

**Steel**  
**SCENARIO**

A JOURNAL ON FERROUS AND ALLIED SECTORS

COVER STORY



**TATA**

**TATA STEEL DOWNSTREAM  
PRODUCTS LIMITED**

# BUILDING THE FUTURE OF QUALITY INFRASTRUCTURE

**May 2022**



**TATA STEEL DOWNSTREAM PRODUCTS LIMITED**

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May 2022

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**BS6**

MODEL	TATA SIGNA 3525.K/TK
ENGINE	Cummins ISBe 6.7 l BS6
MAX POWER	186 kW @ 2 300 r/min
MAX TORQUE	950 Nm @ 1 000-1 700 r/min
CLUTCH	430 mm Dia Single Plate Dry Friction Organic Lining
TRANSMISSION	TATA G1150 9speed Gearbox with crawler & one reverse
FRONT AXLE	Forged I beam Reverse Elliot type
REAR AXLE	Single reduction, heavy duty rear axle with Differential Lock
SUSPENSION	Front – Heavy Duty Semi elliptical leaf spring Rear – Heavy Duty Bogie suspension with inverted U Bolt
FRAME	Heavy duty straight frame with Riveted/bolted cross members with double sandwich type
CABIN	Comfortable SIGNA Cabin with Tilt & Telescopic steering
TYRES	Signa 3525.K - 11 x 20 16PR Nylon Tyres Signa 3525.TK – 11R20 16PR Radial tyres
VENTILATION	Powerful Air Conditioning (Blower Optional)
SERVICE BRAKE	New ICGT Brakes
FUEL TANK	300 l Heavy duty Polyethylene (HDPE) Tank
WHEELBASE options	5 580 mm
GROSS VEHICLE WEIGHT	35 000 kg
BODY OPTIONS	23 m³ Box



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	Hill Start Assist (HSA)	Increases safety on slopes Ease of driving on gradients/ slopes
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Sampoorna Khujal har kadam.

\*On drive





Sakuntala, Editor &amp; Publisher

## Steel demand can only be driven by customer requirements

Unprecedented changes are taking place amid economic and geopolitical uncertainty. The evolving business landscape is rife with risks - but it also offers huge opportunities for those who are willing to embrace disruption. It is imperative for companies to keep track of the changing behaviour of consumers even if they do not directly sell to them. Providing last mile delivery is essential for each customer.

Over the past decade, many steel players have become more customer-centric. Pivoting to the customer represents a tectonic shift for “old line” steel companies whose operating models and cultures have been production driven. This is certainly a positive development. Yet customer-centricity is no antidote for sluggish demand growth when today's customers could disappear tomorrow as new ones arise in disrupted markets.

The industry can invest in new lines of business to strengthen the steel value chain. This could mean exploring partnerships in the recovery and re-manufacturing phases, especially in markets where the current business is most vulnerable. Steel producers also need to rethink innovation of products and services to add value to downstream businesses. While the industry is still trying to crack the code on “steel as service,” players can explore unconventional business models influenced by shared economy principles. Steel players can also explore circular design for reuse and remanufacture.

Leading steel producers are just starting to anticipate these shifts and develop effective business models to support new products and services for new customers. What will distinguish early movers is their proactive response to this wake-up call of faltering global demand growth.

Indian steel demand is driven by end-use industries such as construction, capital goods, automobiles, intermediate products, consumer durables, and railways. The impact of the pandemic and the prospects for each end-use sector are different, and given the share in demand for individual sectors, the overall impact on steel demand could vary. **The construction industry** is the largest user of steel, accounting for 60% of demand. Steel consumption in construction is expected to reach 138 MT by 2030–2031. Demand drivers include industrial, residential and commercial construction, mega ports, affordable housing, urban development, highway construction, and industrial corridors. As part of the national infrastructure pipeline, **the railways are planning to invest 12-15 lakh crores**. Some of the key demand drivers are growth in passenger and freight traffic, network electrification, revamping of rail infrastructure, and programs such as dedicated freight corridors, rapid transit systems, and diamond quadrilateral networks of high-speed rail.

**Capital goods consume** about 15% of India's steel, and steel consumption is expected to reach 50 MT by 2030–2031. Demand for **electrical equipment** is driven by the need to replace aging equipment, the need to add massive power capacity in the future, the DMI&SP Policy, and the aerospace and defense sector. Due to low investments in technology and talent, however, this is a leading import area.

The **automotive sector** is a key source of steel consumption. However, the domestic steel industry doesn't have the capability to manufacture automotive-grade steel, resulting in high imports for this consumer sector.

