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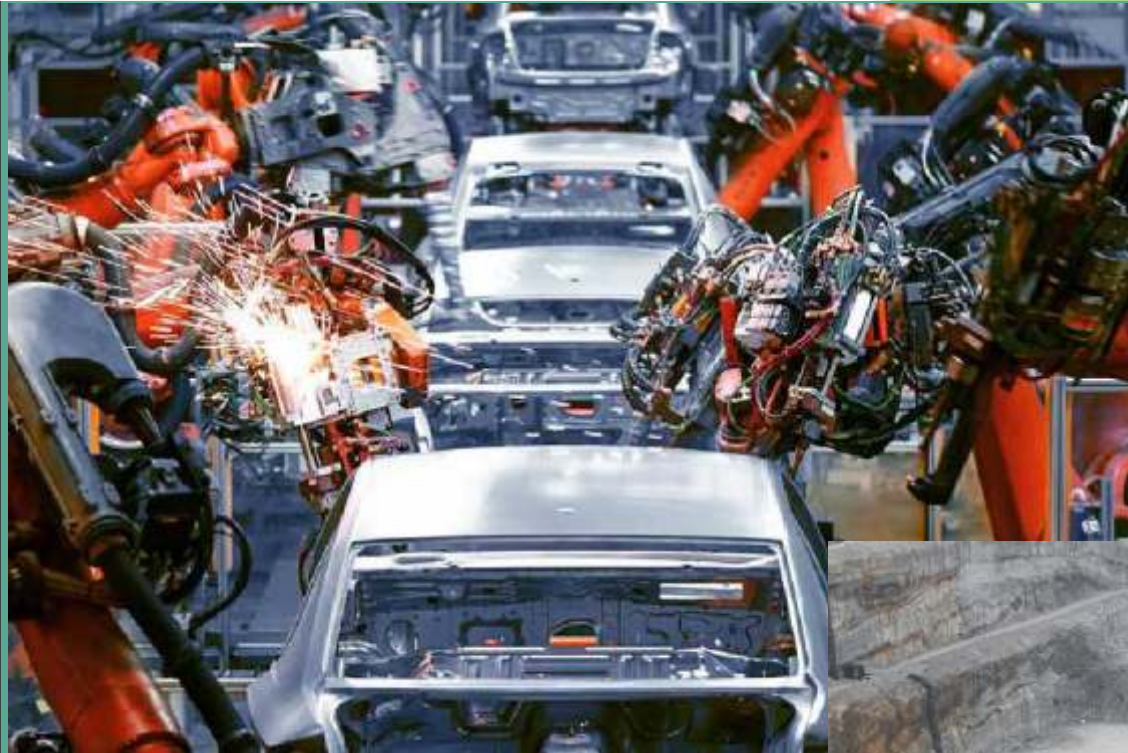
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■ "India is the fastest growing Lime Industry across the globe"-

Arun Kumar Barad,  
Secretary, Bharat Lime Association

■ Tata Steel: Sustainability Champion for the 7th consecutive year

■ 'Future of Auto Industry in India'

■ Unlocking potential: Bio Fuel substitution in Net Zero Journey



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## Editorial Desk



**D. A. Chandekar**  
Editor

Dear Readers,

I have always been making a point through this column that the India's economic growth is backed by the infrastructure development and steel industry is in the center of the infrastructure development process. Thus if India's economy (meaning GDP) has to grow for the next few years, it needs a strong support from iron & steel industry. This thought process makes us confident about the future of iron & steel industry in the country. Yes, the steel industry in India has a bright future on a long term basis but this does not by any chance means that it is free of all the problems. Rather I would say, it has to overcome many hurdles, tackle many issues so as to ensure a smooth upward journey.

What are the issues presently facing the industry ? I can say that the first and foremost issue is that India does not have enough plant designing and building capacity. If we have to reach up to a capacity level of around 300 MTPA by 2030-31, we have to naturally augment our capacity. How many companies are there in the country which can design and build a steel plant ? I would say only a handful of them. The second issue in the priority list is lack of technically qualified manpower. Are

we aware that very few engineering colleges in India offer metallurgy stream and very few metallurgists remain in metallurgical profession after passing out. They are 'snatched away' by the industries offering better packages and better work environment. Seeing all this, many engineering colleges have either stopped offering metallurgy stream or integrated it in the Material science stream. What are we as an industry doing about it ? Steel industry, being a core and very important industry for the economic growth of the country, has got a separate ministry. Why this ministry can not look into such basic and fundamental issues which will surely hurt the industry and also the economy in the long run ?

Now let us discuss about the international situation. We know that the Eurozone is stagnated for the last few years and India's steel exports to this region have decreased over the years. Also the Russia – Ukraine war as well as the proposed CBAM post 2026 has further deteriorated the situation and thus I don't see much growth in India's exports to Eurozone. MENA region was another big export destination for us but given the fluid and war like situation in many countries in the region, it may not be advisable to depend on this region for the exports. For SE Asian countries, we have a big competitor like China and Africa is yet to awake fully.

Given such a situation in the global marketplace, in my opinion the best strategy is to look inward. India is the biggest emerging market in the world. Our rural markets have tremendous untapped potential. Develop products suitable and useful for rural life. There lies the future ! ■

**Write your comments :**

<https://steelworldblog.wordpress.com/>

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# "India is the fastest growing Lime Industry across the globe"-

**Arun Kumar Barad,**  
Secretary, Bharat Lime Association



Arun Kumar Barad, a Ceramic Engineering Graduate, commenced his illustrious career in 1992 as a lecturer, imparting knowledge to engineering students before transitioning to Steel Plants in 2006. With a remarkable 30 years of extensive experience in steel plants, refractories, limekilns, and lime hydration plants, Barad's expertise shines in Project Management. He has spearheaded the construction of over 30 Limekiln complexes, overseeing the entire process from conceptualization to fruition both in India and abroad. Recognizing the need for specialized services, he founded Barad Consultancy Services, offering design, engineering, and supply of Limekilns, Lime Hydration Plants, and Lime Grinding Plants in collaboration with QualiCal International Srl, Italy. Barad's efforts have firmly established QualiCal International Srl as a leading technology supplier in the Lime domain across India, the Middle East, Japan, and beyond. His ventures extend beyond lime, as evidenced by his exploration and establishment of copper and gold mines in various African countries. Additionally, as the Founder Director of Ulti-Met Technologies Pvt Ltd in Mumbai, he is dedicated to the digitalization of Process Industries. Committed to nurturing the Lime Industry, Mr. Barad serves as the Secretary of the Bharat Lime Association, channelling his wealth of experience towards its advancement.

D A Chandekar, Editor & CEO of Steelworld had an exclusive interaction with Arun Kumar Barad to understand more about the present situation in the lime sector in India, challenges faced by Indian Lime Industry, future of Lime Industry in India, etc

## ***How is the present situation in the lime sector in India?***

Presently India is the fastest growing Lime Industry across the globe. The major growth is



forecasted in Steel Industry, followed by paper & Chemical Industry. Further AAC Bricks industry is expected to grow exponentially in coming years. Due to strict environmental norms India is expected to replace the huge number of existing kilns with Modern Kilns.

## ***What are the challenges faced by Indian Lime Industry and Steel Plants which are the major user of Lime?***

**Challenges:** Availability of the High-Grade Lime stone locally for steel plants and Fuel(Pet Coke) for the merchant lime producers. Ariel distance in INDIA is 5500 Kms from North to South and 2500Kms from East to

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## Face to Face

West. 12 % of High-Grade Limestone reserves are located in the north east part of India basically in

- India's Metallurgical Industries have a significant lime demand, totaling 10.52



Rajasthan. Major consumer of LIME i.e., Steel Plants are located in the eastern part of India. Local transportation of the High-Grade Limestone from West to East is costlier than importing the limestone from Middle East countries / Asia Pacific countries. The rising prices and limited availability of pet coke, a crucial fuel for cement plants, can lead to supply constraints and increased operational costs for the lime industry. Captive lime plants in integrated steel plants are considering waste gases from coke ovens and blast furnaces as a fuel source for lime kilns. However, impurities like tar and naphta present challenges for lime production, impacting operations and the environment.

### **What is the LIME DEMAND of various sectors in India presently?**

**16.89 MILLION MT IS THE INDIA'S LIME DEMAND BY SECTOR.**

million tonnes each year.

- The Basic Oxygen Furnace (BOF) alone consumes 8.63 million tonnes.
- The Electric Arc Furnace (EAF) uses 1.40 million tonnes,
- non-ferrous metals like Aluminum, Copper, and Zinc require 0.36, 0.10, and 0.03 million tonnes respectively.

### **What are the prospects which are going to shape the future of Lime Industry in India?**

#### **Steel Industry's Robust Growth:**

India's steel industry is projected to more than double its production, from 120-130 MTPA to 300 MTPA by 2030, creating a growing demand for lime and expanding opportunities for the lime industry.

AAC Block Market's Promising Potential:

The AAC block market is predicted to grow at a CAGR

of 14.3% from 2020 to 2027, resulting in a volume of 11,095,000 cubic meters. Since AAC blocks use lime as a primary ingredient, lime producers have a valuable opportunity to enter a rapidly expanding market.

#### **Environmental Norms Boosting Lime Usage in FGD:**

Environmental regulations are driving industries to adopt cleaner technologies, including Flue Gas Desulfurization (FGD), where lime is used to reduce sulfur dioxide emissions. The usage of lime in FGD processes is expected to increase due to the emphasis on environmental compliance.

#### **How do you see the future of this industry, especially in the light of emerging concepts like Industry 4.0 and Green Steelmaking?**

#### **Energy-Efficient Innovations:**

The lime industry is moving



towards energy-efficient processes to reduce operational costs and environmental impact. This is being achieved through the development of new technologies and equipment that optimize energy consumption during





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## Face to Face

production, leading to a more sustainable industry.

