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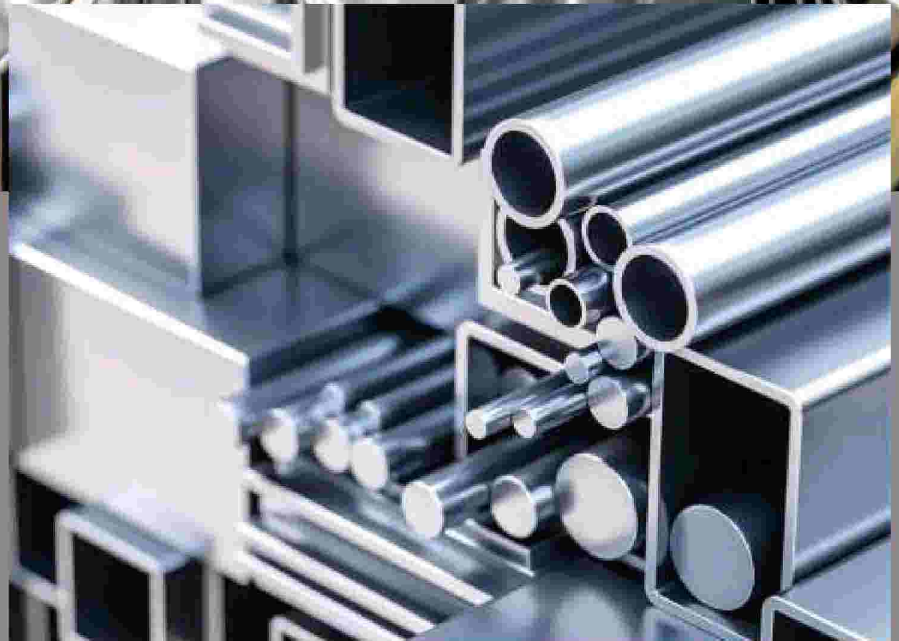
Devoted to Foundry & Non-Ferrous Metals Industry

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Vasudha Singhal
Head - Coal Procurement &
Contracts

■ **Vedanta Aluminium
IWD 2022 – Breaking the
bias for sustainable
tomorrow**

■ **Knowing a Products Actual
Base Cost(= ABC)
This is in a metal castings
business a strategic asset!**

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D. A. Chandekar
Editor

Dear Readers,

As mentioned in my last piece, the metal demand lies outside the metals industry and hence if the government spends and pushes the metals user sectors such as infra, construction, auto etc., it will automatically boost the metals demand in the country. There may be very little direct benefit to metals in the recently announced union finance budget for the fiscal 2022-23, but the fact that it has a bigger outlay for infrastructure than the last year, emphasis on domestic purchases of defence equipment will surely benefit our industry. Further, thrust on MSME sector coupled with PM Awas Yojana, Gati Shakti Yojana would certainly go a long way in creating employment and thus helping the economy wheel move ahead. All this will enhance the purchasing power of the population and will also indirectly support the metals demand curve.

Friends, we must also understand that only creating demand is not enough to drive such a complicated and multi dimensional industry forward. Metallurgical industry has a very long (perhaps the longest) process chain. One has to study the loose links, disruptions at every stage, find a workable, feasible solution and fix them. This will ensure a seamless growth of this elephant like industry of ours. First of all, there are not enough consulting and designing companies

Editorial Desk



which can erect and commission a big metal producing plant. There is a big vacuum in this area. Also, for the last so many years, our industry has been crying for the shortage of technical manpower. Not enough number of metallurgists are produced in the country to support this growing industry. Right from the engineering colleges, the emphasis is on the streams like Computer Science, IT, etc. and most of the engineering colleges don't even have metallurgy stream. Fact is even today, many of the metallurgical plants are run by unqualified workforce. (God bless them). One more important area is technology. I do agree that the big plants are quite updated in this regard but most of the melt shops, rolling mills and processing units are still using primitive technology. In developed countries, metals industry has the mindset of adopting latest technologies. Industry 4.0 or digitalization, which is struggling to enter our industry, is already in use elsewhere. Last but not the least, the spending on research in our country is negligible. Most of the metal producing plants don't even have a research department.

How can our industry progress without all these tools ? is only demand enough for the progress of the industry ? How can we compete in the global marketplace employing unqualified workforce and outdated technology ? Any government can help the industry in only a limited way. The real push has to come from within the industry, isn't it ? ■

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Vedanta Aluminium IWD 2022 – Breaking the bias for sustainable tomorrow



We are rapidly moving towards a lifestyle that promotes diversity, equity, and inclusion in entities. Women are increasingly being recognized as more vulnerable to climate change adaptation, mitigation, and response, to build a more sustainable future for all.

In India, we still find fewer women in sectors that have been traditionally regarded as male dominated along with leadership roles usually taken by men. Thus, in industries such as manufacturing, mining, power, etc., it is very rare for women to rise to leadership ranks and that too through determination and reward of skill and achievement alone. Indeed gender equality can have a great impact on industries

as well as the national economy. Vedanta Aluminium IWD 2022 – breaking the bias for sustainable tomorrow We are rapidly moving towards a lifestyle that promotes diversity, equality and inclusion of entities. Advancing gender equality in the context of the climate crisis and disaster risk reduction is one of the greatest global challenges of the 21st century

The theme for 111th International Women's Day is, 'Gender equality today for a sustainable tomorrow', recognizing the contribution of women and girls around the world, who are leading the charge on positive impact on national GDP as well as social behavior. A McKinsey Global Institute study shows that the

economic impact of achieving gender equality in India is around US \$700 billion of added GDP by the year 2025. For this to become a reality, every organization has to step forward and do their bit at moving firmly and decisively towards breaking the so-called glass ceiling which they might harbour and consciously work for structured diversity and inclusion processes which are, more often than not, lost in translation.

Looking at the Women's rising unconventional roles in Metal Industry on the occasion International Women's Day (IWD), 8th March 2022, which inspire the society to act in the ongoing fight for gender equality. Metalworld Magazine highlighted the Vedanta Aluminium women in the



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conventional leadership and extraordinary accomplishments of women in shaping the country's economy. Metalworld magazine highlights the importance of challenging biases and misconceptions in the interest of creating a more inclusive and gender-equal world.