For a demand revival in the steel industry, sustained government intervention is needed in the form of a push for infrastructure. Revival of the infrastructure sector, including residential, commercial and industrial construction, transport networks (roads, railways, and others), and utilities will increase demand thanks to direct consumption and give an indirect push to steel demand in the capital goods sector.

**Startups building for most segments, whether B2B or B2C, must connect with customers and make it easy for them to communicate with them.** For startups to survive and succeed against the incumbents, they must challenge the status quo, innovate traditional methods, and create an environment conducive to seamless customer experiences. It is ultimately how your brand made your customer feel that they will remember. As a result, when planning for the last mile consumer, don't forget to incorporate innovative solutions that enhance their experience.

Sakuntala Chanda



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**B56**

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FUEL TANK	300 l Heavy duty Polyethylene (HDPE) Tank
WHEELBASE options	6 750 mm
GROSS VEHICLE WEIGHT	47 500 kg
BODY OPTIONS	18 m <sup>3</sup> Box 29 m <sup>3</sup> Box



## VALUE FEATURES\*

## BENEFITS

	Hill Start Assist (HSA)	Increases safety on slopes Ease of driving on gradients/ slopes
	3 Mode Fuel Economy Switch	Load - Terrain - Speed based Fuel Economy management
	Engine Brake	Supports driver & vehicle safety with efficient braking Reduces chances of fatal accident Better braking in the downhill operations Increases safety reduces accidental costs
	New Generation Telematics	Advanced features for Fleet, Trip & Business Management Instant Diesel theft notification
	Vertical Exhaust	Dust free working sites Higher Ground Clearance Less Maintenance costs
	ICGT Brakes	Enhanced brake life Low chance of tyre burst due to heating Less Maintenance costs
	Tilt Switch	Enhanced tipping safety Less accidents during tipping

\*On select models only

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**TATA STEEL DOWNSTREAM  
PRODUCTS LIMITED**

## Excellence is spelt in 5 letters: TSDPL

*Tata Steel Downstream Products Limited (TSDPL), a wholly-owned subsidiary of Tata Steel which pioneered the Steel Service Centre business in India, has scripted a spectacular growth story since its inception 25 years ago.*



TSDPL Corporate Office at Kolkata

### Journey of 25 years

Established in 1997, formerly known as Tata Ryerson Limited, TSDPL, was created to bring Steel Service Centre solutions for the first time to industrial customers and is the first organized Steel Service Centre capable of high tensile steel processing in India. It all started in the spring of 1997 when Tata Ryerson Limited was incorporated. Two of the strongest players in the global steel industry had come together to pioneer the art of shaping and processing of steel in India. In the late 1990's, Tata Steel was looking to significantly expand its presence in the flat products segment and Ryerson Tull was a wholly-owned subsidiary of Inland Steel and the largest diversified metal processor and distributor in North America. It was India's gain that the two organisations recognised the obvious synergies and joined hands to set up Tata Ryerson Limited.

The Company has definitely come a long way to become a leader in the Steel Service Centre industry in India. TSDPL has sustained its strong growth trajectory with its commitment to quality processing, innovation and focus on customer service.

Since its inception, TSDPL has consistently led the growth of organized Steel Service Centres in India. Its product range includes Hot Rolled, Hot Rolled Pickled & Oiled, Cold Rolled and Coated (Hot Dip Galvanized, Galvannealed & PPGI), Plates, Plain and Corrugated sheets, Profile cut plates and fabricated structures and its services include Slitting, Cut-to-length, Blanking, Pickling & Oiling, Profile Cutting and Complex Fabrication and components.

The Steel Service Centre (SSC) industry, a downstream link in the steel supply chain, caters to the consumers of flat steel products by delivering customized material to manufacturers of automobiles, appliances, electrical panels, construction equipment, amongst others. The key purpose of a Steel Service Centre is to ensure on-time delivery of the desired grade and quality of material in customized shape, size and quantity as per the customer's requirement.

**Today, TSDPL is India's largest Steel Service Centre organization.** TSDPL is seen as a value-adding entity and a strategic partner for Tata Steel, who is also its biggest customer as well as the biggest supplier. Revenues are spread over three business segments, viz. Tolling, Distribution and New Business Development (NBD), where the majority of the top line share is from the automotive industry.

It is served well by **10 large processing units, 15 sales and distribution locations** and a host of partners like external processing agencies, suppliers, vendor partners and other stakeholders.