### **Waste Reduction**

#### **Techniques:**

The lime industry is adopting advanced techniques to minimize waste and reduce ecological impact.

#### **Sustainable Lime Production:**

The lime industry is adopting eco-friendly techniques to produce lime, such as using alternative fuels, recycling, and circular economy principles to promote sustainability

#### **Automation and Digitalization:**

The Lime industry is implementing automation and digitalization to improve production efficiency. Automated systems ensure consistent product quality and resource optimization, while digital monitoring systems provide real-time insights for data-driven decision-making and process optimization.

#### ***What support does this industry need from the policy makers?***

Reduction in Import Duties on import of High-Grade Limestone. Import duties should be levied on Quick lime imported from Middle East, Asia Pacific countries. Allotment of High-Grade Limestone Mines to the merchant Lime Producers. There should be separate category for the rarely available high-gradelimestone in India and the same shall be only allotted to the merchant Lime Producers. ■



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# Tata Steel: Sustainability Champion for the 7th consecutive year



Tata Steel has been recognised as a Steel Sustainability Champion 2024 by world steel for the seventh consecutive year for its commitment and action to sustainable development and adherence to world-class standards. Tata Steel has been a champion every year since the programme's launch in 2018. The award acknowledges Tata Steel's efforts to maintain its leadership as a world-class steel producer that is fully dedicated to the principles of sustainability.

Tata Steel is among 11 steel-producing companies that have been named 2024 Steel Sustainability Champions at world steel's April Special General Meeting (SGM) of the Board of Members.

T. V. Narendran, Chief Executive Officer & Managing Director, Tata Steel, said: "We are honoured to be recognised once again as a Steel Sustainability Champion by the World

Steel Association. This acknowledgment underscores Tata Steel's commitment to sustainability across all facets of its operations. We remain dedicated to driving positive change within the steel industry and beyond, as we continue to prioritise environmental stewardship, social responsibility, and sound governance practices."

To qualify as a Sustainability Champion, companies must meet stringent criteria. This includes signing the worldsteel Sustainability Charter and committing to principles emphasising environmental stewardship, social responsibility, and governance excellence.

They are then evaluated based on the data provided on sustainability indicators like material efficiency, environmental management systems, lost time injury frequency rate, employee training, investment in new

processes and products, and economic value distributed. In addition, the companies provide Life Cycle Inventory (LCI) data to worldsteel's data collection programme which covers more than 60% of the company's crude steel production data and is less than 5 years old.

Tata Steel is a founder participant in worldsteel's Climate Action programme and has been recognised as an accredited Climate Action member ever since. It has developed sector-leading expertise in life cycle assessment (LCA) – a tool that enables it to understand the CO2 impacts of products in holistic terms, taking account of emissions from raw material extraction, through production and use of finished products such as buildings - all the way to the end of life. Tata Steel has a long, unbroken record of annual disclosure to CDP. Its most recent disclosure in 2023 secured a rating of A- in climate disclosure.



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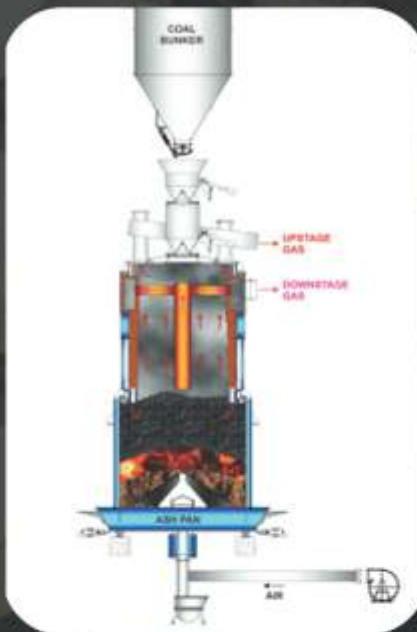
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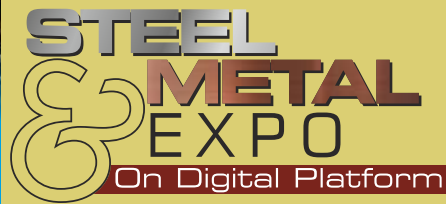


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# 'Future of Auto Industry in India'

The Asian Metallurgy Show, originally a physical exhibition since 1997, transitioned to a digital platform in 2021 due to Covid. The virtual Steel n Metal Expo held from 18<sup>th</sup> to 31<sup>st</sup> December, 2023, featured online stands and webinars covering topics like digitalization, commodity trading, green steel production, role of zinc, sustainability. A notable webinar titled 'Future of Auto Industry in India'.



The expert panel featured Sanjiv Mantri, Ex Chief Engineer and Consultant, (PVBU) Tata Motors Ltd Sanjay Nibandhe, Dean Innovation & Entrepreneur and C.H.Sharma, Steel Plant Consultant. This webinar was hosted by Mr. Udayan Pathak, Ex Head, World Class Quality, ERC Tata Motors.

**Udayan Pathak** - The Indian automotive industry is undergoing significant changes driven by both



**Udayan Pathak**  
Ex Head, World Class Quality, ERC Tata Motors.

government mandates and voluntary decisions.. Additionally, environmental commitments have led to tighter emission regulations, increasing the demand for steel and other metals in vehicles. These changes prompt a discussion on current and upcoming regulations in the automotive sector.



**Sanjay Nibandhe**  
Dean Innovation & Entrepreneur  
**Sanjay Nibandhe** - As the automotive industry expands in India, understanding safety regulations like BN Cap becomes crucial. These regulations aim to protect occupants and pedestrians

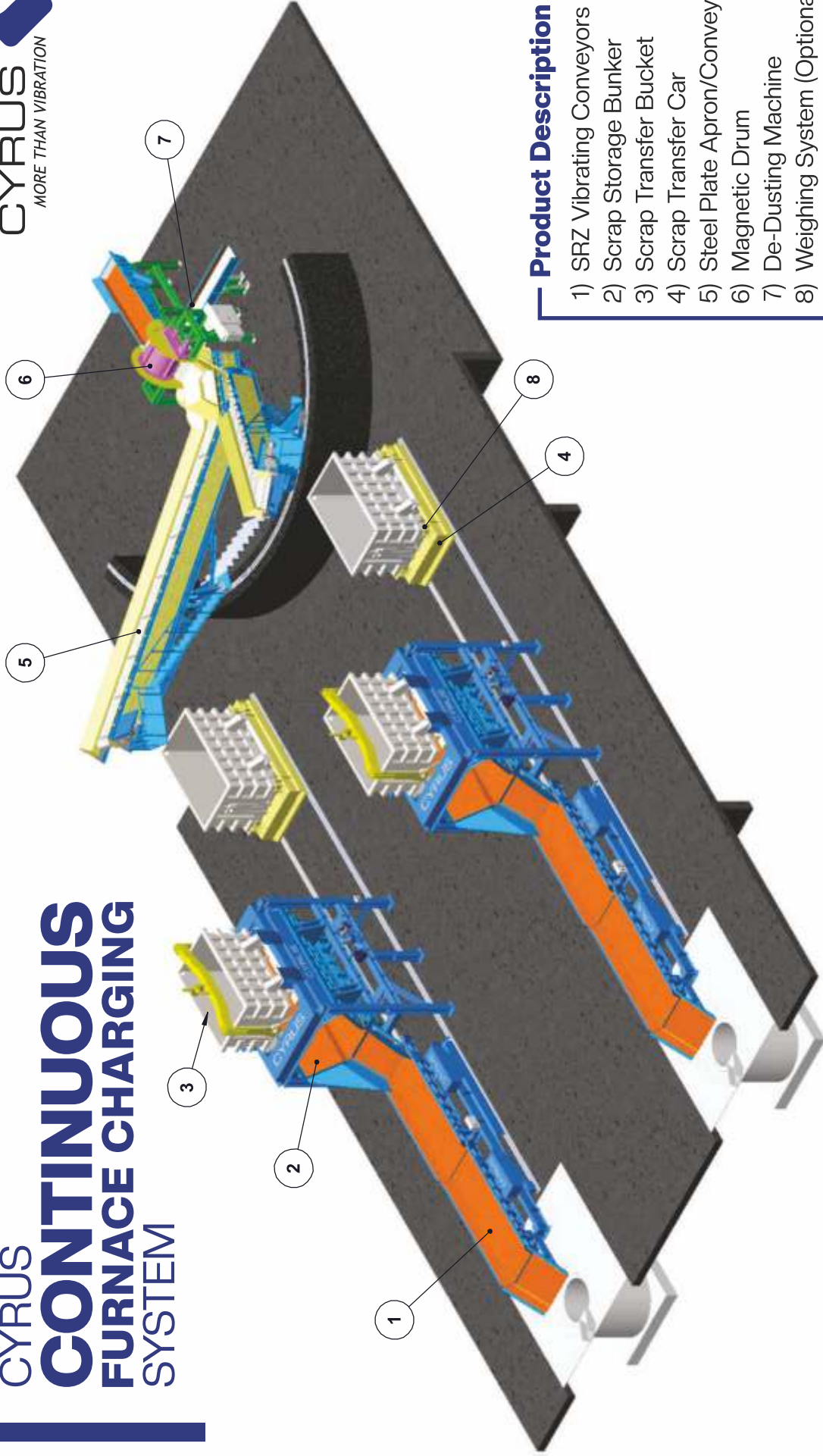
in accidents. Alongside seat belt enforcement, newer regulations focus on minimizing injuries and enhancing vehicle safety in various collision scenarios like frontal, side, and rear impacts. Vehicle construction now emphasizes energy absorption and protection devices like airbags to mitigate risks and reduce occupant injuries. OEMs face challenges in meeting safety standards while ensuring minimal deformation and injury to occupants. Further discussion on these topics will aid in advancing safety measures in the automotive sector.