Vedanta Aluminium which is one of the leading industry players is moving ahead to create a fundamental shift in

talent pool with people who passionately contribute towards India's vision of becoming the world's best aluminium producer. Today, Vedanta Aluminium is one of the most preferred equal opportunity employers in the Indian manufacturing sector. A good work culture can translate the owner's passion into long-term sustainable growth.

Till date, the Metals sector has always been dominated by men, seeing minimum participation from women,

of a manufacturing unit in one of the remotest areas; Procurement Head for metals; to name a few.

With most of these women having origins in small towns across the country where opportunities are slim to none, the determination to continue to defy all odds and break the glass ceiling, is truly remarkable.

Vasudha Singhal is Head of Coal Procurement and Contracts at Vedanta's Jharsuguda unit. Her experience spanning over 13



approach and increasingly level the playing field. Many women at India's largest primary aluminium producer are taking on meaningful and critical job responsibilities at the shop floor as well as strategic decision making positions. This has also deepened our

especially in the floor jobs. However, there are a few women who are breaking all barriers and have successfully established themselves as leaders in these unconventional roles such as: Quality Control Officer for the largest producer of Aluminium in the country; Head, Security

years has seen her master multitude roles in the Aluminum & Copper manufacturing business. Vasudha has crossed the terrains where men do not tread easily, which is at the shop floor at the manufacturing plant of Vedanta. Currently, serving as Head of Coal Procurement



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Face to Face

and Contracts over the last year, she is involved in planning, sourcing, and procurement of commercial parts. She oversees strategic planning and procurement of coal for Vedanta's Jharsuguda unit

Singhal, Head of Coal Procurement and Contracts, Vedanta Aluminium to understand the career opportunities in Vedanta, and its culture in which diversity in all forms is valued and recognised. On this occasion,

was the support from the family ?

I always had a proclivity towards the discipline of engineering, especially something that involved big Industries & Power Plants. So, I pursued graduation as a



to the tune of approximately 20 million tonnes per annum. Her job also entails handling coal auctions, handing out service contracts, collaborating with a range of vendors, assessing their products to fulfil factory requirements, among others.

.On the occasion of IWD-2022, 'Metalworld' Editor D A Chandekar had an exclusive interaction with Ms.Vasudha

Metalworld publication has analysed the Vedanta Group strategy towards the gender equality in a highly male dominated industry and how the group HR professionals are working to reduce the barriers in the progress of female talent.

Excerpts :

1) How did you opt for a career in an engineering company like Vedanta? How

Bachelor of Technology in Electronics Instrumentation and Control which I, fortunately, got to study at the Bikaner Government Engineering College, one of the finest college of Rajasthan. I was no stranger to the frugal representation of women in the metals and mining manufacturing industry and this was further bolstered by the fact that I was not selected by several large players in the



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Face to Face

segment. As I prepared for campus placement exams and interviews, several companies filtered out female candidates from appearing in the exams citing that most job opportunities had male candidacy as one of the mandatory requirements. So, for me, the real challenge was to be seen not through

considerate in every way. My family is my support system and because of them, I have been able to balance my personal and professional life very well.

2) What is your present job profile? What are your future career plans?

As the Head of Coal Procurement and Contracts

collaborations, bench marking and working capital management.

In my journey of more than 13 years at Vedanta Aluminium, I have learnt the nuances of manufacturing and worked in various departments such as Maintenance, Quality Assurance, HSE and Sustainability.



the lens of my gender but to be accepted as a qualified and capable professional.

Vedanta Aluminium was one of the very few companies that allowed female candidates to appear for the placement rounds.

My parents and spouse have always been very supportive of my professional decisions and choices. They always knew that the industry I am in, requires my on-site presence & tours to other cities and so, they have been

Division at Vedanta Aluminium for the past two years, I have been responsible for steering high-impact projects with low-cost production to support the vision of driving sustainability in operations of Vedanta's Aluminium Business. At the operational level, I oversee strategic planning, sourcing, and smooth procurement of coal for Vedanta Aluminium's Jharsuguda unit. I am also responsible for coal auctions, contract negotiations and governance, vendor

Being a go-getter at heart, I believe stepping out of one's comfort zone is key to accepting and mastering new challenges. This outlook has helped me succeed and make a mark for myself at Vedanta Aluminium. I am honoured to have been recognized at the Chairman's Women Leadership Growth workshop and Vice Chairman's Commercial and Marketing Growth workshop.

At Vedanta Aluminium, I have chosen to be a part of the Vice Chairman's initiative of giving growth opportunities to



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Face to Face

women in the organization to become the next generation of CFOs and CXOs. Thus, I look at exploring new opportunities like mining operations at Vedanta Aluminium while also recognising and guiding aspiring female professionals to take up bigger roles in the company. My aim is to encourage other women to diversify their careers and not to bind themselves to soft-skill jobs.

3) What steps Vedanta management is taking to achieve gender equality in the organisation? How is the response to these initiatives?

I am proud to be a part of Vedanta Aluminium as it was the firm that gave me a kickstart in my career based solely on my merit when most other companies were suffering from gender stereotypes. Vedanta Aluminium has one of the highest gender diversity ratios in the metal and mining sector in India and is committed to increase female representation at work, in the classroom and in the community.

Societal empowerment of women and greater gender inclusiveness have long been the purposes of the policies and procedures at work in Vedanta Aluminium. Vedanta Aluminium's practices are pivotal to the upliftment of women as well as in consonance with the United Nations Development Programme and the Sustainable Development Goals (SDGs).

Vedanta Aluminium actively encourages and monitors the progress of female executives throughout the Group. The company aims to develop a pipeline of high calibre talent across the Group through various mentoring and leadership development programmes such as Internal Growth Workshops and V-Connect.

Vedanta Aluminium's progressive policies that include parental leave policy allowing for maternity leave of 26 weeks, adoption leave of 12 weeks and paternity leave of one week ensure greater gender balance in the organisation. Such policies have also resulted in better employee retention, particularly among female employees. Returning mothers also have the flexibility to move to another job profile or continue with the same job role. This allows them to better balance their personal and professional priorities and helps make returning mothers feel more engaged and motivated.

The response to these initiatives is very encouraging and positive in that there are greater number of female employees who are actively taking up more responsible roles and are more willing to diversify, engage, and collaborate professionally. Added to this is the fact that Vedanta Aluminium has a comparatively high female employee association periods which shows that the company is doing well to not

just retain but also train, build healthy employee-employer relationships with, and provide challenging yet nurturing platform to female employees

4) What would be your message/ advice to young female professionals/ working women?

