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# METALWORLD™

Devoted to Foundry & Non-Ferrous Metals Industry

Vol. 22 No. 08

August 2023

Registered-RNI No. MAHENG/2002/7908

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Prayut Bhamawat,  
Chairman, IIF Western Region

**Indian foundry expects government support to encourage R&D, innovation in materials, processes & technologies**

■ **Morgan Aluminium Transfer Ladle**  
Improved operation costs and performance

■ **ALUMINIUM CHINA 2023**  
wrapped up successfully, bringing the global aluminium community together!



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## D. A. Chandekar Editor

Dear Readers,

Customer is the most important guest to your premises'. You must have read this line displayed on the walls of many shops in the neighbourhood. It is a famous saying by Mahatma Gandhi and is strikingly true. Similarly in metals industry, (actually for any industry) demand is the most important factor affecting the growth prospects of the industry. If demand is robust, everything else can be arranged or managed.

Today the economies of the whole world are fighting for survival. The US is fearing to enter the recession and most of the economies in the Eurozone are struggling. As such the economic performance of Eurozone is stagnated for the last so many years and now it is further damaged by the ongoing Ukraine – Russia war. If the economies of the developed world are in such a dire state, one can only imagine the plight of developing and under developed countries / regions.

Let us look at Indian economy on the backdrop of the above. Due to huge population, we have a sizable domestic demand which helps the economy wheel to rotate. Also, India's international trade was negligible (though it is steadily rising now) and thus India is naturally shielded from the economic tremors emerging from the rest of the world. Thus in my opinion, India entering into recession is a very very remote possibility.

In India, every year before the Union budget, there are series of meetings with the representative bodies of

many industries including our industry and the list of demands is usually very long. While I don't doubt the genuineness of this list, I vividly remember the words of a former MD of a big metal business house. He used to say "Don't give us anything. Just invest in the economy and importantly infrastructure. It will generate good metal demand and will take our industry forward." This again brings us back to the subject of 'demand' and underlines its importance. The present day Indian government is giving a lot of importance to the infrastructure development. Many projects of roads, tunnels, metros, airports, seaports, railway modernisation etc. are going on and already metals demand curve is feeling the heat. As such the Indian metals industry has completely come out of the shadow of covid and is roaring for a big forward leap.

As mentioned earlier, the demand is the most important factor but not the only factor deciding the growth prospects. As one goes forward, along with the new opportunities, new challenges emerge as well. Today, apart from technology up-gradation and digitalization, the world is also talking about reducing the carbon footprint, using hydrogen instead of carbon as the reducing agent, green manufacturing etc. As regards logistics, the covid has completely changed the perception about it and today a completely different philosophy and strategy is being employed for logistics.

As they say, 'Demand is most important but for a sustained growth, other factors too are important !'

Write your comments :

<https://metalworlddac.wordpress.com>

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### Disclaimer :

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# Aluminium: The Metal of the Future

Aluminium is crucial for India's ambition of becoming a global manufacturing hub. It is imperative for hi-tech industries and sunrise sectors such as aerospace, defence, renewable energy, electric vehicles, etc.

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**aluminium**



# “Indian foundry expects government support to encourage R&D, innovation in materials, processes & technologies”

**Prayut Bhamawat,**  
Chairman, IIF Western Region



Prayut Bhamawat is a technical director in Mangalam Steelcast Pvt Ltd, Vadodara. & Siena Engineering Pvt Ltd Indore, a ferrous casting foundry. After completing his B Tech from IIT and MS from Cornell University, he served in Siemens R&D department as a Lead Research Engineer and published 2 patents in the company. He is now a second generation foundryman mainly looking after new product development and optimizing the manufacturing process. He has also tied with French Company who are innovators & patent holders in manufacturing of Hard-facing electrodes and bagged sole applicator role of that product in India. He is an active member in many

industrial associations at different capacities.

#### Experience:

Lead Research Engineer – Siemens R&D Department for 3.5 Years & published 2 patents there.

Joined Foundry in 2013 as a 2nd generation foundryman mainly looking after new product development, improving the technical capabilities, enhancing the quality, optimizing the process and cost and improving the working environment in the foundry. After joining Mangalam Steel Cast Pvt Ltd he got involved in upgrading from conventional CO2 hand moulding process to No-bake semi-automatic machine moulding process. He also developed and started an investment casting unit at Siena Engineering Pvt

Ltd. He developed many new products & got prototype approval in both the units and expanded the range of customers.

As being the 2<sup>nd</sup> largest producer in the world with casting production, Metalworld Editor & CEO had an exclusive interaction with Prayut Bhamawat, Chairman – IIF Western Region 2023 and Technical Director, Mangalam Steelcast Pvt Ltd, Vadodara. & Siena Engineering Pvt Ltd to understand more about present scenario of Indian foundry, preparation to meet the upcoming challenges, expectation from policy makers and IIF Western region drives to meet the future demand etc.

#### Excerpts :

1) How is the present situation in the Indian Foundry sector?