**Sanjiv Mantri**  
Ex Chief Engineer and Consultant, (PVBU) Tata Motors Ltd

**Sanjiv Mantri** - Ensuring safety in vehicles involves complex engineering to withstand various crash scenarios. From seat belts to airbags, each component must respond within milliseconds to minimize injury. Materials like

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## Analysis

steel must absorb energy efficiently during impacts while maintaining structural integrity. Design considerations include crash member placement and deformation patterns. As vehicle features increase and weight becomes a concern for fuel efficiency, engineers face challenges in balancing safety, weight reduction, and customer demands.

**Udayan Pathak** - The challenges faced by the automotive industry, such as meeting safety standards while reducing weight for fuel efficiency, have created opportunities for the steel industry, especially in producing special steels. These contradictory requirements present opportunities for steel mills and special steel manufacturers to support OEMs in meeting regulatory standards. Both the Indian and global automotive industries are evolving to address these demands, and the steel industry plays a crucial role in providing solutions to meet legal and regulatory frameworks while ensuring vehicle safety and performance.

**C.H.Sharma** - Over the



**C.H.Sharma**

Steel Plant Consultant

past five decades in the steel industry, I've witnessed a significant shift towards quality consciousness, both in manufacturing and usage. In the mid-eighties, advancements in refining processes led to a realization of the stringent requirements set by international standards, particularly those from Japan. Over the last 20 years, the steel industry has successfully met these challenges, gaining approval from global automotive companies for their high-quality steel products. Currently, there are around 12 to 14 players in the steel industry capable of manufacturing top-notch products, with others rapidly catching up. Meeting demands for high-strength and specialized steel requires meticulous control over trace elements, gases, and ingredients, which the industry now excels at. With

dedicated R&D and technical expertise, steelmakers can fulfill the evolving needs of the automotive sector, ensuring a steady supply of quality steel for various applications.

**Sanjay Nibandhe** - Last month, in 2023, Indian auto sales totaled around 800,000 vehicles, significantly lower than the US sales of 4.8 million vehicles. Passenger car sales exceeded 64,000 units. The



shift towards zero-emission vehicles is gaining momentum, with Europe aiming for zero emissions by 2030 and India likely targeting 2040 or 2050. Safety concerns regarding vehicle fires, particularly in scooters and cars, highlight the need for stringent regulations. Issues such as outdated electrical systems and inadequate insulation in cables must be addressed, along with crash safety norms and battery mounting procedures. Startups entering the market must meet these safety standards. The disposal of lithium batteries poses environmental risks, emphasizing the importance of end-of-life management. Regulatory measures aim to ensure the safety and reliability of vehicles on the road.

**Udayan Pathak** - As the automotive industry transitions towards more electronic control systems, there is a growing need for materials that





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## Responsible Mining



## Analysis

can mitigate these risks, such as fire-resistant steels and coatings that attenuate electromagnetic voltage. This presents an opportunity for the steel industry to innovate and provide solutions to enhance the safety and reliability of electric vehicles.

**Sanjiv Mantri** - The discussion delves into the multifaceted challenges and considerations surrounding electric vehicles (EVs), particularly regarding battery safety, structural integrity, and material requirements. Protecting the battery, akin to safeguarding the heart of a vehicle, involves innovative solutions like using the battery as a structural element and reinforcing the vehicle body with lightweight yet strong materials. However, the transition to EVs presents conflicting demands: the need for lightweight structures clashes with the requirement for high-strength materials to meet crash safety standards. Manufacturing challenges arise in shaping and joining these advanced materials. Additionally, advancements in vehicle safety, including child occupant protection and the integration of multiple airbags, introduce further complexities in design and packaging. These challenges underscore the intricate balance between technological innovation, safety, and material science in the automotive industry's transition to electric mobility.

**C.H.Sharma**- The penetration of electric vehicles (EVs) in the market has been slower than anticipated, with only around 5.5% of four-wheelers being EVs. However, the overall volume of steel usage is still increasing, driven by other industries like agriculture machinery. The challenge lies in adapting to high-strength steel requirements, particularly in welding applications. Specialized welding electrodes could be developed to address this



need. Additionally, concerns arise regarding the lengthy charging times of EV batteries, which can take up to 7-8 hours. This may hinder the popularity of EVs due to the inconvenience compared to quick refueling times for traditional vehicles..

**C.H.Sharma** - Special steel industries are actively working to reduce pollution by transitioning to solar and electric power. Many plants are signing agreements for renewable energy, leading to significant cost savings and environmental benefits. For instance, one plant has secured 110 million units of solar power, saving up to 4% of production costs. This trend is spreading, with other plants also adopting solar power, resulting in substantial emissions reductions. Additionally,

there's a gradual shift towards more sustainable technologies, such as moving from blast furnaces to arc furnaces, further contributing to pollution control efforts.

**C.H.Sharma** - Currently, steel plants with electric arc furnaces (EAF) are operating at reduced capacity due to narrow profit margins. Cost reduction of Rs. 5000 from various sources could potentially allow them to operate at full capacity. However, plants using blast furnace route have a cost advantage due to cheaper hot metal. Despite this, pollution concerns and government scrapping policies may impact their operations in the long run. Additionally, the scarcity of scrap due to export restrictions imposed by 60 countries further complicates the situation for EAF plants.

**Udayan Pathak** - The government's vehicle scrappage policy is expected to generate around 3.5 million tons of steel scrap and 0.2 million tons of aluminum scrap annually for the next three years. This indigenous scrap will significantly reduce the need for importing scrap, which costs approximately \$10 million annually. With local scrap availability increasing, costs of steel and aluminum production are expected to decrease, providing substantial savings. ■





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# RINL Soars to New Heights

RINL during FY 2023-24 on the marketing front, registered a sale of 7,30,000 tons of Wire Rod Coils (WRC) ( a growth of 43%

In order to improve customer satisfaction and also to enhance last mile connectivity, RINL has delivered around 90,000 tons

CPLY) which includes sale of 7,80,000 tons of Rounds (10% growth over CPLY). Mr. Atul Bhatt, Chairman-cum-Managing Director of RINL, commended the perseverance, commitment, and dedication of the entire RINL workforce for their outstanding performance during the 2023-24 fiscal year. He expressed his gratitude to all employees for their tireless efforts in achieving these remarkable milestones, reaffirming RINL's commitment to excellence and sustainable growth.



over corresponding year, last year-CPLY) and 5,08,000 tons of Structurals( a growth of 11% CPLY) which are the respective Best Ever sales for any Financial year, since inception.

of steel on “door-delivery basis” during 2023-24 FY as compared to 15,000 tons during CPLY-2022-23 FY, registering a significant “6

RINL remains steadfast in its mission to contribute to India's industrial development while upholding the highest standards of quality, innovation, and corporate responsibility.

Similarly, during 2023-24 FY, Value Added Steel (VAS) sales of 13,24,000 tons is the Best Ever sales (Value Added Steel-VAS) for any Financial year, since inception” which is 31% of domestic sale and a growth of 37% growth over CPLY, respectively.

Inspite of sluggish market, non-availability and high prices of raw materials, RINL registered a sales turnover of Rs.23,129 Crs during 2023-24 FY registering a growth of 2% over corresponding period last year (CPLY 2022-23 FY).



fold growth”.

In addition to the above, during 2023-24 FY, RINL has registered an impressive sale of 43,12,000 tons of Saleable steel( 15% growth over

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LEADING INNOVATION IN SPECTROSCOPY



# Unlocking potential: Bio Fuel substitution in Net Zero Journey

To drive the path towards net-zero emissions, it is crucial to take advantage on the potential of biofuel substitution, especially in industries such as steel manufacturing. The "green steel" movement's global advancement represents a broad movement away from reliance on fossil fuels and toward the development of a low-carbon economy. This change basically involves redefining how energy resources are used, with a particular emphasis on closely examining the use of fossil fuels in production processes that result in CO<sub>2</sub> emissions. As a result, the steel sector is actively looking into ways to switch from using conventional fossil fuels to more environmentally friendly energy sources.

The "National Policy on Biofuels" was first presented by India's Ministry of Petroleum and Natural Gas in 2018, and it was later amended in June 2022. Through encouraging domestic biofuel production, the policy seeks to reduce the import of petroleum products. The policy is in line with the Prime Minister's objective of making India "energy independent" by 2047 and advances the goals of Atmanirbhar Bharat by permitting a wider variety of feedstocks to be used in the production of biofuels. By lowering reliance on the

import of fossil fuels, the government is placing a higher priority on achieving energy security. The demand for alternative fuels that offer superior environmental benefits while remaining economically competitive with fossil fuels has been fueled by concerns about reliance on imports for fuel needs as well as environmental pollution issues. This highlights how crucial biofuels are to India's energy mix strategically. Biofuels can be produced from feedstock sources such as municipal solid waste (MSW), agricultural and



forest residues. Using these resources, the government hopes to lower the amount of crude oil imported, save foreign exchange, lessen the



Lead Author & Project Leader: **V.K Bindlish** (Unit Head & Sr. VP- Jindal Stainless Limited)

environmental effects of burning fossil fuels, handle waste management issues in accordance with the Swachh Bharat Abhiyan, and advance the "Made in India" campaign.

Jindal Stainless Limited (JSL) Hisar, made the significant progress in integrating biofuels. By replacing 30% of liquid fossil fuels with biofuels at the Hot Rolling Mills, JSL has not only achieved cost efficiencies but also significantly reduced carbon emissions, advancing towards net-zero emissions. Annual potential reduction from bio LDO replacement will be 17400 tCO<sub>2</sub> reduction. Furthermore, JSL's successful transition from fossil fuel used in boiler to biofuel, while maintaining process efficiency, underscores its commitment to decarbonisation. Bio-LDO presents a better alternative to conventional fossil fuel like LDO due to its competitive calorific value.