**17th April 2022** was a day for celebration not only at TSDPL, but also for the entire Tata Steel family as well. Next day, i.e. on 18th April 2022, TSDPL, was organizing its Silver Jubilee Celebrations, and in the words of its Managing Director, Mr. Abraham Stephanos, **"A Company in the prime of youth and raring to go"**, was proud of living up to the Tata Group's standards of excellence by generating a revenue growth of 88% in FY'22, its highest-ever since inception. Also, before the close of the financial year, TSDPL surpassed the landmark of **3 million tonnes in Sales and Processing volumes**, a resounding achievement in its 25th year of operations.

Riding on the strong market demand and buoyancy in steel prices, TSDPL recorded 35% rise in absolute volumes in its Distribution business and 37% growth in its Tolling business, resulting in that enviable revenue growth of 88%.

World class processing facilities and comprehensive quality assurance systems combine to make TSDPL a benchmark in the Steel Service Centre industry. TSDPL plants have been awarded IATF 16949:2016, ISO 45001:2018 & ISO 14001:2015 Quality System Certifications. Apart from these, TSDPL's Tada plant has been certified with ISO 9001:2015 & ISO 3834-2:2007.



**TSDPL's Silver Jubilee celebrations - graced by industry captains like (from L to R) : Dr. Jamshed J. Irani, Dr. Tridibesh Mukherjee, Mr. Sandipan Chakravorty and Mr. Anand Sen amongst others...**

TSDPL serves some of the biggest names in the industry, which include Tata Motors, Ashok Leyland, Volvo Eicher CV, Maruti Suzuki, Toyota, Suzuki Motor Gujarat, Bajaj, TVS, HMCL, HMSI, Piaggio, Royal Enfield, Kia Motors, MG Motors, Caterpillar, Alstom, Terex India, Kobelco, Tata Hitachi, TAFE, Godrej, Voltas among others and their vendors.

TSDPL's distribution network is extremely widespread. Its offices at Jamshedpur, Kolkata and Bhubaneswar serve the eastern region, while its offices at Faridabad, Ghaziabad, Lucknow, Ludhiana and Pantnagar serve customers in the north. In the south, TSDPL's distribution offices are located at Chennai, Bengaluru and Tada, while the western region offices are in Pune, Sanand, Indore and Bhopal.

#### **Adding value to its key stakeholders through process improvements, technology and Digitalization**

Despite the disruptions caused by Covid-19, the Company remained focused in serving the requirements of its customers.

**Strengthening of Shop Floor Practices:** Operational excellence, targeted via strengthening of daily management systems, improved both operational effectiveness and quality of output. Across the organization, with over 100 quality circles that focus on incremental improvements and with a new cold-rolled service centre planned at Kalinganagar the Company is well on its journey towards operational excellence.



**Focus on Cost Excellence:** The Company's intent is to establish cost excellence driven by a focused improvement programme. During the third wave of Covid-19, **Lakshya 25** was the main vehicle for TSDPL to improve its cost-effectiveness and directly impact EBIDTA margins. In FY'22, more than 375 ideas were taken up for implementation under the programme.



Steel Service Centre at Chennai

**The Deming Journey:** The Company's major organizational objectives via the **Deming journey** will be service excellence, operational excellence and cost excellence. During last financial year, greater alignment of its Deming Policy-managed approach with its annual plans has strengthened the strategic planning process.

**Digitalization Initiatives:** A major step forward in the digitalization of the Company's operations is the **OTON** initiative which is aimed at bringing a majority of its support functions on a common platform across Tata Steel Group companies. Implemented with strong support from Tata Steel, an industry lighthouse, these common platforms across the Tata Steel Group are intended to lead to significant savings for the Group as well as the Company in the years to come. As India continues to grow, TSDPL is well poised to tap the opportunities that will result from the growth in steel consumption in the country as well as organic and inorganic growth of Tata Steel. It has the capability to offer its customers a wider range of products, will benefit from digital initiatives as well as its deep understanding of customer requirements.



Steel Service Centre at Kalinganagar



**Reminiscence of past leaders: Remembering the past can bring the right perspective to the present. On the occasion of 25th Year celebrations, the leaders who created the stepping stones to reach this milestone walked back the memory lane while congratulating the present TSDPL Team.**



**Mr. Firdose A. Vandrevale was one of the founding Directors of Tata Ryerson Limited and served on the Board till 2007 and his message on TSDPL's Silver Jubilee Celebrations needs special mention.**

He walked the memory lane by remembering... *"How time flies. I still recall a dinner, more than 25 years ago, at the Taj Mahal Hotel, Mumbai, between Dr. Jamshed J. Irani, me and some senior officers of Ryerson, who had flown down from USA for this meeting. We shook hands at this dinner to create something new and unique in India.*

*The main mission was to create a Service Company to meet the end customer requirements for processed steel, independent of any steel producing company. It was indeed a courageous step and novel area of work.*