My message to young female professionals is purely from my experiences and learnings. I strongly feel that every woman should be financially independent. It not only boosts their self-confidence but also gives them a purpose to grow further in life. They should follow their passion without falling prey to stereotypes. Be self-dependent and become capable of taking decisions for yourselves both personally and professionally. You must always work your way towards your dreams. Most importantly, you should always choose to associate with an organization that treats you purely on your merit and also respects you as an individual.



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Knowing a Products Actual Base Cost(= ABC) This is in a metal castings business a strategic asset!

Abstract:

In a foundries business, like all competitive businesses, a good customer does not want a great deal nor the best deal. All he wants is a sustainable win-win FAIR deal. And a sustainable win-win FAIR deal is only possible when the supplier knows the right processes and have the expertise to manage the Product Actual Base Cost = ABC. You must know your ABC as it is YOUR strategic asset! This counts ESPECIALLY for metal casting operations!

Introduction:

By definition, ABC covers

all the associated cost of raw metal materials, man-power direct cost, factory overhead, sales and the general administration cost all in a variable and fixed component where applicable. In metal casting we also name it C2C = Cost to Cast, comprising of more than just a BOM (Bill of Material) as it entails a "Bill of Operation", "Bill of involved Machinery", "Bill of Sequence of Work", "Bill of Manpower used" and many more in a precise digital replication (digital twin = resource plan) of the metal casting process.

The Actual Situation:

In most foundries that we



Christian Kleeberg
Managing Partner
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Harry U Chang Eng

have worked with, unfortunately, many do not know their real ABC. This happens because, often times, one fails to recognise that knowing the foundries process and knowing the foundries business are two different things. These two are inter-related and NOT mutually exclusive. If they are treated incorrectly, one may end up either overprice itself out of the market or in the other extreme case, under-price too low to even stay in the business. Many foundries we worked with look for \$/kg pricing on their castings. That merely reflects (sometimes poor) assumptions and does not reflect actual situations



happening daily. The more is assumed the rougher the ABC becomes the less precision is prevailing.

Furthermore, in many foundries and due to the above described situation, they assume they are profitable as at the end of the month the cash flow is positive. However, they forget that maybe only a fraction of castings produced / orders fulfilled really contributed to this, whereas other orders / other castings produced actually created a loss to the operations.

The challenges of determining a product ABC = C2C in foundries business are as per below and is considering all aspects of the main casting process having discontinuous workflow. If foundries put their operations on an integrated digital platform with a seamless reporting chain and fully understand the importance of deploying a digital twin model in their daily operations, then they can easily overcome the described challenges.

The 3 – ABC – C2C Challenges:

#1. Metal Price Volatility:

Metal price volatility, although some degree of adjustment is allowed in some cases, but few in between. With proper database correlation foundries could easily create “raw material price scenario manager” hence be in a position to enhance their resilience against any price volatility. This is easily done when raw material prices are not merely captioned in

an Excel file but in form of an integrated database with automatic and real time adaptations to international price indices as well external sources web-site source (e.g. Steel-Mint, Metalshub, etc.).

When this is done, a metal casting / foundry procurement officer / manager will be in a positive position to even “predict” future trends and counter react in an early fashion / manner since he knows the actual production cost / raw materials consumed and compares easily with the planned figures.

#2. Process Uncertainties:

Process uncertainties associated especially in die-casting where tool life and the die cast machine operating conditions that make them determining a Standard Cycle Time impossible. In sand-casting the material conditions, melt quality, core quality and many more aspects contribute to these uncertainties. The metal casting process is THE ONLY manufacturing process where a product is shaped from a liquid. Hence, it is at times extremely difficult and involving a lot of guess work and numbers by experience, to check on the actual process conditions and accordingly on the process variables. The more this can be standardized again via bringing all on an integrated data platforms the better it is. Planning the process and making the plan precise is one thing. Executing the plan is another.

#3. Labour Cost:

Direct labour cost build-up as secondary process work increases with tool life. E.g. in die-casting extensive deburring and reworks that kill your profit because many times it is not accounted for. In sand casting you would talk about additional fettling and cleaning cost OR in further secondary processes in additional heat-treatment and machining cost. Also here the major principle counts: what you cannot measure you cannot control and the better you plan and better execute the plan the better you will be able to get your labour cost and many others under proper control. This may also involve organizational control at times.

The Solution for ABC = C2C transparency:

Therefore, an Integrated and Continual Process Management (ICPM) tool, driven by high integrity live data is the way forward to minimise the above uncertainties; eliminating surprises that eat into the bottom line, and a scientific way to drive your PVP (Process Value Proposition).

The live data enable you to drill your cost down to each stock keeping unit (SKU) level (effectively that's your multiple BOM-cost, see above) in a timely manner and to benchmark against the ABC = C2C; the result is a clear Price Quote Variance (PQV). Furthermore, with a real time dashboard looking at your inventory in every foundry stage would allow you to minimise SKU levels and provide transparency on never seen before transparency. With this, what we call also “SeW-inventory” (Sequence of Work) you will be able to look at every



Feature

order, at every foundry stage, at every product and at every single piece that is part of your current "rolling" inventory in your operations. Examples have shown that by just providing clear and tangible transparency in this area, real \$\$\$-savings in a magnitude of US\$ 80-100k in one year can be achieved for a typical SME – iron / steel or even die-casting foundry!

Again, production data

replicate the complete manufacturing process of metal casting regardless of die-casting or sand-casting. The information used comprises more than a simple BOM since all labour, machinery, settings, materials and timings are considered and with this you will be able to do all production planning and very much controlling but also much more in a systemic Data Driven Continual

SKU-level and that means your projections will be realistically accurate at all times.

With an accurate ABC = C2C at your disposal means you will have an ACCURATE and PRECISE quotation data and the right tool to manage your daily PnL.

On the other hand, if you still use a Traditional Historic PnL Management, then this will render your effort "too late to correct the train" before it hits the wall.



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METEF 2022

The "infinite" applications of aluminium: the global turnover of the whole sector in Italy exceeds 40 billion euros. To cope with the new challenges, METEF returns to BolognaFiere from 9 to 11 June, at the same time as MECSPE

Sustainability, circular economy and technological innovation are at the forefront of the new edition of METEF, the international expo for the aluminium, foundry and innovative metals industry Milan, February 14, 2022 - From automotive to electronics, from transport to



mechanical processing, up to the construction industry, over the last decades aluminium is more and more used in everyday life and in the industrial field.