Analytical Comparison of Bio LDO Vs Conventional LDO. The calorific value of bio-LDO, measured in kilocalories per kilogram (Kcal/kg), holds significant importance. Bio-LDO boasts a calorific value of 10500 Kcal/kg, indicating its promise as a high-energy alternative. This value is comparable to the conventional fossil fuel LDO utilized in the process, which has an energy content of 10379 Kcal/kg.



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## View Point

Properties	Bio LDO Results	Conventional LDO Results
Kinematics Viscosity @ 40 deg. mm <sup>2</sup> /s	11	6.13
Specific Gravity @ 40 deg.	0.91	0.89
Calorific Value (Kcal/kg)	10500	10379
Water and Sediment	0.30%	0.05
Ash content	0.06	0.01
Sulphur wt. %	0.28	0.98
Pour Point	4	3

Bio LDO Vs Conventional LDO (Results are as per supplier's test report)

Low sulphur content leads to reduced sulphur dioxide (SO<sub>2</sub>) emissions during combustion, low sulphur content also promotes better air quality and human health. It is compatible with sustainable and green projects, biofuel is a desirable choice for businesses which looking to lessen their environmental effect and encourage corporate social responsibility.

Low Carbon Footprint: Bio-Fuel is derived from biomass sources, which absorb carbon dioxide (CO<sub>2</sub>) during their growth. Biofuels utilization has the potential to reduce some undesirable environmental impacts of fossil fuel production and use. Carbon released during combustion is offset by the carbon absorbed during the growth of the resources used in the production.

Benefits:

- Reduced greenhouse gas emissions lead to a smaller carbon footprint.
- Enhanced environmental performance is in line with sustainability goals

- Appealing to stakeholders, customers and investors who value sustainability.
- Attracts environmentally conscious customers and investors, enhancing brand loyalty.
- Proactive adoption of sustainable practices mitigates regulatory compliance risks.

Ensures alignment with evolving environmental regulations, minimizing operational disruptions  
The JSL ESG Team elaborates on JSL's ongoing trial of substituting coke with bio-coal at the Steel Melting Shop, demonstrating the company's dedication to enhancing sustainability efforts. As part of this commitment, JSL has set a target to achieve net-zero emissions by 2050 and aims to maximize biofuel utilization at the Hisar Plant, subject to periodic review, further solidifying its commitment to sustainable practices.

According to projections by the International Energy

Agency (IEA), the demand for biofuels is expected to surge over the next five years, with an increase of 38 billion liters, representing a nearly 30% rise from the previous five-year period. By 2028, total biofuel demand is predicted to increase by 23%, reaching 200 billion liters. This increase in demand, particularly from emerging economies like Brazil, Indonesia, and India, underscores the growing recognition of biofuels as a viable energy alternative. India, with its robust biofuel policies, increasing demand for transport fuels, and abundant feedstock potential, is poised to play a significant role in this trend.

To expedite the nationwide transition towards net-zero emissions, the implementation of incentive schemes aimed at promoting low-carbon alternatives is crucial, especially within challenging-to-decarbonize sectors like steel manufacturing. Such schemes, whether through financial incentives or regulatory support, are essential for incentivizing the adoption of sustainable practices and accelerating the achievement of broader environmental goals.





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### India, China, Russia, 5 other WTO members slam EU, UK over steel duty

India and seven other members of the World Trade Organisation (WTO), including China, and Russia, have criticised a decision by the European Union (EU) to extend a safeguard measure on specific steel products after June 30, according to a report in the Economic Times (ET).

In a WTO meeting, WTO members contended that the EU's safeguard duty, implemented in response to the United States' imposition of supplementary duties on certain types of steel imports from the bloc in 2018, was inconsistent with the regulations of the global trade organisation, ET reported.

WTO members, including India, also condemned comparable duties enforced by the United Kingdom (UK). ET cited a Geneva-based official as saying, "The EU said it has evidence that the steel safeguard measure continues to be necessary."

In the meeting, China and Korea said the justification for extending the measure was flawed. Brazil contended that sustainable solutions to the global issue of excess steel capacity should rely on multilateral or plurilateral cooperation rather than unilateral protectionist measures, according to ET.

#### Retaliatory measures

In 2021, India had suggested imposing additional import duties totalling Euro 292 million on specific products from the EU in response to the safeguard measures.

Subsequently, it suggested implementing additional customs duties of 15 per cent on the import of 22 products, including whisky, cheese, and diesel engine parts, from the UK, as a response to the latter's imposition of restrictions on steel products following its departure from the EU, the ET report said.

The UK will determine whether to extend the measure after June 30.

"Several members said the UK has been imposing safeguard measures against imports of steel products since it was a member of the EU and continued to do so even after Brexit," the official said.

According to ET, WTO members claimed that the UK neglected to conduct an investigation justifying the measures by WTO rules. Under the Safeguards Agreement of the global trade body, members have the authority to temporarily restrict product imports by implementing higher tariffs or other measures if their domestic industry is significantly harmed.

The measures apply to all imports, irrespective of their origin country, and are limited to four years. However, developing countries, which contribute less than 3 per cent of total exports, are exempted from these measures,

ET reported.

8-10% growth in steel demand in India likely in FY25: TV Narendran

Global steel prices, including in India, will continue to be determined by China's production (including cuts) and exports. While steel demand in India is expected to grow by at least 8-10 per cent for FY25, a few notches higher than the GDP, TV Narendran, Managing Director, Tata Steel told businesslike.

According to him, India turning net importer of steel, looks to be a temporary phenomenon, and "it would be a pity" if this continues in the long-run. However, Indian consumption story continues to be strong. Consumption is primarily infrastructure-led.

"I would expect an 8 – 10 per cent growth (for FY25) in steel demand," he said on the sidelines of All Indian Management Association's (AIMA) National Leadership Conclave.

#### Steel imports

Narendran pointed out, steel coming into the country (as imports) is "commodity grade"; and not speciality or high quality.

"Some 95 per cent of the steel coming in, can be made in India," he said adding as long as it is unfair imports, the government needs to deal with it.

India was a net importer – by less than 1 mt – for FY24. Imports was at 8.3 mt, against exports that stood at 7.5 mt.

"For one – or – two months, here and there, it is ok (to be net importer). But I think in the long run, it would be a pity if India was to remain a net importer of steel given all the iron ore we have and the production capacities that are coming up," he said.

India's steel consumption in FY24 to 136 mt up 14 per cent y-o-y, against a global demand growth of less than 2 per cent. Production of finished steel was up 12.4 per cent to 138.5 mt. The China Factor Speaking on price movements, Narendran said: "A lot (price of steel) depends on what's happening in China. China has been exporting a lot of steel and that is going to be an issue. We (steel industry) are watching, whether it would get any better or not..... And Indian prices will reflect Chinese prices; but let us wait and watch." The production cuts, that are expected in China during the year, could help stabilise prices globally as well as in India. China, the world's biggest producer and exporter of steel, is witnessing a protracted real estate crisis that is yet to bottom out; and infrastructure demand growth is slowing with 12 debtor regions being ordered to halt projects. This



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## News Update

is expected to see a 2 percent-odd demand decline there. The country exported 10 million tonnes (mt) of steel in March 2024, up by 2.8 mt m-o-m. Total steel exports in January - March were 25.8 mt, up 30.7 per cent y-o-y. In comparison, Indian steel exports for March were 0.8 mt and declined 19 per cent m-o-m. Total exports for Q4FY24 was 2.72 mt, up 35 per cent y-o-y. On the other hand, Chinese export prices (for steel coming into India) was \$559 per tonne (benchmark HRC) for early-April deliveries, as against \$609 per tonne in January, indicating the continued price pressure on Indian offerings. India's domestic steel prices crept up to \$640.80 per tonne in April, from \$630 per tonne levels a month-back. However, prices are yet to reach January highs of \$646.84 per tonne.

### Worldsteel Short Range Outlook April 2024

The World Steel Association (worldsteel) has today released its Short Range Outlook (SRO) steel demand forecast for 2024 and 2025. worldsteel forecasts that this year demand will see a 1.7% rebound to reach 1,793 Mt. Steel demand is forecast to grow by 1.2% in 2025 to reach 1,815 Mt.

Commenting on the outlook, Dr. Martin Theuringer, Chairman of the worldsteel Economics Committee, said, "after two years of negative growth and severe market volatility since the COVID crisis in 2020, we see early signs of global steel demand settling in a growth trajectory in 2024 and 2025.

The global economy continues to show resilience despite facing several strong headwinds, the lingering impact from the pandemic and Russia's invasion of Ukraine, high inflation, high costs and falling household purchasing power, rising geopolitical uncertainties, and forceful monetary tightening. As we approach the end of this monetary tightening cycle, we observed that tighter credit conditions and higher costs have led to a sharp slowdown in housing activity in most major markets, and have hampered manufacturing sector globally. While it seems the world economy will experience a soft landing from this monetary tightening cycle, we expect to see global steel demand growth remaining weak and market volatility remaining high on lagged impact of monetary tightening, high costs and high geopolitical uncertainties."

We expect that steel demand in China in 2024 will remain around the level of 2023, as real estate investments continue to decline, but the corresponding steel demand loss will be offset by growth in steel demand coming from infrastructure investments and manufacturing sectors. In 2025 we see China steel demand returning to downtrend with a 1% decline.

This projection suggests that by 2025 China's steel demand will be significantly lower than the recent peak demand year, 2020. This projection is also in line with our view that China might have reached its peak steel demand, and the country's steel demand is likely to

continue to decline in the medium-term, as China gradually moves away from a real estate and infrastructure investment dependent economic development model.