*It is exciting and gratifying to see that the company has adjusted its vision and business model to align with Tata Steel's strategy. The Company's role and contribution in helping Tata Steel reaching the end customer, with high-quality service, rendering customer satisfaction and retention, is invaluable. I also take this opportunity to acknowledge and salute the contributions made by the past leaders and employees. I wish and pray that your dreams come true".*



**Mr. Rob Muir, was the Chairman of Tata Ryerson Limited during 1997-2007 and his wife Patti was also an integral part of the Tata Ryerson family, and they continue to have wonderful memories of their time.**

On the occasion of 25 years of TSDPL, he expressed... *"25 Years of success! Alak Saha and I began the Tata Ryerson 50/50 joint venture journey in 1997 – Alak, as a long time employee of Tata Steel, and with my expertise in steel distribution industry from many years at Ryerson Steel in the U.S".*

His life in India was very different to what he was used to in the U.S. and he marvelled at all the new experiences he had in those 10 years. Dedication to the success of Tata Ryerson has always been an integral part of the company culture.

He remembered how they began most work-day mornings by meeting around a large oval table in the middle of the office at Tata Centre. *"The memories I cherish most are the people of Tata Ryerson, now TSDPL, and the talented members of Tata Steel who were enthusiastic supporters of this new venture, which turned into a world class steel processing and distribution business. In many ways, we have all aged, but I remember you well. I am forever grateful for this incredible and beautiful experience".*



**Mr. Frank Munoz was the Chairman, during 2007-2009.**

While congratulating TSDPL on its 25th year of successful business operations, he said, *"My association with Tata Steel Downstream Products Limited goes back to 1998 when I was the Managing Director of Ryerson Mexico". He joined the board of directors in 2006 and it was during his first board meeting, it became clear that this company was different and special. "Many of the directors took me under their wing and welcomed me into this special family. I learned a great deal about working in India and made lifelong friends.*

*Dr. Jamshed J. Irani and Mr. Sandipan Chakravorty created a fantastic company. They built a pile deep foundation and Abraham and team widened the said foundation through effort, tenacity and vision. Happy 25th anniversary Tata Steel Downstream family! I look forward to celebrating 50 years of success with you. One of my favourite quotes is from Lee Kuan Yew. He said that "a nation is great not by its size alone. It is the will, the cohesion, the stamina, the discipline of its people and the quality of leaders which ensure it an honourable place in history." I believe Tata Steel Downstream Products Limited has ensured an honourable place in history and will continue to elevate the Tata brand".*

## “Service cannot be good, it has to be best in class”



**Mr. Abraham Stephanos**  
Managing Director, TSDPL

**Steel Scenario (SS):** 25 years is not an insignificant milestone. How is the Company placed in terms of business presently?

**Abraham Stephanos (AS):** We are 25 years young and not old. We are in the prime of our youth, ready and raring to go! TSDPL is a young 3.1 Million Tonne Steel Service Centre, but the best is yet to come. Today, TSDPL is India's largest processor of Hot Rolled and Cold Rolled Flat Products. As India continues to grow, TSDPL is well poised to tap the opportunities that will result from the growth in steel consumption in the country. The Company will also grow with expansion of Tata Steel as its growth plans are also aligned with that of Tata Steel. The year 2021-22 was a successful year for the steel industry and TSDPL was an integral part of it. We closed the year with a revenue growth of 88 percent, recording our highest-ever revenue earning since inception. While the increase in steel prices did contribute to the Company's revenue growth, it is the solid underlying growth in volumes; 35% in absolute terms in our Distribution business and 37% in our Tolling business, that is notable. This has been a satisfactory achievement for the Company and could have not come at a better time.

**S.S:** How will you like to look at FY 2021-22. What significant achievements were made by the Company?

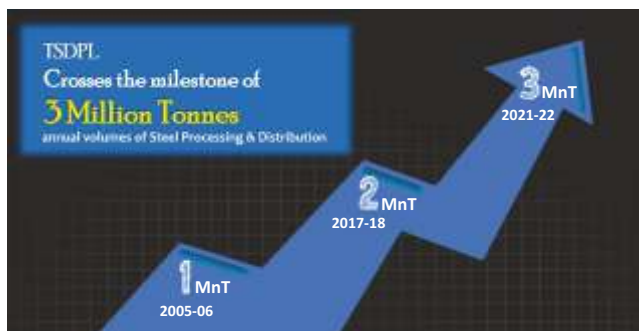
**A.S:** The year 2021-22 saw huge growth in steel production and prices globally. Riding on the strong demand and buoyancy in steel prices, TSDPL recorded a superlative performance. We would like to highlight the achievements under the following categories:

**Steel-lar Growth:** The state-of-the-art Kalinganagar Hot Rolled Coil (HRC) processing plant contributed significantly to the Company's stellar growth in volumes, almost doubling production levels in March. It also accounted for about half of the growth in TSDPL's Tolling volumes. The result is a reflection of the work that we have done over the past several years in focusing on service excellence and aiming to be the benchmark in it.