A sector with "infinite" end use applications, which in 2021, just for the first productions and transformations in Italy is worth a turnover of 12 billion euros (+30% on 2020), employing more than 15 thousand people¹, and that for the whole chain, including final uses, counts a turnover of more than 40 billion euros². A sector that will play a strategic role in the pursuit of international industrial decarbonisation goals. Aluminium, in fact, besides being cheap, light and flexible, can be recycled and reused indefinitely in production processes, with extraordinary positive effects in terms of circular economy and energy saving. This is done definitely in order to take advantage of the new challenges and opportunities in the sector that METEF, the international expo for the aluminium, foundry and die-casting, transformation, processing, finishing and end-use industries, will be returning to BolognaFiere from 9 to 11 June 2022. The event, now organized by Senaf, will be held at the same time as MECSPE, the most important event dedicated to innovations for the manufacturing industry.

"METEF returns to focus on its role as a national and international driving force to assist SME in the aluminium sector, which make up about 95% of the workforce and over 70% of the turnover of the industry in the European

Union - says Mario Conserva, President of METEF - From Bologna, the new edition of METEF will be projected onto the international scenario and will have to bring together all the players in the supply chain, both national and international, to set up the priorities of this sector. And it will do so by being able to count on the concomitance with the main exhibition for the manufacturing industry, MECSPE, which for years has been a reference point for entrepreneurs who want to innovate production processes."

For 25 years, METEF has been highlighting the main developments in the international light metal industry through a busy program of conferences, events, special initiatives and demonstration activities.

Like the Aluminium Extrusion Forum, the focus on the use of aluminium extrusions in various sectors, from construction to mechanics and transport.

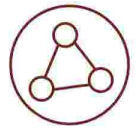
Source CentroAl

² Source A&L Magazine - Aluminium and Alloys

The *Light Alloys Castings Foundry Conference (Convegno Fonderia Getti in Leghe Leggere)* will deal with the current framework and prospects of the aluminium castings foundry through the analysis of the drivers of the industrial, university and institutional scenario.

Looking at the end uses, the automotive sector is of primary importance for aluminium and its alloys, the topic will be the focus of the *Aluminium and Cars Conference (Convegno Alluminio e Auto)* during which the latest news on materials, technologies and applications will be presented against the issues relating to lightening, the availability of raw materials and the relevant regulations.

Aluminium is considered the "metal of the future" in terms of technological flexibility, circular economy and eco-sustainability, all aspects that will be the focus of the *Green Aluminium Conference*, an event that will take place in Bologna with its second stage, in which the main qualities of eco-sustainable aluminium, both primary and



secondary production, will be presented.

Finally, to highlight the work of the key players in the sector, the *METEF Innovation Award* will return in 2022, an international initiative, consolidated for over a decade, which aims to reward the most innovative case histories submitted by enterprises, related to innovation in plants, technologies, products and applications in aluminium and its alloys. The prize, which will be awarded to the winners on the first day of the fair, will be divided into six different categories - materials, machines and plants, technologies and processes, products, components and systems, applications, miscellaneous - and will be awarded by a jury of specialists, who will evaluate the candidatures on the basis of the degree of originality and competitive advantages that the proposed innovations are able to offer, giving priority to aspects of energy saving, eco-sustainability and resource protection. A special prize will also be awarded to projects aimed at decarbonizing the company system as a whole.

"Metef was the first exhibition in the world that grasped the extraordinary development capabilities of aluminium - says Riccardo Ferrario, president of AMAFOND - it is no coincidence that it was born in Italy, which has always been a world leader in materials, technologies and uses of light metal and its alloys. It is for this reason that as AMAFOND, the Italian association of manufacturers of machinery, plants, equipment and products for the foundry industry, we have always participated and supported Metef in all phases of growth and development, starting from the first edition of the fair in 1997. Even more so, we have given our support to the forthcoming Metef 2022 in Bologna, together with Mecspe. Light metal has in fact acquired exceptional importance worldwide among materials for all kinds of applications, both because of its eco-sustainability and because of its strong spread in important segments of industry and economy such as automotive, construction and packaging. The Italian manufacturing industry, the second largest in Europe after Germany, is very connected to and dependent on aluminium, which is why we support a

major international trade fair on the sector like Metef."

In addition to AMAFOND, as usual METEF 2022 will be supported by the main national trade associations such as AITAL (Italian Association of Aluminium Surface Treatment), ASSOFOND (Italian Foundry Association), ASSIRAL (Associazione Italiana Raffinatori alluminio), ASSOMET (National Association of Non-Ferrous Metal Industries), AIM (Italian Association of Metallurgy), ASSOFERMET, CENTROAL (Italian Aluminium Center), CIAL (Consorzio Nazionale Imballaggi Alluminio), and international associations such as ALFED (Aluminium Federation), Association Technique de Fonderie, CMF (Cast Metals Federation), Croatian Foundry Association, EA (European Aluminium Association), FACE (Federation of Aluminium Consumers in Europe), FESA (Foundry Equipment Suppliers Association), GAC (Gulf Aluminium Council), IAI (International Aluminium Institute), OEA (Organisation of European Aluminium Refiners and Remelters), RAA (Russian Aluminium Association), Slovenian Foundrymen Society, STOP (Polish Foundrymen's Association), TALSAD (Turkish Aluminium Industrialist Association), WFO (World Foundry Organization).

About METEF

METEF, the international expo for aluminium, metal foundry and innovative material technologies, first launched in Italy in 1997 by Alfin-Edimet, is now in the portfolio of an equal joint venture of Veronafiere and BolognaFiere and stands as a leading event in the international metallurgical segment, updated in concept, structure and location. METEF, whose organization is entrusted to Senaf, will be held at the same time as MEC SPE, the reference event for the manufacturing industry in Italy. The organisational and structural innovations of the new METEF are aimed at enhancing, in the global market, a sector of extraordinary social and economic importance such as metallurgy and advanced light metal manufacturing, a segment that is undergoing great development and in our country accounts for a turnover of over 40 billion for the whole sector.

For further information

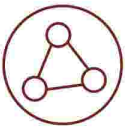
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Vedanta launches green aluminium

Vedanta unveiled two product lines -- Restora (low-carbon aluminium) and Restora Ultra (ultra-low carbon aluminium) -- under the new brand. A company statement said that it is the first major non-ferrous Indian metals producer to manufacture low carbon products (primary aluminium) for customers worldwide, exhibiting a strong step towards its commitment of achieving net zero carbon by 2050. Both products have been verified as low-carbon aluminium post assessment by an independent, global verification assurance firm.