For 2023, our apparent steel use (ASU) estimate for China is based on official statistics and suggests a 3.3% drop. This represents a downwards revision of our 2023 steel demand growth rate estimate by around 5 percentage points from our previous forecast made in October 2023. Chinese steel demand in Q4 last year had indeed been weaker than what we expected back in October 2023. However, indicators of major steel using sectors suggest that the actual steel demand was better than the estimated ASU.

Our projections for the world excluding China suggest a broad-based growth in steel demand at a relatively strong level of 3.5% per annum over 2024-25.

- India has emerged as the strongest driver of steel demand growth since 2021, and our projections suggest Indian steel demand will continue to charge ahead with 8% growth in its steel demand over 2024 and 2025, driven by continued growth in all steel using sectors and especially by continued strong growth in infrastructure investments. In 2025, steel demand in India is projected to be almost 70 million tonnes higher than in 2020.
- Other emerging parts of the world such as MENA and ASEAN are expected to show accelerating growth in their steel demand over 2024-2025 after a significant slowdown over 2022-2023. We observe that mounting difficulties in the ASEAN region, such as political instability and erosion of competitiveness, might lead to a lower trend steel demand growth going forward.
- The developed world is also expected to show a strengthening recovery with 1.3% in 2024 and 2.7% in 2025, as we expect to see steel demand finally showing a meaningful pick up in the EU in 2025 and continued resilience in the US, Japan, and Korea.

In our opinion the EU (and the UK) remains the region currently facing the biggest challenges. The region and in particular its steel using sectors are challenged on a multitude of fronts – geopolitical shifts and uncertainty, high inflation, monetary tightening and partial withdrawal of fiscal support, and still high energy and commodity prices. The persistence of these downside factors resulted in a major drop in the region's steel demand in 2023 to the lowest level since the year 2000 and to substantial downward revisions of the forecast for this year. After only a technical rebound in 2024, the region's steel demand is expected to finally show a meaningful recovery with a 5.3% growth in 2025. The forecasted steel demand for the EU in 2024 is only 1.5 Mt higher than the pandemic trough in 2020.

In stark contrast with the EU, US steel demand continues to show healthy steel demand fundamentals. The

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## News Update

country's steel demand is expected to quickly return to growth path in 2024 after a sharp drop led by housing market slowdown in 2023 thanks to strong investment activity, which received a boost from the Inflation Reduction Act and a gradual recovery in housing activity. Steel using sector trends

We observed that a residential construction downturn driven by high interest rates and high construction costs have dragged down steel demand across most major steel using regions.

In 2023 we saw sharp drops in housing activity in the US, China, Japan and the EU, and weakness in housing activity is expected to stretch well into 2024 in most major markets on the lagged impact of monetary tightening. A meaningful recovery in residential construction is expected to begin only from 2025 onwards.

Weakness in global manufacturing activity on high costs and uncertainties, tight financing conditions and weak global demand also hampered global steel demand in 2023. Leading indicators suggest the start of a recovery in global manufacturing activity in 2024. Automotive was the notable exception to overall weakness in manufacturing, as the sector finally showed the long-awaited strong recovery in 2023 on pent-up demand and easing supply chain constraints. Following a year of strong double-digit growth in all major auto producing countries, we expect to see the sector showing weak growth at best in 2024 in most of them.

Strong investment activity in manufacturing facilities and public infrastructure have underpinned global steel demand in 2023. Investment in manufacturing facilities is driven by major economies' ambition to develop strategic sectors and ensure supply security for strategic components and materials against a backdrop of increasing geopolitical tensions. We believe that the green transition of the world economy, which requires an economic transformation of unprecedented magnitude and scope, is one of the major factors behind the strength in public infrastructure investments. For example, a recent Economics Committee study estimated that global steel demand for new wind energy installations will triple by 2030 to around 30 Mt when compared with early 2020s. While the share of steel demand for wind energy installations will remain relatively low in total global demand, it may give quite a noticeable support to overall steel demand in certain regions such as Europe.

We find it also important to note that public infrastructure investments aiming to reinforce infrastructure against rising climate change risks and reconstruction of areas hit by natural disasters were major factors supporting steel demand in some major steel using countries in 2023 (e.g. Japan, China, Korea, Turkey).

We expect to see continued strength in investments in public infrastructure and manufacturing facilities. However, we also observe that high construction costs and labour shortages emerge as major constraints for many major economies, and this might constrain further growth in public infrastructure and manufacturing facility investments in the short-term.

### Risks

We observe that risks have moderated since our last update in October 2023 and are balanced.

On the upside, we believe that a faster than expected disinflation accompanied by further monetary policy easing could provide a significant boost to steel using sectors, particularly housing construction. We also believe that an acceleration in global decarbonisation efforts or in efforts to strengthen public infrastructure against rising climate change risks are significant positive risks that can support global steel demand going forward.

On the downside, we observe that further escalation in geopolitical tensions, inflationary pressures proving more persistent than expected, and high and rising public debt levels triggering fiscal consolidation in major economies are significant risks that certainly have the potential to slowdown the ongoing economic recovery or even derail it.

## **POSCO Named World Steel Association's Sustainability Champion for Third Consecutive Year**

POSCO was selected as the Sustainability Champion for the third consecutive year at the semi-annual member meeting of the World Steel Association, which was held in London, UK, on April 9 (local time).

The World Steel Association has been awarding the title of Sustainability Champion since 2018 to member companies leading the steel industry in carbon neutrality and ESG initiatives. This year, 11 companies achieved this distinction, with POSCO earning the honor three times in a row since its first award in 2022.

To be named a Sustainability Champion, companies must fulfill four critical criteria: signatory to the Sustainable Development Charter, finalist in the Steelie Awards or the Safety & Health Recognition, publication of a sustainability report, and submission of sustainability data including Life Cycle Inventory (LCI) emissions data for materials and processes. Companies that meet these requirements are recognized as exemplary leaders in global ESG management.

In addition to meeting all four conditions, POSCO was recognized for its low-carbon transition efforts, including the introduction of electric arc furnaces and investments in Hydrogen Reduction Ironmaking Technology (HyREX), as well as new initiatives such as the establishment of a group safety council and a supply chain management council. These achievements have solidified POSCO's status as a Sustainability Champion for the third consecutive year.

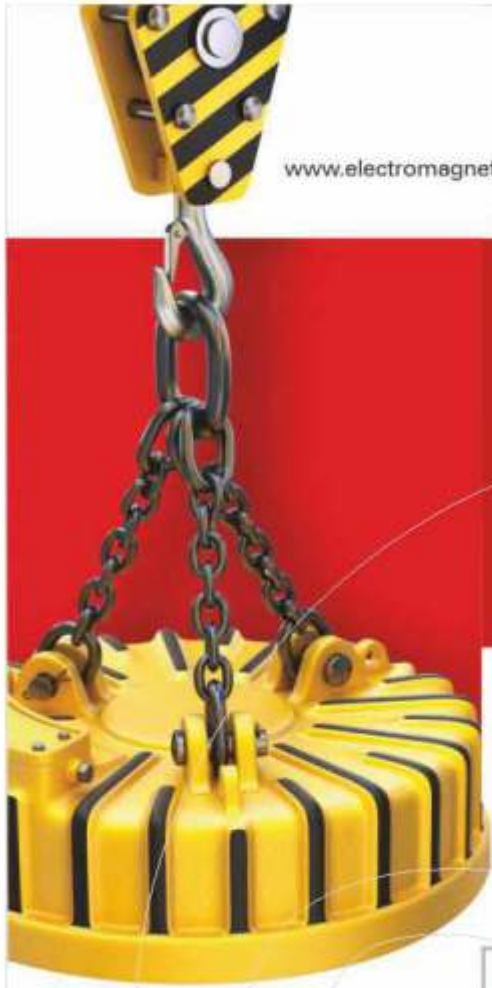
Furthermore, POSCO has been ranked as the most competitive steelmaker in the world by World Steel Dynamics for 14 consecutive years and continues to spearhead the global steel industry's transition to carbon neutrality with innovations like its proprietary HyREX technology and the application of low-carbon bridge technologies.

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## News Update

### Global steel output declined by 4.3% over the year

Global steel production in March 2024 fell by 4.3% compared to the same month in 2023 – to 161.2 million tons. The figure increased by 8.3% compared to February. This is evidenced by the global ranking of 71 steel-producing countries by the World Steel Association. Total steel production in the CIS+Ukraine increased by 1.5% over the month compared to March 2023 and by 16.4% m/m – to 7.8 million tons, including 15.8% y/y and 14.9% m/m – to 611 thousand tons in Ukraine. In January-March 2024, global steel production increased by 0.5% compared to the same period in 2023 – to 469.1 million tons. In the CIS+Ukraine region, the figure increased by 1.6% y/y – to 21.8 million tons.

Crude steel production by region

Africa produced 1.9 Mt in March 2024, up 1.1% on March 2023. Asia and Oceania produced 118.3 Mt, down 5.8%. The EU (27) produced 11.6 Mt, down 4.3%. Europe, Other produced 3.9 Mt, up 11.0%. The Middle East produced 4.8 Mt, up 4.0%. North America produced 9.5 Mt, down 1.4%. Russia & other CIS + Ukraine produced 7.8 Mt, up 1.5%. South America produced 3.5 Mt, down 0.2%.

In particular, Ukraine increased steel production by 36.6% y/y over 3 months – to 1.69 million tons. The top ten steel-producing countries in March, according to World Steel, were:

The 71 countries included in this table accounted for approximately 98% of total world crude steel production in 2023.