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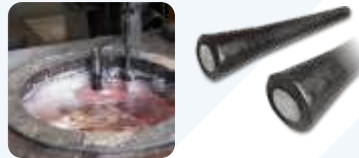
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## Face to Face

India is the 2<sup>nd</sup> largest producer in the world with almost 12.45 MT of casting production as per the Census 2021-22. With its diverse product portfolios manufacturing for Automobiles, Railways, Engineering, Sanitary, Pump/Valves, Wind Turbine, Aerospace, Mining etc, Indian Foundry Industry has been growing with demands coming up in multiple segments. With some of the successful government initiatives like "Make In India", "Ease of Doing Business", "Digital India" etc., foundries capable of grabbing these opportunities have grown multi-fold.

As of now, the market in Mining, Wind Power, Railways, Defence, Tractor industry is surging but the fastest-growing segment is Automobile segment which consumes almost 40% of castings and it is estimated it will be significant in coming days too. In terms of export to India is rising gradually with a lot of foreign buyers trusting the quality and reliability of Indian Foundries. However, a lot of potential is still untapped as we are meeting just 3% of the world's casting requirements. Indian foundries have good potential in being a part of the global manufacturing network serving as suppliers for various industries worldwide.

### **2) How do you see the Future of the Foundry Industry in the country?**

We must remember that the future is influenced by a

complex interplay of economic, technological, social, and environmental factors.

Future is influenced by a complex interplay of economic, social & political factors. Under the current scenario, the future of the foundry industry seems to be good but as is the case with any business- it is so only for



those who are ready to adapt to change. For a long time the industry has been in a growth phase- old ways have worked till now but for those wanting to be a part of the future- adapting quickly to current norms will be crucial. With change of trends - more countries choosing India as a reliable partner for their casting requirements, but the



challenges are also growing. We now face challenges like scarcity of resources, regulatory changes, stringent requirements from

customers & paving way for future generations to enter the field. Below are some of the factors which I believe will play significant role in deciding the fate of the foundry industry-

A) Technological Advancement: Automation & digitalization has been talked about a lot in the last few years and there is a definite need for the same but due to price barrier units and especially MSMEs have not been able to adopt very effectively. There is still a scope to build up more budget friendly alternatives which will result in quicker conversions - meaning foundries adapting quickly to improve production efficiency, waste reduction and better-quality control.

B) Skill Development: Foundry being a labour intensive industry, availability of skilled labour will also be crucial for its success. Hence it is important to conduct training and skill development programs to meet the growing demand and standards. Skilled labour should also be trained to use the latest technology. IIF has always played a crucial role in this and upcoming year it is also gearing up in efforts to meet this demand.

C) EHS Friendly: Environmental concerns and awareness are growing with people understanding more about climate change and its effects on nature. The foundry sector will have to shift towards more eco-friendly practices like implementing energy-efficient processes, using eco-friendly measures, reducing pollution and carbon emissions. Not only that but having Health & Safety measures in place will help in retaining skilled labour, attracting





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## Face to Face

better manpower and making the field attractive for future generations.

### **3) Tell us about the present activities of IIF Western region. How would you like to promote the subjects like 'safety' & 'digitalization' in the Indian Foundry sector**

IIF Western region is

long run and we will analyse them and discuss practical, economic and reasonable solutions. We will conduct sessions to bring awareness on Environmental, Health & Safety (EHS) with some practical and basic implementation that can be done by foundries of all sizes - to take a small step to lift

Maintenance etc.

Get Future Ready- Once we have started the process of change- we will explore greater marketing opportunities to unleash the potential of our units. We will provide a platform for exploring business opportunities through B2B meets, collaboration with export councils etc.

All the above, will be an attempt to create awareness for potential that we have within ourselves- and to hand out guidance and tools to move towards it.

### **4) What does the Foundry industry expect from the policy makers?**

Growth of any industry is to a great extent dependent on decisions of policy makers. Even small changes make a significant impact. For the foundry industry, if given necessary support on below points- not only will sustainable growth be achieved but we will see a much larger contribution of foundries in GDP, exports and economic independence of the country since this sector will always keep growing as long as the world is developing.

A) Continuing with the existing scheme of Make in India

B) Reform in the Ease of Doing Business for more simplified regulatory procedures & streamlining processes to make it easier for foundries to start and operate their businesses.

C) Some policies to enable increase in Skill Development courses relating to Foundries.

D) R&D is still lacking far behind in Indian Foundries



one of the very active regions conducting various activities that are full of learning, meaningful talks and visits which focus on knowledge sharing. In the coming months- our team will try its best to make sure that we continue on the same path for the benefit of all foundries – big & small – to prepare for what comes next. This year we will be working on the theme "Reform -- Perform -- Get Future Ready!" and events are planned accordingly.

Reform- We will take a hard look at all the characteristics of traditional foundries that make them unattractive to talent, future generations and new customers which is 3D - Dirty, Dark & Dangerous. These are the core problems that foundries will face in the

ourselves in this area. Sessions will also cover the best practices in the foundry process to eliminate the dark spots which are cutting our



profits.

Perform- While theoretically the above may sound good, we will need to execute the same solutions at ground level. In this stage, we will conduct online as well as on-site training sessions, involving the shop floor workers on EHS, Best practices, Machine

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hence support for such activities to encourage and promote innovation in materials, processes & technologies. This will go a long way in making this industry more competitive & capable of meeting evolving market demands.

E) Incentives for environmental sustainability practices encouraging foundries to adopt more eco-friendly technologies.