**Steel-lar Service:** TSDPL has absorbed and adopted the values of the parent Company, which reflects in the excellent quality of its services that was the primary contributor to TSDPL registering its highest turnover, volumes and profit margins in FY'22. Achievement of higher market share during the financial year was an acknowledgement of the confidence of its key stakeholders to engage with the Company on a wider scale.

**Steel-lar Response:** Though the markets remained strong and customers as well as supply chain partners had learned to navigate the pandemic, the disruption caused by the second wave was much higher and cut deeper as it affected a record number of employees and members of the workforce. But our team remained focused and undeterred, ensuring business continuity and meeting customer expectations.

On the operational front, we continued our focus on the Deming Journey, adding more vigor to it. We believe that although COVID-19 has delayed our journey, we are now in a position to target the Deming Application prize two years hence or in FY'25. Our major organizational objectives via the Deming Journey will be Service Excellence, Operational Excellence and Cost Excellence.



**S.S:** What has made TSDPL stand out and create a market for itself? What are the value added products under its New Business Development vertical?

**A.S:** TSDPL manufactures value-added products such as IT racks for LAN, WAN and servers as well as wall-mounted enclosures under the brand name Tata Trynox. Another value-added product is its EzyNest modular toilet for Tata Steel's Nest-In vertical in the East, produced through contract manufacturing. These come from the stable of TSDPL's New Business Development (NBD) vertical, which commenced operations from April 2017.

Among products with steel as the base material are also light gauge steel frames. Complementary products like engineered poles were added to NBD's product basket later to support the needs of Smart City infrastructure projects. NBD also has safes and lockers currently in its product portfolio and operates on a B2C distribution model on a pan-India basis.

Operational excellence, targeted via strengthening of daily management systems, is expected to improve both operational effectiveness and quality of output, while reducing the cost of poor quality. Across the organization, TSDPL's over 100 quality circles have geared up to effect incremental improvements in shop floor practices and achievements. Shop floor practices that were strengthened in the early part of our Deming journey ensured that the growth in Tolling and Distribution volumes achieved during FY22 was done without any compromise in quality and service levels.

**S.S:** How does the future auger for TSDPL?

**A.S:** The severe shock of the second wave of Covid-19 in the first quarter of 2021-22 fortunately led only to a minor dip in steel demand. The Indian economy and the steel industry demonstrated a V-shaped recovery in Q2 as the lockdowns were localized and did not curtail industrial activities. Crude steel production grew by nearly 25 per cent during the year buoyed by strong domestic and export demand through the year, while import of steel during the period continued to see a declining trend.

In Q3, Indian steel demand maintained its steady improvement trend on the back of economic recovery and underlined the country's ability to navigate the third wave of Covid-19, which had minimal impact. Though Q4 brought disturbing tremors to global trade with the commencement of the Russia-Ukraine war, steel producing countries outside the European Union used the situation as a huge opportunity for exports. The strong performance of the Indian steel industry in 2021-22 was reflected in the performance of the SSC industry as well, which closed the year on a new high.

Steel demand and consumption in India are expected to rise in 2022-23 with the Government's continued thrust on infrastructure creation and the strong demand pull from the construction, engineering, and other sectors. Steel consumption, according to official estimates, will grow from 100 million tonnes today to 300 million tonnes by 2030-31, making this 'the decade of steel' in India.

Pressure on auto manufacturers to meet stringent environmental policies has hastened their focus on the adoption of special materials, such as advanced high strength steels, to reduce the weight of vehicles and improve fuel efficiency. Processing of these material require specialized equipment and skill, assets available with only organized Steel Service Centres. In addition, it is anticipated that projects such as the Smart City initiatives and industrial corridors will lead to the long-term growth in steel production and the steel market in India, especially products that cater to the sustainability of the economy.





# TOUGHEST TERRAINS DESERVE THE TOUGHEST STEEL.

## BOGIBEEL BRIDGE (ASSAM)

INDIA'S FIRST AND ONLY FULLY WELDED DOUBLE DECKER BRIDGE THAT CAN WITHSTAND EARTHQUAKES OF MAGNITUDE MORE THAN 7 ON RICHTER SCALE.