Regions and countries covered by the table:

- Africa: Algeria, Egypt, Libya, Morocco, South Africa, Tunisia
- Asia and Oceania: Australia, China, India, Japan, Mongolia, New Zealand, Pakistan, South Korea, Taiwan (China), Thailand, Viet Nam
- European Union (27): Austria, Belgium, Bulgaria, Croatia, Czechia, Finland, France, Germany, Greece, Hungary, Italy, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden
- Europe, Other: Macedonia, Norway, Serbia, Türkiye, United Kingdom
- Middle East: Bahrain, Iran, Iraq, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, Yemen
- North America: Canada, Cuba, El Salvador, Guatemala, Mexico, United States
- Russia & other CIS + Ukraine: Belarus, Kazakhstan, Russia, Ukraine
- South America: Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela

### Arcelormittal Nippon Steel India in talks for \$1 bn loan to fund growth

Arcelormittal Nippon Steel (AM/NS) India, a joint venture between two of the world's leading steel makers, is in talks with banks to raise about Rs 8,500 crore (\$1 billion), according to people familiar with the matter, in what could be the biggest local-currency loan this year to fund the firm's expansion.

At least three lenders including State Bank of India, ICICI Bank, and Axis Bank would be participating in the syndicated deal, with proceeds to be used for capital expenditure, said the people who asked not to be identified for discussing private information.

SBI, India's top bank, could lend more than half of the loan, which may carry a tenor longer than five years and be priced against a local interest rate benchmark, they said, adding that details of the lending facility are not finalised and may change.

If the deal materialises, it would be the country's largest rupee-denominated loan in 2024 so far, Bloomberg-compiled data show. India's fourth-biggest manufacturer of flat steel – used in everything from consumer goods to cars – is seeking to ramp up capacity as a widely-anticipated reelection by Prime Minister Narendra Modi may spur infrastructure spending in the world's most-populated nation.

ArcelorMittal Nippon Steel India, State Bank of India, ICICI Bank and Axis Bank did not immediately reply to e-mailed requests seeking comment.

The steel firm had earlier held loan negotiations with a few other lenders but they couldn't agree on the cost of funding, said the people.

The company is a joint venture between major steelmakers ArcelorMittal South Africa Ltd. and Japan's Nippon Steel Corp. It's India's fourth-biggest flat steel producer with an annual capacity of 8.8 metric tons as of March 2023, according to Crisil Ratings, a local credit risk assessor.

Building and construction makes up 39% of India's total steel demand, with infrastructure at 27%, engineering and packaging at 21% and automotive at 12%, respectively, a Bloomberg Intelligence analysis shows.





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### **Ovako and FNsteel partner on low-carbon wire rod production**

Ovako and FNsteel has signed a major partnership, starting in 2025, to enhance Europe's wire rod production with a focus on reducing carbon intensity.

The partnership will leverage Ovako's manufacturing processes at its Smedjebacken mill, and will see the mill managing the production flow of the low carbon footprint steel raw material used by FNsteel to manufacture premium wire rod through the company's processing facility. The contract will last for a minimum of two years, commencing in 2025.

"After an extensive period of joint testing and quality assurance measures, we are confident that Smedjebacken is well-equipped to supply FNsteel with substantial volumes of the highest quality", said Nicholas Källsäter, president, the business unit SmeBox. "Together, FNSteel and Ovako Smedjebacken are well positioned to deliver bespoke processed products with leading CO<sub>2</sub>-performance to the market", Nicholas concluded.

Marcus Hedblom, president and CEO of Ovako, stated: "This collaboration is not just about producing steel. It's about reshaping our industry's future. FNsteel's leadership in driving this change is remarkable, and together, we are setting the course for a more sustainable steel production landscape."

FNsteel's managing director, Matthijs van der Schoot, echoed this sentiment, added: "Our commitment to sustainability is unwavering. This partnership with Ovako is an exciting milestone on our journey, which will allow us to produce low-embodied carbon wire rod products from our processing facility. FNsteel is proud to take this step towards a more sustainable future."

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### **ArcelorMittal and Polmotors partner to lower automotive supply chain emissions**

ArcelorMittal Europe – Flat Products and Polmotors, supplier to the automotive industry, have signed a memorandum of understanding (MOU) that is focused on reducing CO<sub>2</sub> emissions in the supply chain as well as using XCarb® solutions.

The MOU between ArcelorMittal Europe – Flat Products and Polmotors strengthens the longstanding partnership between the two companies, as well as broadening the scope of the partnership by creating a long-term supply relationship. With this commitment to broadening the use of XCarb® solutions, ArcelorMittal's low carbon-emissions steel, ArcelorMittal and Polmotors are working on a common goal: to reduce the environmental impact of steel used in the automotive supply chain.

The MOU focuses on the two companies exploring ways of reducing scope 3 emissions, as well as increasing and testing the use of recycled steel in low-carbon emissions products. It also commits both companies to increasing

the proportion of XCarb® products used in the supply chain.

*"It is thanks to the collaboration with our customers that we will achieve our goal of reducing CO<sub>2</sub> emissions within Europe by 35% by 2030, and reaching net-zero by 2050."*

*Paul Brettnacher – CMO automotive, packaging and electrical steels, ArcelorMittal Europe – Flat Products*

Paul Brettnacher, CMO automotive, packaging and electrical steels, ArcelorMittal Europe, Flat Products, said:

"This collaboration further reinforces our common approach to sustainability projects. It is thanks to the collaboration with our customers that we will achieve our goal of reducing CO<sub>2</sub> emissions within Europe by 35% by 2030, and reaching net-zero by 2050. ArcelorMittal Europe – Flat Products will support Polmotors to be a decarbonization leader in the automotive industry".

*"This commitment is an important step towards achieving this objective: the mission of Polmotors is to create products that are lighter, safer and which have a reduced environmental impact, with the support of ArcelorMittal."*  
*Maciej Grabos - vice president of Polmotors*

Maciej Grabos, vice president of Polmotors, added: "Our Group, as a partner to the automotive industry leaders, is playing an important role in the development of products and technologies for the creation of body structures for modern vehicles. Our objective is to be a pioneer in the generation, industrialization, and assembly of high-tech steel products, in order to provide customers with tailor-made services and solutions and to become their point of reference in terms of product excellence. This commitment is an important step towards achieving this objective: the mission of Polmotors is to create products that are lighter, safer and which have a reduced environmental impact, with the support of ArcelorMittal."ranter secures order to supply DRI plant

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### **Heat exchanger supplier Tranter has secured an order for a direct reduced iron (DRI) plant set to be constructed in Germany.**

The DRI plant, says Tranter, will reduce the carbon footprint of a traditional steel plant significantly by using green hydrogen and carbon capture.

Tranter's plate and frame heat exchangers will be used in the process to capture and separate the carbon dioxide coming from the energy intense steel production process. The order is for four large plate and frame heat exchangers in stainless steel with extra hard EPDM gaskets that will be used for heat recovery in the removal process of CO<sub>2</sub> from a gas stream, carried out by absorption in a continuous process with regenerable solvents.

"The subject of effective heat exchangers is getting more and more attention in the industry. The fact that our



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## News Update

products are key components for the world to reach their NetZero goals by 2030 is both encouraging for our own workers and makes us feel proud about our company and our product," said Thomas Cassirer, director, global energy segment, Tranter.

Tranter's heat exchangers will operate as lean/rich solvent interchanges and the lean solvent heat exchanger is part of the amine preparation before and after the carbon dioxide absorption.

"Tranter's vast experience in amine applications and references on what special materials work well in the process was a key factor to gain the customer's trust. Tranter's local presence with our factory in Sweden and our service center in Germany was considered an added value for the end-user, making Tranter the first-choice provider for plate heat exchangers in this important project," added Fredrik Nyström, sales manager, EPC Europe.

The heat exchangers were ordered by an Italian EPC contractor in the metal and mining industry and will be manufactured in Tranter's factory in Vänersborg, Sweden.

### **Salzgitter commissions new scrap shredder**

Salzgitter AG has commissioned the construction of a new shredder plant for scrap metal.

The construction of the facility on the integrated steelworks site in Salzgitter, directly adjacent to the SALCOS® plants currently under construction, will cost a total of around €30 million, and enable the processing of high-quality scrap grades. The new facility represents a further building block for the production of 'green steel' as part of SALCOS® - Salzgitter Low CO<sub>2</sub> Steelmaking.

The partners involved in the construction of the new shredder are the Düsseldorf-based machine and plant manufacturer Lindemann GmbH and the Belgian company Lybover. Both companies will support Deutsche Erz- und Metall-Union GmbH (DEUMU), which is developing 4 SALCOS® scrap grade, during the construction of the 189 metre long and 66 metre wide facility.

Sandrina Sieverdingbeck, managing director, DEUMU, stated: "In committing this investment, our aim is to strategically realign our scrap management at the Salzgitter site. We are thereby aiming to expand our scrap recycling based on high-quality steel scrap in order to enable the future production of low CO<sub>2</sub> steel. Proceeding in this way, we are creating the conditions to ensure the Group's scrap supply in the future, both in terms of quantity and quality."

The commissioning of the new unit is timed to coincide with the start of the first stage of the SALCOS® - Salzgitter Low CO<sub>2</sub> Steelmaking transformation program in 2026. The conversion of steel production at the Salzgitter site is to be completed by the end of 2033.

Gunnar Groebler, chairman of the executive board of

Salzgitter AG, commented: "We know that - driven by the circular economy - the global demand for scrap is set to increase significantly. Demand for high-quality steel scrap will trend upwards, particularly due to the increasing electrification of steel routes for CO<sub>2</sub>-reduced steel worldwide. The processing of these scrap grades from old scrap will then be enabled primarily by modern shredding and sorting systems. Consequently, the new shredder is an investment in product quality and, above all, serves to secure our own requirements."

### **Nippon Steel Corporation will use ENERGIRON® technology to conduct experimental operation of reduced iron with hydrogen.**

Tenova, part of the Technint Group and a leading developer and provider of sustainable solutions for the green transition of the metals industry, was recently awarded a contract for an Experimental Direct Reduction plant (EDRP) operated by Nippon Steel Corporation, and entrusted by the New Energy and Industrial Technology Development Organization (NEDO). Nippon Steel Corporation is Japan's largest steelmaker and one of the world's most prominent steel producers. The plant will be installed in the Hasaki R&D Centre of Nippon Steel Corporation.