F) It is good time to tap into the export market, hence policies that facilitate exports and international trade can help foundries to penetrate global markets and expand their customer base.

G) Foundry industry is quite investment intensive hence having some investment incentives in the form of tax incentives, subsidies and other forms of financial support can encourage investments in technology adoption in

automation & digitalization that can enhance productivity and improve product quality of the industry.

As such these expectations might vary based on the specific needs and challenges of the foundry industry in different regions of India but more or less the above are some of the common requirements.



**5) Please tell us about your own company**

I am presently technical director at Mangalam Steelcast Pvt Ltd, Vadodara & Siena Engineering Pvt Ltd, Indore. Both are Ferrous casting manufacturing units. Mangalam Steelcast Pvt Ltd is involved in manufacturing single piece casting upto 2 Tons and supplying majorly to Engineering, Mining, Paper & Chemical Industries while Siena Engineering having manufacturing capacity of casting single piece upto 4 Tons is supplying majorly to Indian Railway Industry. Both the foundries apart from the conventional infrastructure are well equipped with advanced technologies like 3-D scanner for reverse engineering & prototype inspection, Simulation software, 3-D modelling software and have in-house testing labs, NDT testing facilities and machine shop to deliver castings that meet customer expectations and requirements. ■



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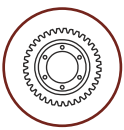


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# ALUMINIUM CHINA 2023 wrapped up successfully, bringing the global aluminium community together!

The 18th ALUMINIUM CHINA, organized by RX Greater China, concluded on July 7th at the Shanghai New International Expo Centre, and was deemed a huge success by both

Development Forum provided a platform for global industry professionals to gain insights into the international aluminium industry, regional markets situation and related trends



exhibitors and visitors in attendance. The exhibition garnered tremendous attention, attracting over 500 exhibitors and a record total of some 26,100 professional visitors from both domestic and international markets. The expo also facilitated more than 900 onsite matchmaking sessions that proved hugely valuable for networking and business cooperation among worldwide industry professionals.

Recap on Concurrent Events & Activities  
Held under the theme of "Inspire the Future," the ALU Insight-Aluminium Industry

by industry segmentation while also exploring the various overseas business opportunities currently present in the market. The forum enjoyed the support and participation of esteemed international organizations including the International Aluminium Institute (IAI), Global Aluminium Foil Roller Initiative (GLAFRI), Japan Aluminium Association (JAA), Gulf Aluminium Council (GAC), Aluminium Federation of South Africa (AFSA), India Aluminium Extruders Council (ALEX), and CRU Group.







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## Analysis



# 20 years of alliance for the benefit of our mutual customers

FOSECO, the foundry division of Vesuvius and a world leading supplier of casting consumables, and MAGMA, a world leader in casting process simulation and virtual optimization, celebrate the 20th anniversary of their strategic alliance with the release of a new version of the FOSECO Pro module during the GIFA event.

In 2003, the two companies agreed to join forces to support their mutual customers with their complementary product portfolios. At that time, FOSECO committed to implement MAGMASOFT®, MAGMA's simulation program, in its application teams worldwide. To complement this initiative, MAGMA developed the first version of the FOSECO Pro module, a product database available exclusively to our joint customers. The

FOSECO Pro module was the first database in the world to cover the main FOSECO feeding & filtration products, in terms of their 3D geometries and the modelling of their performance during the casting process. This allows the user to quantitatively consider the FOSECO product range in their simulation analyses.

The FOSECO Pro module, successfully used by a large number of foundries worldwide, has now been upgraded to meet growing demands in terms of usability and support for new FOSECO products.

The new version of the Pro module provides MAGMASOFT® users with a state-of-the-art database that is fully integrated into the new MAGMASOFT® 6.0 user interface. The database allows the user to review and select from the available

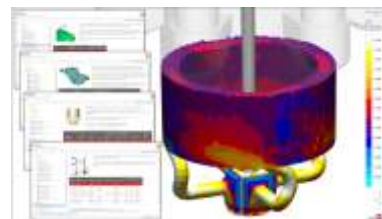
FOSECO product range, loading 3D assemblies of the respective geometries and product properties. The module continues to be fully compatible with MAGMA's unique Autonomous Engineering capabilities, enabling users to select the best possible products for the given quality requirements.

New capabilities have been added to select not only suitable filters, but also the geometry of the recommended filter coreprints.

For steel foundries, the Pro module will now offer the selection of innovative FOSECO products such as the HOLLLOTEX shroud pouring system, with the complete assembly of diverters or filter boxes conveniently available. This will assist steel foundries in the design of gating systems and the optimisation of their casting processes using simulation.



Figure 1: New user experience of the FOSECO Pro module



FOSECO and MAGMA are committed to continuing their alliance, developing better tools and services for the benefit of their mutual customers.

Figure 2: Integrated modeling of new filtration and gating related geometrie

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## News Update

### Copper scrap-fed secondary copper production increased by 12 pc in First Half of this year – ICSG Data

As per the recent International Copper Study Group (ICSG) monthly data indicates scrap-fed secondary copper production in the first half of this year increased by 12 percent compared with the first half of 2022 as compiled by Brian Taylor, Recycling Today.

Although an increase in red metal scrap-based capacity appears to be underway in the United States, the global increase this year has been “mainly due to a rise in China,” says the ICSG.