"With Restora, Vedanta Aluminium will address the fast-growing global demand for low carbon aluminium, driven by greater climate consciousness. Vedanta's Restora is being manufactured at the company's world-class aluminium smelter using renewable energy. Restora has a GHG (greenhouse gas) emission intensity that is well below 4 tonnes of CO₂ equivalent (tCO₂e) per tonne of aluminium manufactured -- the global threshold for aluminium to be considered as low carbon aluminium, and Restora Ultra has an even lower carbon footprint that is amongst the lowest in the world," it said.

Speaking about co-creating Restora Ultra,



Annanya Agarwal, co-founder, Runaya, added, "We are delighted to collaborate with Vedanta to create this innovative new product. With near-zero carbon footprint, Restora Ultra is a shining example of the value-creation that happens when we bring together innovation and leading-edge technologies for true business sustainability. Runaya has been working towards disrupting the linear economy model by building in principles of circularity and sustainability into the design of the resources industry." It is a strategic imperative for the company to reduce carbon emissions across every process stage. As a result of this unwavering focus, Vedanta Aluminium has reduced its GHG emissions intensity by 21% in FY21 while almost tripling its production, over FY12 baseline. The company is also a member of the prestigious Dow Jones Sustainability Index (DJSI) family, is ranked 4th amongst global aluminium producers in 2021.

Hindalco PAT jumps 96% in December quarter, stands at Rs 3,675 crore

Hindalco Industries Ltd, Aditya Birla Group's metals flagship company reported a 95.7 per cent jump in consolidated profit after tax (PAT) to Rs 3,675 crore for the quarter ended December 31, 2021.

The results were driven by positive macros and focus on downstream value-added products along with better operating efficiencies. The company had posted a consolidated PAT of Rs 1,877 crore in the year-ago quarter, Hindalco Industries said in a filing to the BSE. Its consolidated revenue from operations during October-December 2021 increased to Rs 50,272 crore, compared with Rs 34,958 crore in the year-ago period, the filing said. "Consolidated PAT in Q3 FY22 rose to a record Rs 3,675 crore from Rs 1,877 crore in Q3 FY21, a jump of 96 per cent y-o-y," the company said.

Its consolidated revenue for the third quarter stood at Rs 50,272 crore, a jump of 44 per cent as against Rs 34,958 crore, Hindalco added. The company said that it reported its highest net profit in Q3 FY22, surpassing all previous quarterly performances.

The results were driven by a consistent performance by Novelis and an exceptional performance by India business, supported by favourable macros, strategic product mix and an improved performance by the downstream business.

"Novelis continued to report consistent quarterly Ebitda despite challenges in the automotive segment due to the global semiconductor chip shortage, unplanned production downtime in South America and supply chain bottlenecks in Asia," it said.

Ebitda stands for earnings before interest, tax, depreciation and amortisation. Hindalco Industries Managing Director Satish Pai said, "Our sustained performance and strong balance sheet are driving our plans for further organic capex (capital expenditure). We have already announced over Rs 3,000 crore investments in our downstream pipeline -- HiraKud and Silvassa, and the acquisitions of Ryker and Hydro's Kuppam units." Novelis has also announced capital projects that align market growth with sustainability considerations, Pai said. "An example is the USD 365 million closed-loop recycling and casting centre for the North American market. Budget 2022 made clear the Indian government's intent and impetus on infrastructure," he said.

Pai also said the company expects a surge in demand for aluminium and copper and is well-positioned to serve the market.

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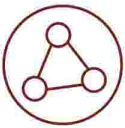
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Crisil upgrades Vedanta's credit rating; outlook revised to stable

Crisil has upgraded its rating on the long-term bank facilities and debt instruments of Vedanta Ltd to 'AA'. Instruments with this rating are considered to have high degree of safety regarding timely servicing of financial obligations. Such instruments carry very low credit risk.

"Crisil Ratings has upgraded its rating on the long-term bank facilities and debt instruments of Vedanta Ltd ...to 'CRISIL AA' from 'CRISIL AA-', and has revised the outlook to 'Stable'. "The short-term rating on bank facilities and commercial paper has been reaffirmed at 'CRISIL A1+', it said.

Vedanta Aluminium business to bring two mines into operation



Vedanta's aluminium business, which has not been impacted majorly by COVID-19, would focus on backward integration in the next fiscal and would bring into production two of its mines in Odisha to provide raw material security for its plants, a top official of the company said.

Vedanta shuts thermal power unit, Gridco in a spot



Vedanta Limited has shut down the second unit of its 4X600 MW Jharsuguda thermal power plant from Sunday last which could have a bearing

on power availability for the State.

Vedanta took the measure shortly after OERC directed the company to supply full quantum of power to the State-owned bulk power supplier Gridco from February 19, 2022 as per its October 5, 2021 order.

"We are going to take VAL TPP Unit-2 shutdown tentatively at 00.00 hrs dated 21.02.2022 due to low coal stock," said an e-mail from Vedanta to the State Load Dispatch Centre (SLDC) minutes before shutting down the second unit.

Hearing an interim petition of Gridco as per the directive

of the Orissa High Court, OERC which earlier rejected a similar petition in its February 19 order said, "Vedanta Ltd. is directed to supply full quantum of power with effect from date of this order i.e. February 19, 2022 forthwith as per para 30(b), (c) and (f) of the OERC order dated October 5, 2021 till end of March 31, 2022 by procuring and utilising linkage/concessional coal available under Unit-II (600 MW) under the valid long term fuel supply agreement FSA pending disposal."

On the strength of OERC order, SLDC immediately intimated the management of the Vedanta Thermal Power Station to submit its day However, the company which was generating and consuming power from Unit II for its own captive use till Sunday, shut down Unit-II citing a shortage of coal stock. This could deprive the State of availing cheapest thermal power and put it in a crisis situation, highly placed sources in the Energy Department said.

Copper prices surge to all-time high as warehouses empty out



The copper price hit an all-time high on Friday as traders looked to stock up over fears of further supply-chain disruption.

Concerns about supply disruption, historically low global stockpiles and rocketing energy costs have lit a fire under base metals, trumping concerns over the longer term impact of the Ukraine invasion on global growth, rising interest rates in the developed world and a slowing economy in China.