In line with the aims and objectives of NEDO's Green Innovation Fund, the facility will be used to demonstrate and test the development of direct hydrogen reduction technology for reducing low-grade iron ore with hydrogen alone and the development of technology for direct hydrogen reduction.

"With this contract, it has been confirmed once again that ENERGIRON® is the best available cutting-edge technology for DRI plants," said Stefano Maggiolino, Tenova HYL President & CEO. "We are delighted to contribute to this project and supply the very first experimental direct reduction plant fed by hydrogen in Japan".

The project is being undertaken by a consortium formed by Nippon Steel Corporation, JFE Steel Corporation, and the Japan Research and Development Centre for Metals.

The DR plant, based on the ENERGIRON® Direct Reduction (DR) technology, jointly developed by Tenova and Danieli, will use hydrogen as reducing gas, although, it will retain the flexibility to use different gases in any combination or proportion. To this end, the plant will be equipped with Tenova's signature CO<sub>2</sub> capture equipment that will curb overall CO<sub>2</sub> emissions when the plant operates with mixes of gases containing carbon.



### **Danieli Corus receives an order from AMNS for a new greenfield pellet plant**

Indian steel producer ArcelorMittal Nippon Steel (AMNS) has awarded Danieli Corus an order for a new greenfield pellet plant project, to be constructed at the steelmaker's Visakhapatnam site, in India.

Pelletizing plant #3 is part of the company's expansion program, which also includes the greenfield Hazira blast furnace projects that are currently under execution by Danieli Corus.

The new pellet plant will have a 504 m<sup>2</sup> reaction area (4x126 sqm) and will produce blast furnace and DR grade pellets as feedstock for production sites operated by AMNS elsewhere within the country. The scope of the project includes design, supply, and installation supervision for the major/key equipment for the green pelletizing and induration areas, as well as smart digital tools.

This will be the first pelletizing plant for Danieli Corus in India in the company's approximate four decades of business in the country. The new pelletizing plant is planned to start operation in 2027.

### **SSAB to replace Luleå blast furnace with fossil-free mini mill**

SSAB's Board of Directors have announced plans to build a 'state-of-the-art fossil-free mini-mill' in Luleå, Sweden, which will replace the current blast furnace-based production system when completed.

This will reduce Sweden's CO<sub>2</sub> emissions by 7% in addition to the 3% from the Oxelösund mill conversion, the steelmaker claims.

The new Luleå mill will have a capacity of 2.5 Mt/yr and consist of two electric arc furnaces, a direct strip rolling mill to produce SSABs speciality products, and a cold rolling complex to serve the mobility segment. The new mill will be supplied with a mix of fossil free sponge iron from the Hybrit demonstration plant in Gällivare and recycled scrap. "The transformation of Luleå is a major step on our journey to fossil-free steel production. We will remove 7% of Sweden's carbon dioxide emissions, strengthen our competitive position and safeguard jobs with the most cost-effective and sustainable strip production in Europe," said SSAB's president and CEO Martin Lindqvist.

The total mini-mill investment is estimated to reach €4.5 billion including contingencies. The plan is to fund the investment with own cash flows and within SSAB's financial targets.

"Together with our partner LKAB we are committing to eliminate the CO<sub>2</sub> emissions from our value chain and establish the new benchmark technology for a fossil-free future. In the process we are also safeguarding Nordic industrial competitiveness for decades to come, and supporting the thousands of customers that rely on quality steel from our value chain," Martin Lindqvist concluded.

**US Steel signs carbon capture agreement with CarbonFree "US Steel is setting a precedent for how manufacturers can and must proactively manage their carbon emissions, and CarbonFree is honoured to play a role in this legacy," said Martin Keighley, CEO of CarbonFree. "At CarbonFree, we are pioneering profitable carbon capture utilization through disruptive specialty chemical manufacturing using waste carbon dioxide as a primary feedstock. As carbon capture continues to be recognized as an indispensable solution on the path to carbon neutrality for carbon-intensive industries, we look forward to helping US Steel achieve its decarbonization goals while providing economic and environmental benefits to the city of Gary and state of Indiana."**

In addition to capturing carbon dioxide, CarbonFree will use slag produced by the blast furnace operation as part of the calcium carbonate production process.

"Innovating to capture carbon at an integrated mill is the latest example of how steel is enabling a more sustainable future," said Scott Buckiso, senior vice president and chief manufacturing officer, US Steel. "Moreover, US Steel has a history of 'firsts' that we're confidently building on. Using SkyCycle technology for the first project of its kind in North America should benefit the community for generations to come."

**US Steel and CarbonFree, supplier of carbon capture technology, have signed a definitive agreement to capture carbon emissions generated from the North American steelmaker's Gary Works blast furnaces in a first-of-its-kind project.**

The project will use CarbonFree's SkyCycle™ technology to capture and mineralize up to 50kt of carbon dioxide per year, equivalent to emissions produced by nearly 12,000 passenger cars annually.

Construction on the SkyCycle plant in the Gary Works facility is expected to commence later this year, with operations projected to begin in 2026. The agreement has a term of 20 years following its in-service date.

CarbonFree's patented SkyCycle solution captures carbon emissions from hard-to-abate industrial sources before they enter the atmosphere and converts them into a carbon-neutral version of calcium carbonate.



## Domestic passenger vehicle sales rise by 11% in February – SIAM

As per the recent month data published by Society of Indian Automobile Manufacturers (SIAM) reported sharp increase in Passenger vehicle sales by 11 percent year-on-year jump in dispatches to dealers in February, as sports utility vehicles (SUVs) continued to drive demand. It was the highest-ever February dispatch by car manufacturers. Total dispatches of passenger vehicles (PVs) to dealerships stood at 370,786 units in February, 10.8 per cent higher than 334,790 units sent in February last year, data from the Society of Indian Automobile Manufacturers (SIAM) revealed.

Three-wheeler sales in February were at 54,584 units, up 8.3 percent. Two-wheelers continued their growth path selling 15,20,761 units in February, which was a sharp 34.6 percent jump. But the sales of commercial vehicles (CVs) remained muted. It saw a 0.7% decline in the wholesale volumes in February.

Vinod Aggarwal, President, SIAM said, "Passenger vehicles, two-wheelers, and three-wheelers have posted growth in February 2024 compared to the previous year,

while commercial vehicles have witnessed a slight de-growth. Overall robust GDP growth of the country in Q3 of 2023-24 has helped the auto sector.

The Bharat Mobility Global Expo 2024 held in February 2024, graced by the Hon'ble Prime Minister, has also created a strong positive sentiment for the consumers and therefore the industry expects the growth momentum to continue."

SUVs, meanwhile, remained the major growth driver. Mahindra and Mahindra said on Monday that its SUV sales in the domestic market jumped 40 percent in February. PV exports have grown by 20.5 percent, while two-wheeler exports have grown by 39.5 percent.

Honda Motorcycle & Scooter India's (HMSI) scooter exports have more than doubled from 13,365 units in February 2023 to 28,008 units in February 2024. Hero MotoCorp's motorcycle exports have also nearly doubled to 22052 units this February from 11689 units last February.

### Domestic Sales: Monthly

Category Segment/Subsegment	Domestic Sales (In Nos.)	
	February	
	2023	2024
<b>Total Passenger Vehicles<sup>3</sup></b>	<b>3,34,790</b>	<b>3,70,786</b>
<b>Three Wheelers</b>		
Passenger Carrier	38,777	42,582
Goods Carrier	8,711	10,013
E-Rickshaw	2,615	1,509
E-Cart	279	480
<b>Total Three Wheelers</b>	<b>50,382</b>	<b>54,584</b>
<b>Two Wheelers</b>		
Scooter/ Scooterettee	3,91,054	5,15,340
Motorcycle/Step-Throughs	7,03,261	9,64,362
Mopeds	35,346	41,059
<b>Total Two Wheelers</b>	<b>11,29,661</b>	<b>15,20,761</b>
<b>Quadricycle</b>	<b>107</b>	<b>36</b>

<sup>3</sup> BMW, Mercedes, JLR & Volvo Auto data are not available. Tata Motors Domestic Sales data included only in "Total PV", detailed break-up is not available. However, without Tata Motors, "Total PV" would be 2,91,928 for February 2023 and 3,19,519 for February 2024



SIAM						
Segment wise Comparative Production, Domestic Sales & Exports data for the month of February 2024						
(Number of Vehicles)						
Category Segment/Subsegment	Production		Domestic Sales		Exports	
	February		February		February	
	2023	2024	2023	2024	2023	2024
<b>Passenger Vehicles (PVs)*</b>						
Passenger Cars	1,69,826	1,51,538	1,42,201	1,15,937	25,207	31,440
Utility Vehicles (UVs)	1,58,602	2,21,965	1,38,238	1,91,435	19,512	21,819
Vans	11,550	13,248	11,489	12,147	140	784
<b>Total Passenger Vehicles (PVs)</b>	<b>3,37,978</b>	<b>3,86,741</b>	<b>2,91,928</b>	<b>3,19,519</b>	<b>44,859</b>	<b>54,043</b>
<b>Three Wheelers</b>						
Passenger Carrier	56,978	65,687	38,777	42,582	19,386	25,203
Goods Carrier	8,191	10,797	8,711	10,013	254	638
E-Rickshaw	2,516	754	2,615	1,509	-	-
E-Cart	407	567	279	480	-	-
<b>Total Three Wheelers</b>	<b>68,092</b>	<b>77,805</b>	<b>50,382</b>	<b>54,584</b>	<b>19,640</b>	<b>25,841</b>
<b>Two Wheelers</b>						
Scooter/ Scooterette	4,40,901	5,67,463	3,91,054	5,15,340	33,378	47,364
Motorcycle/Step-Throughs	8,72,062	12,19,447	7,03,261	9,64,362	2,01,097	2,80,142
Mopeds	35,706	42,624	35,346	41,059	612	576
<b>Total Two Wheelers</b>	<b>13,48,669</b>	<b>18,29,534</b>	<b>11,29,661</b>	<b>15,20,761</b>	<b>2,35,087</b>	<b>3,28,082</b>
<b>Quadricycle</b>	<b>452</b>	<b>331</b>	<b>107</b>	<b>36</b>	<b>348</b>	<b>458</b>
<b>Grand Total</b>	<b>17,56,191</b>	<b>22,94,411</b>	<b>14,72,078</b>	<b>18,94,900</b>	<b>2,99,934</b>	<b>4,08,422</b>