### PRODUCT RANGE FROM JSPL



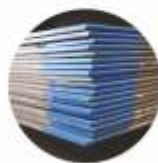
PARALLEL FLANGE  
BEAMS & COLUMNS



CHANNELS AND ANGLES



PLATES AND COILS



TMT REBARS



RAILS

### SPECIALITY OF PRODUCTS FROM JSPL



HIGHER  
STRENGTH



HIGH CORROSION  
RESISTANCE



CUSTOMIZED  
AND CONTROLLED  
CHEMISTRY



SUPERIOR  
WELDABILITY



WIDE  
PRODUCT RANGE

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## Indo-Pacific economic bloc to open new window for Indian steel

By Kingshuk Banerjee

Is Indian steel finally inching towards the possibility of halting the Chinese juggernaut to prove its mettle in South East Asia?

Beijing has been unable to sustain its growth rate for the last seven months, and with the US-led QUAD with a kitty of \$50 billion for infrastructure opening a new trade window christened Indo-Pacific Economic Framework (IPEF), a golden opportunity has been presented to the robust Indian steel sector to leave solid footprints in ASEAN countries, riding on its resurgent export. It is anticipated that with its strong fundamentals, the Indian steel sector will be able to withstand the turbulence caused by both the ongoing Ukraine conflict and the periodic waves of Covid striking pockets across the globe.

Though, notwithstanding its solid fundamentals and robust reviews by World Steel Association (WSA), Indian steel scrips have been somewhat sombre in bourses in the aftermath of the recent export duty hike on Indian steel products, industry experts anticipate that the QUAD would help to dispel many a doubt on the future of Indian steel exports.

Let us first talk about the industry's fundamentals so that the steel export scenario would be easy to fathom.

### Global trade scenario

2021 saw excess steel production on a global scale. As per statistics, whereas around 1.95 billion tonnes (bt) of crude steel were produced, the demand accounted for 1.7 bt only. In reality, the world is yet to recover fully from the Covid tsunami.

Industry analysts like Steven B. Kamin and John Kearns estimated that the Covid-19 pandemic triggered the sharpest downturn in the world economy since the Great Depression, and global GDP was likely to decline 3.5% in 2020 compared to a rise of 2.8% in 2019. Kamin and Kearns concluded that the imposition of lockdown restrictions accounted for 65% of the decline in industrial production in the richest countries, 79% in the middle-income countries, and 81% in the poorest countries. Further, an expert like Hongyong Zhang pointed out that in 2020, world real GDP fell by 3.6%, volume of world merchandise trade declined by 5.3%, and FDI flows dropped by 42%.

The Covid pandemic has also caused significant disruption to global trade. In 2020, global trade fell by 8.9%, the steepest drop since the global financial crisis. As per an analysis by the New Bank of England, trade in services was affected more than goods trade, with a fall of more than 20% in 2020.

Another development was the skyrocketing of shipping costs by 350%. Imbalances in regional trade brought about by the pandemic were the primary cause of this rise. In particular, increased demand for durable goods in locked-down economies, combined with Covid-related disruption in the ports of those countries, exacerbated the shortage of shipping containers. Containers got 'stuck' in the US and Europe and took months to return to Asia. The Russia-Ukraine conflict has deepened the crisis in shipping, with many East European ports getting clogged with container ships unable to offload their cargo.

The shortage of shipping containers is likely to be temporary and ultimately fade. However, shipping costs could remain elevated in the near future, supported by the strength in manufacturing and the recent commodities boom, partly driven by the recovery in economic outlook across the globe.

### Global steel industry

A recent study has exposed the continuing detrimental effect of Covid on the global steel sector. Spot prices for hot rolled coil (HRC) in China declined in November 2021 due to subdued market sentiment on the basis of bleak property market data. The most traded HRC contract on the Shanghai Futures Exchange also extended losses as demand for steel remains a concern in China, given the grim real estate figures. Earlier, however, a combination of supply chain disruptions amidst lockdowns and higher global demand had led to substantial steel price increase.

Steel prices in the US remain somewhat volatile. While HRB prices have shown a mild moderation in Nov. '21 (m-o-m), CRC prices have shown a marginal uptick. It may be noted that since the second half of 2020, global steel prices showed a sharp upward trend – in July 2021 US steel prices increased over 200% and traded at \$1,800, whereas in March 2020, prior to the Covid-19

pandemic, steel prices languished between \$500 and \$800.

The continuous uptrend in prices of raw materials, especially coal and iron ore, also contributed to steel prices remaining volatile in recent months. All these factors play very detrimental role in consumer demand.