Copper for delivery in May rose on the Comex market in New York, touching a high \$4.9490 per pound (\$10,910 per tonne), more than 3% compared to Thursday's closing. The bellwether metal is up 10% since the Russian invasion of Ukraine little over a week ago. Adding to metal supply fears are falling inventories in LME-registered warehouses. Copper stocks, at 69,825 tonnes, are the lowest since 2005.

Base metals rallied across the board with the LME Index, which tracks six major contracts, surging to a

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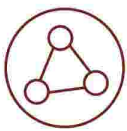
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News Update

record high. Nickel briefly trade above \$30,000 a tonne for the first time since 2008.

"The market is in a panic mode in terms of supply," said Gianclaudio Torlizzi, a partner at consultants T-Commodity, adding prices would keep rising while conflict raged in the Ukraine.

Russia isn't a major copper player, producing about 3.5% of the world's copper. Still, commodities extended their massive rally this week as the war fueled fears of supply crunches.

Sanctions on Russian individuals and corporates have prompted many banks, shippers and other firms to stop working with Russian companies or goods.

"This Russia and Ukraine conflict has only fanned the flames of the already stretched base metals markets," Reuters quoted ING analyst Wenyu Yao:

"All energy prices are through the roof and that will add more risk to production in Europe which will provide the catalyst to a rally."

Chile, responsible for more than a quarter of global copper production, recorded its lowest January output since 2011, government figures showed on Monday. Chilean copper production is expected to recover to register a similar annual haul as last year, according to the president of the country's mining society.

The world's biggest supplier saw output slide 7.5% from January 2021, with lower ore quality and water scarcity among the reasons. In some cases, the factors holding back output are temporary, said Diego Hernandez, a former chief executive of Codelco and Antofagasta Plc, who now heads Sonami.

"This year should be the same as last year or maybe slightly less," he said on call on Thursday.

China's Zinc consumption and inventory are worthy of attention

In terms of SHFE zinc prices, the market should be concerned about zinc concentrate, which is still short of supply. On the smelting side, the expected output in February is relatively low at 453,000 mt. Due to low raw material inventories and poor profits, some small and medium-sized smelters in Hunan province may resume the production later than expected, which will reduce the output in March. At the same time, in light of limited imports and the reduction of long-term imports orders of zinc ingots, the import volume in the first quarter is expected to be low year-on-year. In summary, the pressure on the domestic supply side is not great, and the main concern is that whether the demand will recover in the future. The in-plant raw material inventory across downstream manufactures was at a low level compared

with the previous years, which means that with terminal orders returning and operating rates of downstream enterprises rising, the company's demand for raw materials will be directly reflects on falling social inventories. In the future, the market should focus on the changes of social inventory. The most-traded SHFE contracts prices are expected to stand at 24,800~25,600 yuan/mt this week, spot premiums will stand between 30~80 yuan/mt over the March contract.

Panasonic plans new massive battery plant in U.S. to supply Tesla -NHK



Japan's Panasonic Corp (6752.T) is looking to purchase land in the United States for a mega-factory to make a new type of electric vehicle (EV) battery for Tesla Inc (TSLA.O), public broadcaster NHK reported on Friday.

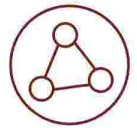
Panasonic is looking at building the factory, to cost several billion dollars, in either Oklahoma or Kansas close to Texas, where Tesla is preparing a new EV plant, NHK reported. NHK gave no timeline for Panasonic's U.S. project.

NHK did not cite the source of its information. Panasonic said the reported plan was not something it announced.

A long-time supplier for Tesla, Panasonic has said it plans to begin mass-producing the new type of lithium-ion battery for Tesla before the end of March 2024 with two new production lines at its western Japanese plant in Wakayama.

The 4680 format (46 millimetres wide and 80 millimetres tall) battery is about five times bigger than those currently supplied to Tesla, meaning the U.S. car maker will be able to lower production costs and improve vehicle range.

Panasonic's relationship with Tesla stretches back more than a decade when Tesla signed an agreement that made the Japanese company its key battery supplier. Since then, Tesla has ramped up production and diversified its supply chain to other firms, including Chinese manufacturers of cheaper lithium iron phosphate (LFP) powerpacks such as Contemporary Amperex Technology Co (CATL) (300750.SZ)



Nalco posts over three-fold jump in December quarter profit at Rs 831 cr

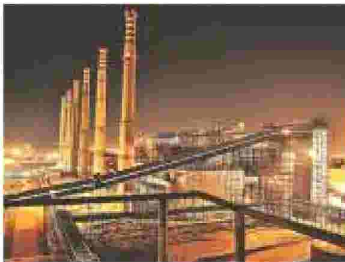


National Aluminium Company Ltd (Nalco) reported its December quarter consolidated profit surged over three times to Rs 830.67 crore. National Aluminium Company Ltd (Nalco) on Monday said its December quarter consolidated profit surged

over three times to Rs 830.67 crore. The company had posted a profit of Rs 239.71 crore for the year-ago period, Nalco said in a filing to BSE. Income during the quarter increased to Rs 3,845.25 crore over Rs 2,414.95 crore in the year-ago period, the filing said.

The company paid final dividend of Rs 1 per equity share amounting to Rs 183.66 crore for 2020-21. With this, the total amount of dividend payout for 2020-21 is Rs 3.50 per equity share -- interim dividend of Rs 2.50 per share and final dividend of Rs 1 per share amounting to Rs 644.27 crore.

India's Hindalco raises October-December alumina output



Hindalco registered a 27pc growth in alumina production during October-December from a year earlier, after the company's expansion project at Utkal Alumina rose to its full capacity.

Hindalco's alumina production rose to 858,000t in the third quarter of the 2021-22 fiscal year ending 31 March. Output for April-December increased to 2.37mn t from 2mn t a year earlier.

Alumina sales during the latest quarter were 100,000t, the company said, adding it was planning to increase sales to 150,000t during the January-March quarter.

The company's expansion project of its 500,000 t/yr refinery at Utkal Alumina in east India's Odisha state started production in the second quarter of 2021-22, taking its alumina capacity to 2mn t/yr from 1.5mn t/yr. Hindalco is further looking to expand alumina capacity by 1mn t by obtaining another mine in Odisha, it said.

The company's aluminium sales rose by 3.2pc from a year to 325,000t during October-December, while aluminium production increased by 3.8pc to 327,000t. Hindalco's April-December aluminium production rose by 6pc to 968,000t, with sales during the same period up by 5pc to 966,000t.