\* BMW, Mercedes, JLR, Tata Motors and Volvo Auto data is not available  
Society of Indian Automobile Manufacturers (12/03/2024)

SIAM						
Summary Report: Cumulative Production, Domestic Sales & Exports data for the period of April-February 2024						
Report I (Number of Vehicles)						
Category Segment/Subsegment	Production		Domestic Sales		Exports	
	April-February		April-February		April-February	
	2022-23	2023-24	2022-23	2023-24	2022-23	2023-24
<b>Passenger Vehicles (PVs)*</b>						
Passenger Cars	19,72,794	17,88,659	15,79,029	13,98,836	3,72,497	3,91,631
Utility Vehicles (UVs)	19,82,297	24,42,849	17,57,158	22,11,831	2,18,478	2,10,638
Vans	1,28,805	1,32,929	1,25,593	1,33,538	457	7,236
<b>Total Passenger Vehicles (PVs)</b>	<b>40,81,696</b>	<b>43,64,437</b>	<b>34,61,780</b>	<b>37,42,205</b>	<b>5,91,432</b>	<b>6,09,505</b>
<b>Three Wheelers</b>						
Passenger Carrier	6,61,579	7,74,583	3,20,983	5,02,125	3,41,819	2,72,257
Goods Carrier	89,553	1,04,148	86,679	99,864	4,396	3,439
E-Rickshaw	24,641	28,737	23,936	29,595	-	-
E-Cart	3,055	3,407	2,830	3,442	-	-
<b>Total Three Wheelers</b>	<b>7,78,828</b>	<b>9,10,875</b>	<b>4,34,408</b>	<b>6,35,026</b>	<b>3,46,215</b>	<b>2,75,696</b>
<b>Two Wheelers</b>						
Scooter/ Scooterette	51,13,161	58,42,185	47,53,085	53,72,713	3,74,014	4,68,460
Motorcycle/Step-Throughs	1,23,79,726	1,33,19,166	94,14,380	1,06,73,137	30,29,006	26,60,607
Mopeds	3,99,946	4,44,480	4,04,753	4,40,936	3,528	2,232
<b>Total Two Wheelers</b>	<b>1,78,92,833</b>	<b>1,96,05,831</b>	<b>1,45,72,218</b>	<b>1,64,86,786</b>	<b>34,06,548</b>	<b>31,31,299</b>
<b>Quadricycle</b>	<b>2,356</b>	<b>4,196</b>	<b>620</b>	<b>694</b>	<b>1,854</b>	<b>3,536</b>
<b>Grand Total</b>	<b>2,27,55,713</b>	<b>2,48,85,339</b>	<b>1,84,69,026</b>	<b>2,08,64,711</b>	<b>43,46,049</b>	<b>40,20,036</b>

\* BMW, Mercedes, JLR, Volvo Auto data is not available and Tata Motors data is available for April-December only  
Society of Indian Automobile Manufacturers (12/03/2024)









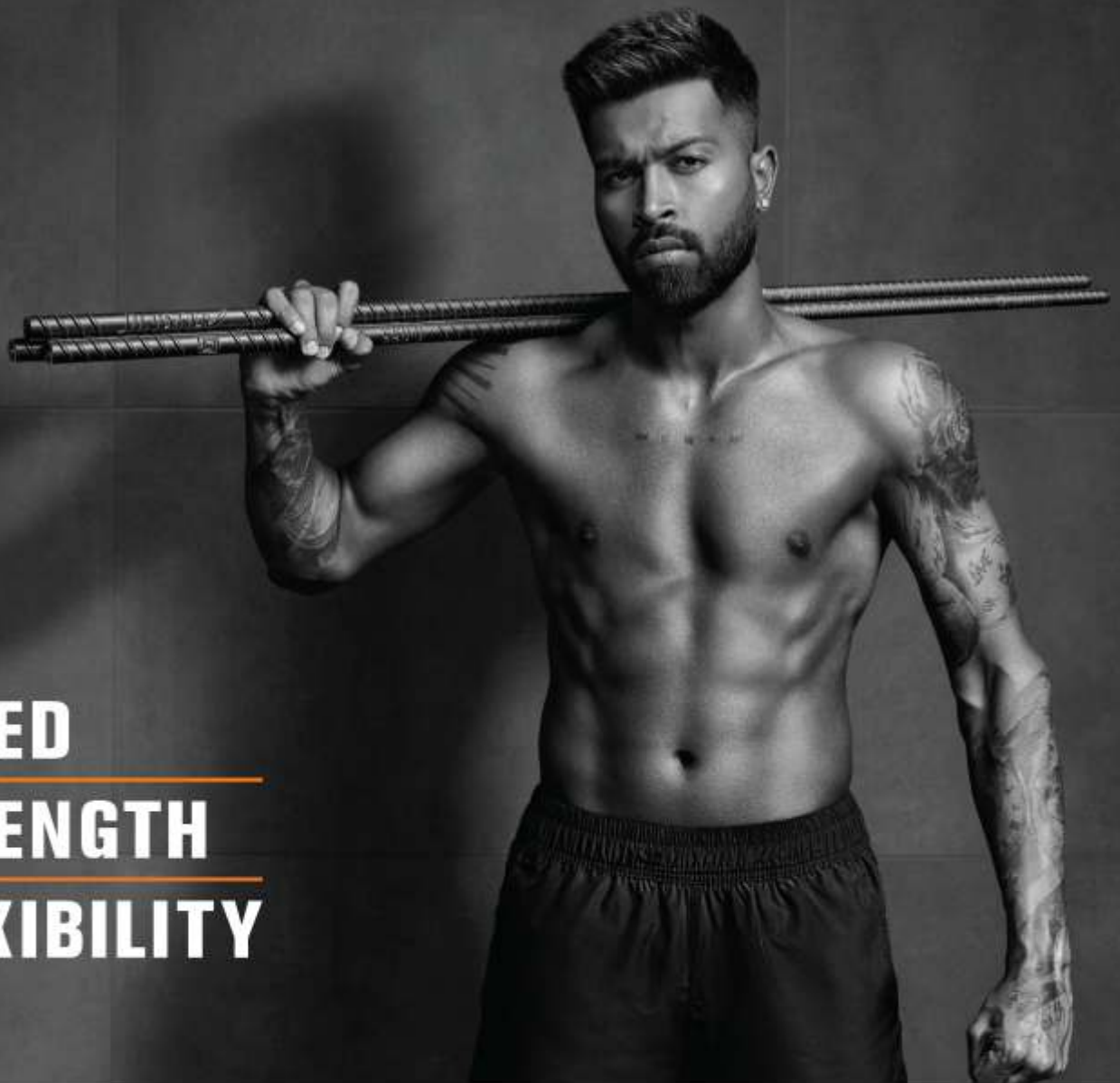
Statistics

SLAM Sub-segment & Company wise Production, Domestic Sales & Exports Report for the month of February 2024 and Cumulative for April-February 2024. Report IV (Number of Vehicles)

SLAM Sub-segment & Company wise Production, Domestic Sales & Exports Report for the month of February 2024 and Cumulative for April-February 2024. Report IV (Number of Vehicles)



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**ELECTROTHERM®**

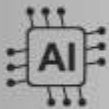
# UNLOCKING EFFICIENCY

**WITH THE IGBT-BASED 48 PULSE,  
28 MW IG-NITE SERIES**

Introducing Electrotherm's groundbreaking **IGBT-based system** with Digital technology & **AI-based control algorithm** - IG-NITE series, **48 Pulse, 28 MW system**. This innovative system is designed to optimize efficiency and performance in metal processing.



## WE OFFER



### Intelligent Control Algorithm:

The IGNITE series utilizes an AI-based control algorithm for precise and efficient operations, ensuring optimal performance.



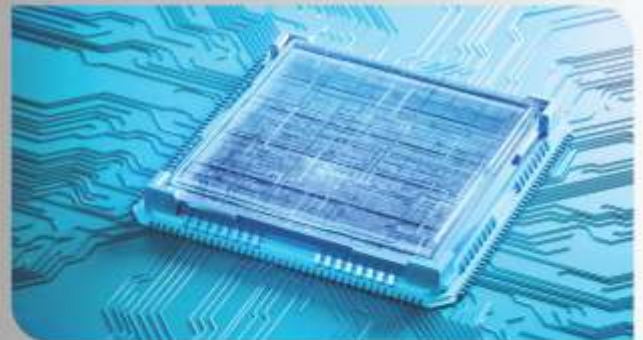
### Efficient IGBT Technology:

Cutting-edge IGBT-based inverter for optimized and superior furnace performance and energy consumption.



### Integrated SCADA:

The system integrates with a centralized SCADA for seamless monitoring and control of critical parameters, enhancing safety and reliability.



## KEY HIGHLIGHTS

- Near unity power factor (>0.98) ensures efficient energy use.
- Constant output maintained within a specified range of input voltage variation.
- Built-in dynamic demand controller for energy-efficient operations.
- Centralized SCADA for real-time monitoring and proactive maintenance.

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