The conflict in Ukraine has made the situation more precarious. The war led to the cessation of iron & steel supplies not only from Ukraine, but also from Russia. Producers of pig iron and semi-finished products in Europe and the US were the worst affected. In 2021 the EU had imported 22.4% of its requirements from Russia and 29.4% from Ukraine. The US had imported 34.3% of its pig iron needs from Russia and 28.5% from Ukraine.

The lack of Russian and Ukrainian supplies led to a 16-19% increase in pig iron prices from Brazil in a month (from February end to March end 2022). In comparison, iron ore prices rose 12% over the same period.

As per supply chain specialist and industry consultant Stanislav Zinchenko, the termination of iron & steel supplies from Russia is due to two reasons. Firstly, some Russian plants cannot supply products to the EU and the USA due to economic sanctions imposed against Russia. Secondly, buyers voluntarily refuse to import from Russia because of ESG risks and settlement problems. This situation has exacerbated the shortages in the global iron & steel market and spurred price rises.

So as per Zinchenko, in order to resume supplies, it is necessary to stop the hostilities and unblock the ports of the Black Sea. Under such circumstances, most Ukrainian steel plants can restore operations within 1-2 months after the conclusion of the peace agreement. For Mariupol plants, this process will not be fast. After current hostilities in the city damage audit will be required to assess state of the plants. Also, it will take some time to restore the destroyed infrastructure in the city.

In the words of Zinchenko, "...war creates challenges for all participants in the global economy. We can see disruptions in supply chains, decreasing production volumes, rising prices. The economy needs peace. Only end to the war will make it possible to restore global value chains fully."

Reflecting Zinchenko's words, the latest WSA report showed that 162.7 million tonnes (mt) of steel produced globally in April 2022 is a 5.1% decrease compared to April 2021. But it is the tip of the iceberg.

As per the WSA report, global crude steel production dropped for the tenth consecutive month in April 2022, dragged by China's production declining for the seventh month in the running even as India registered a rise. In fact, global production has been nosediving since July last year as China, which makes up 50% of the output, has been slipping. Statistically China's production drop almost matched the global output drop with Beijing producing steel 5.2% less in April 2022. For the first four months of the current calendar year, China's production went southward by 10.3% at 336.2 mt. Meanwhile India's steel production growth went up to 10.1% in April 2022, from 6.2% April 2021.

### Indian steel scenario

New Delhi has actually started reaping the benefit of the Chinese slowdown in the global steel market. And the benefit is clearly manifested in none other than Indo-China steel trade where exports to Beijing accounted for Rs. 19,267 crore whereas imports from China accounted Rs. 16,369 crore. As per a recent report, in case of steel, exports have been constantly rising, except for the slight dip in FY20, whereas imports have been declining since FY20. The exports for the last fiscal, i.e. FY22, are expected to surpass that of FY21, whereas Chinese steel imports are expected to maintain their declining trend.

According to the WSA report, India's demand for the metal was expected to rebound by 19.8% in CY2021, the highest among the top 10 steel-consuming nations. It said that the resumption of government projects and pent-up consumption demand will drive India's demand upwards.

Though the price of rolled coil steel has increased 55% y-o-y, the domestic demand is set to outpace supply for the first time in FY22. According to industry estimates, demand is expected to be in the 140-150 mt range, while production is expected to be around 125 mt.

In the words of one steel trader, "Even after the increase in price, domestic steel is at a discount to both the landed cost of Chinese imports and the export price."

The Indian steel sector outlook, riding on the back of strong domestic demand from government and private sectors, is likely to remain firm amid concerns of global demand uncertainties in the current fiscal.

Experts expect that demand and prices will remain strong as China will no longer be adding 50-60 mt to its capacity annually and that country may not export significantly higher quantities to disrupt steel prices globally.

WSA painted a healthy picture too. According to it,



boosted by higher spends on infrastructure and gradual revival of the automotive sector, India's steel demand growth will be the highest in 2022 at 7.5% among top consuming nations, including China and the US.

However, India Ratings & Research (Ind-Ra) has maintained a “neutral outlook” on the steel sector for FY23 in view of high raw material inflation that would result in elevated prices and moderation of volumes and margins.

Globally, however, steel demand growth will be slower in the current year to just 0.4% from 2.7% recorded last year. Analysts are sceptical about global steel demand growth in 2022 and 2023. The expectation of a continued and stable recovery from the pandemic has been shaken by the war in Ukraine and rising inflation.

WSA, whose members produce 85% of the steel available in the global markets, in its short-range outlook, is upbeat on India and has forecast India's steel demand at 114 mt in 2022 compared with 106 MT last year.

In 2023 also, India's steel demand growth will be the second highest at 6% after Germany which is likely to have a better 7.6% rate of growth in demand. Germany, however, consumes one-third of what India consumes annually.