Increased demand from sectors like packaging,

electrical, building and construction, consumer durables, industrial machinery is supporting domestic aluminium consumption, despite automotive demand softness because of a semiconductor chip shortage, Hindalco said. Hindalco's copper cathode output doubled to 102,000t during October-December from 51,000t a year earlier as smelters ran at optimum levels. Output for April-December was 265,000t from 165,000t the previous year. Copper metal sales in the latest quarter increased by 51pc from a year earlier to 110,000t, while sales for April-December rose to 299,000t from 207,000t a year earlier. October-December continuous cast rod output rose by 15pc from a year earlier to 77,000t, while April-December production rose to 190,000t from 158,000t a year earlier. Sales of continuous cast rod in October-December rose by 9pc to 71,000t, while April-December sales rose to 188,000t from 160,000t from the previous year.

Novelis to build \$50 million recycling and casting centre in South Korea



NovelisInc, a subsidiary of Hindalco Industries, will build a USD 50 million (around Rs 373 crore) recycling and casting centre in South Korea to expand

low carbon aluminium production.

Fully funded by Novelis, the Ulsan Recycling Centre will have an annual casting capacity of 100 kilotonne of low-carbon sheet ingot.

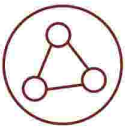
"NovelisInc, the world leader in aluminum rolling and recycling, today announced that it will invest approximately \$50 million to build a recycling centre at its Ulsan Aluminum joint venture in South Korea," Hindalco said in a filing to BSE.

Once online, the company expects the recycling centre to reduce its carbon emissions by more than 420,000 tonne each year.

Construction of the Ulsan Recycling Centre is expected to begin in October and commissioning expected in early 2024.

"This latest capital investment in recycling is another example of our company purpose of 'Shaping a Sustainable World Together' in action," Pierre Labat, Senior Vice President, Chief Strategy and Sustainability Officer, NovelisInc said.

"I am excited by the actions Novelis is taking to increase aluminum recycling worldwide and the benefits this will have for our customers and in making aluminum the preferred material for all the markets Novelis serves," Labat said.



Copper production in Peru up 12.7% in January 2022

According to the Ministry of Energy and Mines of Peru (MINEM), copper production in Peru, the world's second largest copper producing country, amounted to 199,255 tonnes in January 2022, or 12.7% higher compared to



January 2021 (176,737 tonnes).

MINEM said that this increase is due to a higher production from the major copper mining companies operating in the country, including Compañía Minera Antamina S.A. (+3.8%), Sociedad Minera Cerro Verde S.A.A. (+12.1%) and Minera Las Bambas S.A. (+28.4%).

The ministry noted that the three companies mentioned above represent 54.9% of the total copper produced nationwide.

At the company level, Compañía Minera Antamina S.A. continued to be the main copper producer with a share of 19.8% in the country's total production.

Sociedad Minera Cerro Verde S.A.A. sits second with a 19.2% share, and Southern Peru Copper Corporation is third with a share of 15.9% of the total copper production in Peru.

LME forced to halt nickel trading, cancel deals, after prices top \$100,000

The London Metal Exchange (LME) was forced to halt nickel trading and cancel trades after prices doubled on 8th March 2021 to more than \$100,000 per tonne in a surge sources blamed on short covering by one of the world's top producers.

The LME's shock move came as Western

sanctions threatened supply from major producer Russia and marked the biggest crisis to hit the 145-year-old exchange in decades.

In the 1990s a rogue Sumitomo trader tried to corner the copper market and tin trading was stopped for five years in the 1980s.

The current events are unprecedented," the LME said in a notice to members. "The suspension of the nickel market has created a number of issues for market participants which need to be addressed."

Amid market panic sparked by Russia's invasion of Ukraine, buyers are scrambling for the metal crucial for



making stainless steel and electric vehicle batteries.

Traders said some position holders have also been struggling to pay margin calls.

The LME raised margin requirements for nickel contracts by 12.5% to \$2,250 a tonne and suspended nickel trading on all venues for at least the rest of the day.

The LME announced that all trades will be voided from midnight

until 8:15 a.m. on Tuesday when trading stopped and added that it was considering a closure of several days.

"People will be asking if this really a functioning market... This is meant to be a market of last resort and people can't get inventories to deliver against positions," said Colin Hamilton, managing director of commodities research at BMO Capital Markets.

The LME also deferred physical delivery of maturing contracts and announced it would temporarily stop publishing official and closing nickel prices.

"The LME will actively plan for the reopening of the nickel market, and will announce the mechanics of this to the market as soon as possible."



SIAM Statistics

Automobile despatches dip 23% in February as supply-side challenges continue: SIAM

Automobile despatches from factories to dealerships across the country declined 23% in February, as various supply-side challenges, including semiconductor shortage, and rise in vehicle prices due to the implementation of new regulations continued to impact demand scenario, industry body SIAM said on Friday.

Wholesales of domestic passenger vehicles, two-wheelers and three-wheelers declined 23% to 13,28,027 units last month, compared with 17,35,909 units in February 2021.

Overall, passenger vehicle despatches in February 2022 declined 6% to 2,62,984 units, compared with 2,81,380 units in the same month of last year.



India's major automobile companies reported decline in sales for the month of February 2022. Maruti Suzuki India reported that its total sales last month inched lower on a year-on-year basis to 1,64,056 units from 1,64,469 units sold in February last year.

Microchip shortages, along with high acquisition cost, subdued sales of key automobile players in February 2022. On Tuesday, auto major Maruti Suzuki India reported that its total sales last month inched lower on a year-on-year basis to 1,64,056 units from 1,64,469 units sold during the same period of the corresponding year. Domestic sales were at 1,37,607 units, and sales to other original equipment manufacturers stood at 2,428 units. The automaker reported its highest ever monthly exports of 24,021 units.

"The shortage of electronic components had a minor impact on the production of vehicles which are primarily sold in domestic market. The company took all possible measures to minimise the impact," it said.

The shortage has impacted production of vehicles, consequently, elongating waiting periods and escalating cost.

Similarly, Hyundai Motor India reported lower cumulative sales on YoY basis. The cumulative sales last month fell to 53,159 units down from February 2021 off-take of 61,800 units.

The company's domestic sales declined to 44,050 units from 51,600 units sold during the corresponding period of last year.