Adds the organization, “A series of maintenance or operational issues led to declines in production in a number of major producing countries, such as the United States (-6.5 percent), India (-5.8 percent), Indonesia (-6 percent), Finland (-28 percent) and Sweden (-11 percent),” in a comment that refers to both primary and secondary production.

Using U.S. red metal scrap exports in the first four months of this year as a gauge, China has remained the heavyweight destination for most grades.

According to U.S. Census Bureau data summarized by the U.S. Geological Survey (USGS), Chinese ports (including Hong Kong) accepted more than 98,000 metric tons of copper-bearing scrap shipped from the U.S. in the first four months of this year.

While Malaysia and Thailand have grown as destinations for nonferrous—and especially aluminum—scrap shipped from the U.S., neither has approached China's scale as a red metals buyer in 2023, according to the USGS. Malaysia has brought in barely more than one-fifth the amount of copper scrap as China, at around 21,000 metric tons, and Thailand less than that, at about 18,800 metric tons.

The ICSG indicates copper inventories in exchange warehouses have been declining this year, with data in hand for the first seven months of the year. “As of the end of July 2023, copper stocks held at the major metal exchanges (London Metal Exchange, or LME; the U.S.-based Comex; and the Shanghai Futures Exchange, or SHFE) totaled 174,891 metric tons,” writes the organization.

That end of July figure, according to the ICSG, represents a decline of 14,614 metric tons, or 7.7 percent, from inventory held at the end of last year.

So far this year, inventories are down by 11.5 percent at SHFE warehouses and by 16 percent at LME warehouses, but are up by 24 percent at Comex facilities.

### Hindalco Plans Rs 4,000 Crore Investment In Extrusion, Copper, E-Waste Recycling Facilities



Hindalco Industries has planned a total investment of Rs 4,000 crore in an extrusion facility for freight wagons and coaches and a copper and e-waste recycling plant, its chairman Kumar Mangalam Birla said on Tuesday. The company has planned a Rs 2,000-crore investment to set up a new extrusion facility for the development of freight wagons, and coaches of prestigious Vande Bharat trains. An investment of Rs 2,000 crore is planned for the project and technology tie-ups are in place to bring new extrusion and fabrication technologies to India,” Birla said. With the scaling up of EV manufacturing in India, he said Hindalco is working closely with OEMs (original equipment manufacturers) to co-develop and manufacture critical components like battery enclosures, motor housings, using his company's facilities. The projects for battery foils, coated aluminium fins, and aerospace-grade extrusions are also on track, he added. “I am delighted to announce that your company is making an investment of Rs 2,000 crore to establish the first of its kind copper and e-waste recycling facility in India.

### Copper trapped between old and new super-cycles

Copper may be poised to embark on a new energy transition super-cycle but it is currently struggling to escape the gravitational pull of the old Chinese super-cycle.

China has been the core driver of copper pricing over the last two decades as the country built new cities and rolled out the infrastructure needed to power them.

Booming domestic demand for industrial metals was coupled with rising exports of manufactured products as China became the world's workshop.

The twin engines of China's previous spectacular growth are now stuttering as a property bubble deflates at home and high inflation weakens demand for its products abroad.

The London Metal Exchange (LME) three-month copper price has been oscillating in a \$7,800-8,870 per metric ton range since May as old and new price drivers compete. Fund positioning on both the LME and the CME is equally

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caught between a waning China-centric super-cycle and the nascent green super-cycle.

## Copper gains as demand prospects from China improved



Copper settled up by 0.79% at 738.9 on 25<sup>th</sup> August 2023 as the demand prospects from top consumer China improved and the market shrugged off pressure from a strong U.S. dollar. Providing further support for copper, stockpiles monitored by the three major futures exchanges are just above a 15-year low at 170,000 tonnes.

Meanwhile, the downturn in euro zone business activity has deepened more than expected this month in a broad-based fall across the region, particularly in Germany, Europe's largest economy.

The global refined copper market showed a 90,000 metric tons deficit in June, compared with a 58,000 metric tons deficit in May, the International Copper Study Group (ICSG) said in its latest monthly bulletin. For the first 6 months of the year, the market was in a 213,000 metric tons surplus compared with a 196,000 metric tons deficit in the same period a year earlier, the ICSG said. World refined copper output in June was 2.25 million metric tons, while consumption was 2.34 million metric tons. When adjusted for changes in inventory in Chinese bonded warehouses, there was a 120,000 metric tons deficit in June compared with a 100,000 metric tons deficit in May, the ICSG said. Technically market is under short covering as the market has witnessed a drop in open interest by -19.49% to settle at 2507 while prices are up 5.8 rupees, now Copper is getting support at 735.3 and below same could see a test of 731.6 levels, and resistance is now likely to be seen at 741.2, a move above could see prices testing 743.4.

## Morgan Advanced Materials announces commercial start-up of 50+% Yixing factory expansion

The Yixing plant manufactures TJM® Insulating Firebricks (IFBs). With an additional capacity of more than 50%, it will continue to enable the capacity expansion and maintenance needs of Morgan's customers in China and Asia in petrochemicals, iron & steel, aluminium and cathode materials. The new line produces the full family of TJM IFBs, including speciality TJM Bubble Alumina bricks.

