CEO Meet. Mr Jain appreciated the concept of Aatmanirbharta (self reliance) launched by the Government of India to become self-reliant in manufacturing sector. He also advocated for 'local for vocal' pronounced by the Prime Minister of India. IIF President informed that

Indian Foundry industry is trying hard for import substitution. In his opinion, innovation in foundries is need of the hour. He said that adoption of modern eco-friendly technologies is needed for sustainability of foundries. In this respect, he referred to latest technologies like automation, robotics, Artificial intelligence, Foundry 4.0 etc. Mr Jain further spoke on environmental aspect of the Foundry industry. He advised foundries to recycle used sand and utilise waste sand commercially like brick making etc.

Addressing the session Mr Sachin Goel said that Indian economy is one of the largest economies in the world. Presenting the present scenario he informed that India produces castings at lower cost.

He said that costs of raw materials and power in India are tough challenges to the Foundry industry. However he said, India has huge potential to improve and grow in metalcasting industry. Mr Goel referred to several benefits that could



international market by producing quality castings at lower costs.

Dr Ashis Kumar in his presentation mentioned about PLI scheme. He said, in the backdrop of the Government's Make in India / Aatmanirbhar policy, PLI scheme is the flagship scheme of the Government. The speaker while speaking on PLI scheme said that foundry industry has to convince why the industry should be included in the scheme. Mr Kumar mentioned that Foundry industry is an employment generating industry. He underlined that the country's foundries are already engaged in producing import substitutions. He also pointed out the weakness of the Foundry industry. He detailed on the PLI scheme.

Mr B Vinod Babu in his presentation dwelt on the following points focusing on the environmental aspect of the Foundry industry:

- ▶ Environmental norms of Foundry industry
- ▶ Categorisation of foundries
- ▶ Environmental issues of Foundry industry
- ▶ Environmental standards for foundries
- ▶ Pollution Control equipment in foundries
- ▶ Environmental norms compliance challenges
- ▶ Cleaner technologies in foundries
- ▶ Future environmental regulation perspectives

Dr Rajneesh while making his presentation

mentioned India's economic growth rate expectation as 6.5%. Referring to the growth rate of Indian Foundry industry he informed that the growth rate of the industry is 3 per cent lesser than that of world foundry industry. He further said that most of the country's foundry units are in MSME sector for whom availability of capital, raw materials, market and technologies etc are tough challenges. He also said that advanced green technologies need to be utilised by the foundries focusing on consumption of lesser energy for their sustainable growth. Dr Rajneesh emphasised on the need for registering more and more MSME units with the appropriate authority to create suitable ecosystem to ensure their credit facilities.

He made an appeal to the foundry entrepreneurs to take the advantages of the Government's Cluster Development Scheme.

Mr Sanjay Jaju hopefully said that in the light of the Government's 'Make in India' and 'Aatmanirbharta' concepts, manufacturing industry could benefit profusely under the present situation. He mentioned that the Government has opened the door for Defence supply, which in his opinion, is a golden opportunity for Indian foundries for doing business. In this respect, Mr Jaju referred to the 'SRIJAN' portal meant for registering for defence supply. He also threw light on the applications of a number of cast components in Defence sector.

be availed by Indian foundries using updated technologies like AI, Additive manufacturing (3D printing), Robotics etc. Mr Goel also stressed the need for quality improvement in foundries.

Mr V Srinivasa Reddy while addressing the programme stated that China's castings market is much bigger than that of India. After the pandemic, more global players buying castings are looking at India for sourcing of castings. He further said that power cost in the country needs to be reduced. Foundries should use renewable sources of energy. In his opinion, foundries would be benefited by PLI and CAPEX schemes. He also said that Indian foundries could flourish in the



GLIMPSES OF 71ST INDIAN FOUNDRY CONGRESS



GLIMPSES OF 71ST INDIAN FOUNDRY CONGRESS (CONTD.)





71st IFC

VALEDICTORY FUNCTION

The concluding session of the three-day mega event of the Foundry fraternity, 71st IFC was Valedictory Function. In this afternoon session overall review of the Congress and IFEX was done. Mr Vikas Garg, Co-Chairman, 71st IFC Organising Committee in his opening remarks said that it was a tough challenge to organise such a mega event in a short period successfully in the immediate post-pandemic period when the industry was endeavouring to revive. Mr Garg informed that 71st IFC had registered a number of records in several fronts. He said foundry and allied industries showed keen interest in exhibiting their products, capacities and capabilities by putting up stalls at IFEX 2023. In B2B meetings there was a long queue of buyers and sellers of castings over three days. A wide range of sectors was covered in Buyer-Seller Meets. He appreciated the hard work done by members of the organising committee.



IIF President Mr Vinit Jain while addressing the Valedictory session stated that 71st IFC and IFEX 2023 brought stakeholders from several sectors facilitating interaction among them to widen and develop their businesses. He mentioned about the Special Sessions of the Congress like

Session on 'Opportunities of foundries in Defence, Railways, Session on cost savings by energy-efficient and renewable energy sources, Electric vehicles etc. He wished all success for 72nd IFC to be hosted by IIF-SR & Shimoga Chapter during Feb 2-4, 2024 in Bangalore.



On behalf of IIF Mr Vinit Jain paid gratitude towards the Government Departments and agencies for providing their help and support to the mega event.

Mr Pradeep Mittal, Chairman, 71st IFC Organising Committee in his address said that the key to success of 71st IFC was a very good teamwork of the Organising Committee team members.

He thanked IIF members for reposing trust on the Organising team for organising the flagship event of the foundry fraternity of India.

Soli Commissariat Award for the Best Paper presented at 71st IFC was declared for the paper titled "Intelligent device for inspection of investment casting" by Amit Sata. Dr Amit Sata received a trophy and a

certificate.

Chief Guest Mr Sachin Goel, Vice President & Head, Ashok Leyland Foundries described 71st IFC and IIFEX 2023 as the 'Mahakumbha' of the Indian Foundry and allied industries, success of which is the result of the concerted effort of the organising team members. He stated that India is heading towards the target of becoming "Aatmanirbhar" (self-dependent).

In his opinion, Indian economy is one of