"As the industry continues to grapple with semiconductor shortage situation, Hyundai along with its partners is continuously exploring alternatives to ensure customers can take delivery of their most loved Hyundai cars at the earliest," Hyundai Motor India said.

On the other hand, Tata Motors reported a 27 per cent rise in its overall domestic sales for February on a year-on-year basis to 73,875 vehicles sold, compared to an off-take of 58,366 units during the corresponding period of last year.

The company's passenger vehicle domestic sales rose by 47 per cent to 39,981 units from 27,225 units off-take in February 2021.

In terms of commercial vehicles, the domestic sales were higher by 11 per cent, at 37,552 units from 33,859 units off-take in February 2021.

Another auto giant, Mahindra and Mahindra reported a rise in its overall sales during last month. The company reported a rise of 89 per cent growth in its vehicle sales to 54,455 vehicles on a year-on-year basis.

"With an overall sale of 54,455 vehicles, we have achieved a growth of 89 per cent in February 2022. All segments showed robust growth including SUVs at 79 per cent, which registered the highest ever monthly volume," said VeejayNakra, Chief Executive Officer, Automotive Division, M&M.

"We expect demand to continue to remain strong as the Covid situation eases further. We continue to closely monitor the semi-conductor related parts supply and take corrective action as appropriate."

In terms of two-wheeler sales, rural distress as well as inventory correction efforts continued to dent sales.

Two-wheeler major Hero MotoCorp sold a total of 358,254 units of motorcycles and scooters in February 2022, lower than 505,467 units off-take during the corresponding



Statistics

month of 2021.

Additionally, Honda Motorcycle and Scooter India reported total sales of 312,621 units in February 2022 down from 442,740 units sold during the corresponding period last year. Honda's exports for the month stood at 26,944 exports.

"Passenger vehicle sales are showing some signs of recovery as semiconductor issues ease out but one will have to look at geo political tensions very closely as a prolonged issue on the geopolitical side could pose challenges to the supply chain especially looking at the importance of Russia and Ukraine in the semiconductor

manufacturing process value chain," said Hemal Thakkar, Director, Crisil Research.

"Two wheelers the current inventory levels are still high and the OEMs are in correction mode which is why we are seeing a sequential correction in inventory every month since October or November 2021."

Shamsher Dewan, Vice President & Group Head - Corporate Ratings, ICRA, said: "Semiconductor shortage was easing gradually. However, recent geopolitical developments are likely to derail the industry again as both Russia and Ukraine are suppliers of key inputs."

Commenting on February 2022 sales data, Mr Rajesh Menon, Director General, SIAM said, "Sales in the month of February 2022 has declined compared to February 2021, across Passenger Vehicle, Two-Wheeler and Three-Wheeler categories. Continuing supply side challenges like Semiconductor shortages, increase in cost due to new regulations, higher commodity prices, higher logistics cost etc. have impacted overall sales in the auto industry. Industry is closely watching the possible impact of the on-going conflict in Ukraine, as Global Supply Chains could come under stress."

SIAM						
Segment wise Comparative Production, Domestic Sales & Exports data for the month of February 2022						
Category Segment/Subsegment	Production		Domestic Sales		Exports (Number of Vehicles)	
	February		February		February	
	2021	2022	2021	2022	2021	2022
Passenger Vehicles (PVs)*						
Passenger Cars	181,247	170,428	155,128	133,572	23,230	33,515
Utility Vehicles (UVs)	129,373	133,246	114,350	120,122	11,891	17,623
Vans	12,135	9,368	11,902	9,290	224	75
Total Passenger Vehicles (PVs)	322,755	313,042	281,380	262,984	35,345	51,213
Three Wheelers						
Passenger Carrier	60,469	55,095	18,617	19,369	40,587	34,820
Goods Carrier	9,887	8,834	9,039	7,670	589	1,177
Total Three Wheelers	70,356	63,929	27,656	27,039	41,176	35,997
Two Wheelers						
Scooter/ Scooterette	495,896	381,510	465,097	344,137	28,887	24,830
Motorcycle/Step-Throughs	1,299,778	998,438	910,323	658,009	335,407	349,221
Mopeds	63,663	38,455	51,445	35,848	352	1,638
Total Two Wheelers	1,859,337	1,418,403	1,426,865	1,037,994	364,646	375,689
Quadricycle	793	140	8	10	630	126
Grand Total of All Categories	2,253,241	1,795,514	1,735,909	1,328,027	441,797	463,025
* BMW, Mercedes, Tata Motors and Volvo Auto data is not available						
Society of Indian Automobile Manufacturers (11/3/2022)						

SIAM						
Summary Report: Cumulative Production, Domestic Sales & Exports data for the period of April - February 2022						
Category Segment/Subsegment	Production		Domestic Sales		Exports (Number of Vehicles)	
	April-February		April-February		April-February	
	2020-21	2021-22	2020-21	2021-22	2020-21	2021-22
Passenger Vehicles (PVs)*						
Passenger Cars	1,533,652	1,637,364	1,336,473	1,290,030	238,813	334,469
Utility Vehicles (UVs)	1,004,685	1,456,164	902,951	1,273,090	123,656	179,822
Vans	94,227	104,638	96,384	102,989	1,233	1,746
Total Passenger Vehicles (PVs)	2,632,564	3,198,166	2,335,808	2,666,109	363,702	516,037
Three Wheelers						
Passenger Carrier	460,588	607,967	113,635	160,596	348,630	451,318
Goods Carrier	79,877	78,042	73,501	68,317	4,599	9,877
Total Three Wheelers	540,465	686,009	187,136	228,907	353,229	461,195
Two Wheelers						
Scooter/ Scooterette	4,040,161	3,960,520	4,024,183	3,648,994	204,137	328,488
Motorcycle/Step-Throughs	11,772,876	11,754,996	9,027,235	8,197,707	2,715,106	3,753,043
Mopeds	586,083	438,622	572,559	435,501	7,371	10,246
Total Two Wheelers	16,399,120	16,154,138	13,623,977	12,282,202	2,926,614	4,091,777
Quadricycle	3,500	4,038	(19)	75	3,259	4,314
Grand Total of All Categories	19,575,649	20,042,351	16,146,902	15,177,293	3,646,804	5,073,323
* BMW, Mercedes, Volvo Auto data is not available and Tata Motors data is available for Apr-Dec only						
Society of Indian Automobile Manufacturers (11/3/2022)						

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