"The expansion of Yixing IFB site was designed as a model for energy efficiency in refractory production. Along with automation and enhanced digital controls, our commitment to reducing CO2 emissions in our manufacturing process is central to our business and investments," commented Bob Yin, General Manager of Yixing Morgan Thermal Ceramics.

Tara Yin, Managing Director China, said, "This expansion is a significant achievement in advancing our thermal management solutions portfolio in China. Our customers rely on our advanced IFBs to meet their capacity expansion goals and CO2 emission reduction targets, making this expansion a critical step towards achieving sustainable growth in the Chinese market."

IFBs are refractory insulation that withstands high temperatures with low thermal conductivity, primarily used in hot face linings and backup insulation of high-temperature industrial heat processing equipment.

With IFB manufacturing plants in Italy and the US, Morgan brings a more comprehensive global footprint to the IFB portfolio, delivering quality products and services to international, regional, and local customers.

## Hindustan Zinc to increase production capacity by 50% to 1.5 mtpa

Hindustan Zinc Limited (HZL), a subsidiary of Vedanta Limited, plans to increase its zinc production capacity from 1 million tonne per annum (mtpa) to 1.5 mtpa this fiscal.

"Zinc will play a key role in India's growth story... We are looking forward to at least 3-4% growth in the sector and plan to ramp up our production from 1 million tonnes to 1.5 million tonnes per annum," Priya Agarwal Hebbar, chairperson of HZL and non-executive director of Vedanta Ltd, said at the company's 57th annual general meeting (AGM).

"Our growth efforts include expansion of capacities, maintaining a portfolio of mines with long life, strengthening cost leadership, expansion of product portfolio through customer centricity, and progressing towards a sustainable future," she added.

Through FY23, the company recorded production surpassing 1 million tonne of refined metal while recording 257 kilo tonne of metal production in the first quarter of the new fiscal year, Hebbar said.

To become more sustainable, Hindustan Zinc will further reduce its coal dependency by 50% within the next two years as part of the company's environmental, social, and governance (ESG) goals.

"Today, our Pantnagar Metal Plant is powered 100% by renewable energy, and with our solar & wind projects accounting for 180- MW and 250 MW respectively, HZL will reduce its coal dependency by 50% by 2025," she said. She said HZL became the first in the country to introduce battery-operated electric vehicles (EVs) in underground mining.

Hebbar believes the company will be able to achieve its ESG targets by 2030, ahead of parent Vedanta Group's

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## News Update

goal of 2050.

The company, in a filing to the bourses earlier today, said its promoter has released a pledge on 13.94 crore shares or nearly 3.3% of the total equity. Axis Trustee Services Limited (ATSL) will be acting as the pledger. Anil Agarwal, chairperson of Vedant Ltd., owns a 64.92% stake in HZL, most of which is pledged.

Hindustan Zinc reported a 36.5% fall in its net profit for the first quarter of FY24 at ₹1,964 crore from ₹3,092 crore in the corresponding quarter of last year, due to lower metal prices. The company's revenue in Q1FY24 declined 22.4% to ₹7,282 crore from ₹9,387 crore, on a year-on-year (YoY) basis. The topline fell on account of lower zinc and lead LME, lower lead volumes, and differential strategic hedging impact. Earnings before interest, tax, depreciation, and amortization (Ebitda) in the April-June quarter stood at ₹3,347 crore with an Ebitda margin of 46%.

### Novelis to increase uptime with ABB modernisation

Novelis Inc. have announced they will be working with ABB to upgrade its third-party drives and controls system as part of a brownfield modernisation project at its hot rolling mill in Oswego, New York, USA.

To futureproof the mill, ABB is replacing obsolete and outdated equipment with new switchgears, transformers, medium voltage drives, medium voltage synchronous motors, motor control centers and auxiliary controls, all integrated with the facility's existing non-ABB control system. This will support Novelis' ambitions for increased power capacity and reliability. Commissioning of the upgrade is expected by the end of 2023.

The Oswego mill was the company's first US operation mill and, is the company's largest wholly owned fabrication facility in North America. It produces high-quality aluminium sheet for the automotive, beverage can, and building and construction markets. Novelis is also the world's largest recycler of aluminium and seeks sustainability commitments from its supply chain as its customers look for environmentally friendly and circular aluminium products.

"In order to continue to provide our customers with the highest quality, sustainable aluminium sheet, and do so reliably, we are focused on increasingly optimising our production output," said Ganesh Panneer, Vice President of Operations, Novelis North America. "ABB is helping to ensure that we continue to have the highest levels of availability in our processes. The expertise of the ABB metals team, together with their commitments on providing the latest, most energy efficient products, will secure Oswego's future as we maintain our leading position."

"We're proud to support Novelis in meeting their production targets, which promote efficient use of energy and other resources," said Siraj Boudighar, Sales Manager North America for Metals, Process Industries, ABB. "By

leveraging our long-term experience and in-depth knowledge of metals industry processes, including more than 400 references for modernisation projects since the year 2000, we are able to tailor technology packages that meet the specific needs of each customer."

### Alba introduces new alloy 6060. HE in its product portfolio

Aluminium Bahrain (Alba) has introduced a new alloy '6060.HE' as part of its AA6060 alloy family that is aimed at the Company's extruder customers. Produced in a billet form with a wide range of applications in the construction sector, this new alloy claims to have a faster extrusion rate that will improve the process efficiency and productivity for its users.

Alba's new 6060.HE alloy has been developed in collaboration with the University of Bahrain in terms of enhancing the scientific research studies associated with this alloy production and Bahrain Aluminium Extrusion Company (BALEXCO), being one of the leading aluminium extrusion producers in the Region and Alba's long-standing customer which provided extensive support in developing the 6060.HE alloy by way of field trials, visits, and technical feedback.

Commenting on this occasion, Alba's Chief Executive Officer Ali Al Baqali (right) stated:



"We are pleased to be adding a new alloy to our range of products, a quality product that will enhance the performance and productivity of our customers as well as their competitiveness. Proudly produced in Bahrain by lead national capabilities, we aim to advance with this new developed product our presence in new markets and boost it in

the existing ones.

It has taken lots of efforts and hard work to get to where we are -- the 6060.HE alloy is the successful outcome of the collaboration between three leading Bahraini entities -- Alba, the University of Bahrain and BALEXCO -- which underlines the fifth priority of Alba's ESG Roadmap 'Collaboration and Partnerships'."

On his part, Dr. Fouad Mohammed Al Ansari, the



President of the University of Bahrain (left), stated: "This collaboration resulted in the successful study that focussed on improving aluminium extrusion processes, and identifying new alloys that contribute to enhancing the quality and performance of manufactured extruded products. The study relied on statistical experimental design



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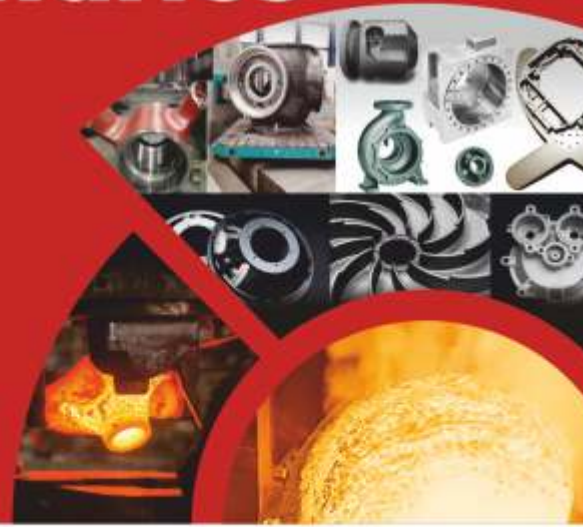
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methods to develop a model capable of predicting the ratios of additives to aluminium and provide optimal heat treatment. He also emphasised that the results of this study will serve as a strong catalyst to enhance future scientific research in the aluminium industry."

Adding further, BALEXCO's Chairman Jassim Seyadi (right) said:



"Alba has been our sole supplier of Aluminium Billets to be used for our extrusion presses and we are happy that we could partner with them and the University of Bahrain in the development and trials for the new 6060.HE alloy. The newly developed billets have been tested at BALEXCO and the usage of these billets helps in improving the extrusion speed and overall production

efficiency without compromising on the product quality. Alba's team has been very supportive throughout the development and trials, and we look forward to further improve the billets, which would be useful to all extrusion clients of Alba."

The development process of the 6060.HE alloy started in January 2022 and its commercial production commenced in October 2022 following extensive laboratory-scale, field-scale tests and evaluations. Alba has already developed a customer base for this new product with 10 local and overseas customers spanning the globe.

## Vedanta appoints John Slaven, former COO of Alcoa, as CEO for Aluminium Business



Vedanta Limited has announced the appointment of former Alcoa COO, John Slaven, as the Chief Executive Officer for its Aluminium Business, effective October 3, 2023.

John Slaven has worked in key executive roles in the Australian mining and metals major BHP and with The Boston Consulting Group (BCG). He brings over 34 years of experience and expertise in metal & mining sector across

different geographies. He has worked across the entire aluminium value chain in exploration, projects, operations, sales and marketing. John joins us from Alcoa Corporation where he served as a member of Alcoa's Executive team as Executive Vice President and Chief Operations Officer responsible for the daily operations of Alcoa's global bauxite, alumina and aluminium assets.

Announcing the appointment, Anil Agarwal, Chairman, Vedanta Group said, "We welcome John as the CEO for

Vedanta's Aluminium business and look forward to him driving the company's growth. Aluminium is a 'Metal of the Future' and integral to the energy transition. John joins at an exciting time as the world looks at India as the plus one to China in manufacturing. I believe that his global experience and formidable track record in the aluminium sector will be a real asset for the company."

John will be leading all aspects of the strategy of the aluminium business, including development of strategic alliances with global partners to fast-track business delivery. He will drive adoption and deployment of best-in-class technologies and processes, with focus on innovation and digitalization, for business transformation.

Speaking on his appointment, John Slaven said, "Vedanta's commitment to operational excellence, product diversification and sustainability presents a tremendous opportunity for growth in the Aluminium sector. I am excited to join Vedanta and look forward to contributing to the company's success."

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## News Update

### Rio Tinto commits \$150 million to Centre for Future Materials led by Imperial College London

Rio Tinto has announced that they have committed \$150 million to create a Centre for Future Materials led by Imperial College London to find innovative ways to provide the materials the world needs for the energy transition.

The 'Rio Tinto Centre for Future Materials' will fund research programmes to transform the way vital materials are produced, used and recycled, and make them more environmentally, economically and socially sustainable.

Under the partnership, Rio Tinto and Imperial will together define a set of major global challenges that need to be addressed. These will form the basis of the first research programmes the Centre pursues, in partnership with a selection of international academic institutions.

The Centre will be established in the second half of 2023, with the first research programmes funded in 2024. Rio Tinto will contribute \$150 million over 10 years to fund the Centre.

Rio Tinto Chief Executive Jakob Stausholm said "For the world to reach net zero, we must find better ways to provide the materials it needs. No single player can do this alone, and research and development plays a vital role. Imperial College London is one of the world's leading institutions focused on science and engineering – I cannot wait to see the progress we make, as we bring together the best of industry and academia, with shared ambition."

Professor Mary Ryan, Vice Provost (Research and Enterprise) at Imperial, said "All aspects of human society rely on materials – from housing to transport, energy, communications and health. We need to create sustainable ways to extract, process, and reuse these resources.

"Moving to a truly sustainable society requires a holistic approach to these complex industrial processes. This is inherent to Imperial's approach. We will tackle these challenges and design future innovations that are resource and energy efficient, nature positive, humancentric and just. By working hand-in-hand with other leading international institutions, we will create a truly multidisciplinary, global effort to drive the next industrial revolution in harmony with nature."

The \$150 million commitment has been made in Rio Tinto's 150<sup>th</sup> anniversary year. It will be delivered in 10 annual instalments and will fund research that empowers diverse, inter-disciplinary teams to deliver innovative, and transformative solutions with environment, society, and governance at their core.

The Centre builds on Rio Tinto's long-standing support of research and innovation. It will complement an Innovation Advisory Committee of global experts in their fields that Rio Tinto recently established to accelerate its innovation

portfolio and provide external insights and guidance on emerging and disruptive technologies.

The Innovation Advisory Committee includes members with experience in academia, industry and government.

### Redesigned zinc-air batteries 'better' than lithium, say Australian researchers

Researchers at Edith Cowan University in Australia have redesigned zinc-air batteries and have found the technology to be preferable to lithium-ion batteries – even for electric vehicles.

A team of researchers at Western Australia's Edith Cowan University have redesigned zinc-air batteries and claim to have overcome the technology's notorious power output limitations.

"The new design has been so efficient it suppressed the internal resistance of batteries, and their voltage was close to the theoretical voltage which resulted in a high peak power density and ultra-long stability," said research lead Muhammad Rizwan Azhar.

Zinc-air batteries consist of a zinc negative electrode and an air positive electrode. The chemistry holds promise and is significantly more sustainable than lithium-based counterparts, but the poor performance of air electrodes and short lifespan has limited the technology's power output and ultimately its reach.

However, the Edith Cowan University team, says it has made a breakthrough in the technology which has enabled engineers to use a combination of new materials, such as carbon, cheaper iron and cobalt based minerals, to overcome these issues. The redesigned zinc-air batteries have emerged as a better alternative to lithium, according to the team's recent study.

Rechargeable zinc-air batteries (ZABs) are becoming more appealing because of their low cost, environmental friendliness, high theoretical energy density, and inherent safety," said Azhar.

Lithium batteries rely on high-cost, finite resources, and also have safety issues.

pv magazine print edition

In the latest, "In Conversation" issue of pv magazine we talk to a range of people about their experience with solar, from a sailor and a pair of overland adventurers to a mountain climber and more besides. We also focus on Africa to consider why a continent with such vast solar resource still lags more developed economies when it comes to widespread PV and energy storage rollout.

"With the emergence of next-generation long-range vehicles and electric aircraft in the market, there is an increasing need for safer, more cost-effective, and high-performance battery systems that can surpass the capabilities of lithium-ion batteries," said Azhar. "By using natural resources, such as zinc from Australia and air, this further enhances the cost-effectiveness and viability of these innovative zinc-air batteries for the future."



# Commercial vehicle sales back on track, will continue growth: SIAM President

According to the latest data shared by SIAM, total CV sales in the domestic market declined by 3.31 per cent year-on-year (y-o-y) to 2,17,046 units in the first quarter of this year as compared with 2,24,488 units in the corresponding period last year.

Production of the CVs also declined by 1.51 per cent y-o-y to 2,53,447 units during the April-June quarter as compared with 2,57,338 units in the same period last year.

The demand for commercial vehicles (CVs) is on track and growth will continue as demand is back mostly on the replacement side, though the sector is still lower than its peak time.

The overall demand for CVs is doing much better, even though we are still lower than the earlier peak levels. But, some of the segments within that are above the earlier peak levels. The demand is led by a lot of replacements, the pent-up replacement demands.”

This is because the new trucks have been designed after BS6 or have been designed to carry the right payloads as per the new norms which were announced a few years back. They are much more productive and have better fuel efficiency. Therefore, it makes sense to replace the older trucks with the new trucks, Aggarwal explained.

He said with the better infrastructure, customers also need better/more powerful engines, which also requires

replacement of older trucks. New-age customers, especially e-commerce companies, also have a lot of demand on productivity and require a specific type of trucks which can deliver goods quickly.

He added that the infrastructure investments in the country are also leading to increased demand for construction trucks and with better infrastructure, a lot of migration is needed.

“For example, in the tractors segment, there is a lot of migration happening in the tractor segment. Overall, I would say the CV segment is on the right track and the prospects of CV are also very good,” Aggarwal added.

While commenting on the Q1 2023-24 performance, Mr Rajesh Menon, Director General, SIAM said, “Sales of Passenger Vehicles in Q1 of Apr-June 2023 has been the highest ever with a growth of 9.4%, compared to the previous year. The Passenger Vehicle segment crossed 2 million units in the first half of Calendar year for the first time. Two-Wheelers also posted a growth of 11.2% in this Quarter, compared to last year, but are still lower than 2016-17 levels. Domestic sales of Three-Wheelers in Q1 of 2023-24 grew by 89.4% compared to last year albeit on a low base, but are still lower than the 2018-19 levels. Commercial Vehicles have de-grown by (-)3.3% in this Quarter, compared to Q1 of last financial year.”

### Domestic Sales: Monthly

Category Segment/Subsegment	Domestic Sales (In Nos.)	
	2022	2023
<b>Total Passenger Vehicles<sup>5</sup></b>	<b>3,20,985</b>	<b>3,27,487</b>
<b>Three Wheelers</b>		
Passenger Carrier	17,934	41,090
Goods Carrier	7,050	8,797
E-Rickshaw	1,464	2,655
E-Cart	253	477
<b>Total Three Wheelers</b>	<b>26,701</b>	<b>53,019</b>
<b>Two Wheelers</b>		
Scooter / Scooterette	4,21,362	3,87,373
Motorcycle/Step-Throughs	8,49,928	9,08,954
Mopeds	37,474	34,499
<b>Total Two Wheelers</b>	<b>13,08,764</b>	<b>13,30,826</b>



## Statistics

# Domestic PV wholesales rise 2.94% YoY in July at 302,521 units: SIAM

As per the latest data issued by the Society of Indian Automobile Manufacturers (SIAM), dispatches of passenger vehicles (PVs) from manufacturers to dealers were at 2,93,865 units in July 2022

Domestic passenger vehicles wholesales registered a 2.94 per cent year-on-year increase in July at 3,02,521 units, the Society of Indian Automobile Manufacturers said on Thursday. Two-wheeler domestic wholesales were down at 12,82,054 units last month, as against 13,81,303 units in July 2022. Three-wheeler wholesales were higher at 56,034 units, as compared to 31,324 units in the year-ago month. Total vehicle dispatches across categories were at 16,40,727 units, as compared to 17,06,545 units in July 2022, SIAM said. "Though the passenger vehicle and three-wheeler segments are performing well, there has been a de-growth of two-wheelers in July 2023, compared to July 2022.

"Overall, we expect that the positive economic environment, good monsoons, and upcoming festive season will support continued growth in the auto

industry," SIAM President Vinod Aggarwal SIAM said. He further said that "Though the Passenger Vehicle and Three-Wheeler segments are performing well, there has been a de-growth of Two-Wheelers in July 2023, compared to July 2022. Overall, we expect that the positive economic environment, good monsoons, and upcoming festive season will support continued growth in the Auto Industry."

Commenting on July-2023 performance, Mr Rajesh Menon, Director General, SIAM said, "Sales of Passenger Vehicles of July 2023 has been the highest ever in July, with a marginal growth of 2.6%, compared to July 2022. Three Wheelers also posted a decent growth of 78.9% compared to the last year, which is the 2nd highest in the month of July, after the peak of 2018-19. However, After posting growth in each of the previous 3 months in this financial year, the Two-Wheeler segment de-grew by (-) 7.2% in July 2023, compared to last year."



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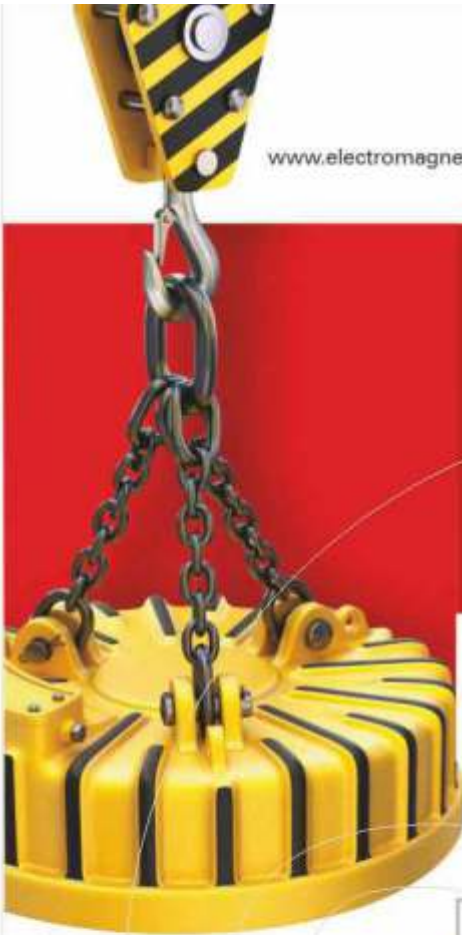


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