As per WSA report, in 2022, the Indian construction and manufacturing sectors will likely be supported by spending on infrastructure and a gradual revival in automotive production, with an expected improvement in semiconductor supply. Expected raw material supply constraints in the international market will result in higher domestic mining output and support the capital goods sector.

However, the report is rather apprehensive about the fallout of the Ukraine conflict. It says, if the war in Ukraine continues, it would result in the renewed risks of supply disruption and inflation, which may impact the Indian central bank's accommodative stance and consumer sentiment. The impact of the war will also be felt globally via higher energy and commodity prices — especially raw materials for steel production — and continued supply chain disruptions.

WSA goes on to say “Furthermore, financial market volatility and heightened uncertainty will undermine investment. Such global spillovers from the war in Ukraine, along with low growth in China, point to reduced growth expectations for global steel demand in 2022.”

**Imposition of steel export duty: Will the 2030 target be unaffected?**

The recent imposition of stiff export duty on steel, steel-making raw materials and intermediaries by the Government of India is aimed to increase availability of these items in the domestic market and rein in the prices which would benefit the MSMEs and other steel-using consumers in the country.

As per the new order, an export duty of 15% will be levied on hot-rolled and cold-rolled alloy and non-alloy flat steel products (of 600 mm or more width). Similarly, a 15% duty would be levied on export of hot-rolled bars and rods, other bars and rods of iron or non-alloy steel, flat-rolled products of stainless steel, bars and rods of stainless steel, angles, shapes and sections of stainless steel. Moreover, iron ore export (for all grades, including concentrates) would attract 50% duty. A 45% export duty has been levied on iron ore pellets.

The Government's argument in favour of the duty imposition was that, if prices of steel items in the international market rectified to even a level of \$1000-\$1100 per tonne, the top Indian steel mills would still find it profitable to ship steel items even with the 15% duty.

But this argument has not gone down well. Steel shares were jolted in bourses after imposition of export duties. Critics (and the larger domestic producers) fear that this could stagnate production expansion plans, which would ultimately derail the 2030 target of achieving 300 mt capacity. Also, according to steel industry executives, the Centre seems to have singled out the ferrous value chain, while important industry sectors like cement, base metals, refining and petrochem remain broadly untouched and their products continue to come with high price tags, adding to the woes of the construction and infrastructure sectors mainly and pushing up the already high inflationary tendencies of the general market.

Industry body FICCI has requested the government to give the domestic steel industry a three-month window to clear already committed export orders. Mr. V.R. Sharma, co-chair of FICCI's Steel Committee was quoted in the media as suggesting that at least three months should be given to taper off orders and to supply the orders taken. He contended that steel export orders of around 2 mt would be in the production pipeline of the steel producers for which either letters of credit have been issued or sales contracts signed. These export orders, mostly to Europe, are either in the process of being shipped or in various stages of production. Supply of such orders at the given rate would be affected due to the duty imposed.

There are other criticisms too. One recent industry report pointed out that while both steel and non-ferrous companies have reaped super-normal profits in the recent commodity bull run, the Government singled out only the steel sector for making exports nearly unviable and shouldering losses in their margins. Moreover, this could well impact cash inflows and derail the Government's own grand plan of achieving 300 mt capacity by 2030.

Most of India's major steel mills have been chalking out plans for increasing their individual capacities to 40-50 mt during the coming 10-year window. Some have also announced major investment plans. They are now having second thoughts about pursuing their plans. As an industry insider put it, in the backdrop of this export duty issue, the steel industry would be keenly watching how domestic demand grows and exports shape up. As both are down at present, big-ticket mergers/acquisitions would also tend to hold for a while.

As per data, India exported about 13.5 mt of finished steel and 5 mt of semi-finished steel in 2021-22 and imported 4.8 mt in the same period. Industry observers have cautioned that the country could turn net importer in the next four to five FYs, if further capacity expansion plans are aborted now. They also point out that exempting export of semi-finished steel items like slabs and billets from the ambit of export duty would also imply addition of carbon footprints in the country's kitty, which is contrary to the Government's own carbon emission reduction agenda.

A news report went on to counter the issue of high domestic steel prices too. It contended that domestic steel demand is, in fact, on a steep fall owing to weak economic growth which would ultimately pull steel prices down. Domestic steel demand went southward by 7% in April 2022 and would still be soft in May. Weak domestic demand took prices of HR coil southward too by 12% in April, despite prevailing high price of imported coal. An ICRA analysis now apprehends that steel industry would have to bear losses of \$75 to \$100 per tonne in the seasonally weak September quarter.

Nevertheless, Moody's Investors Service painted somewhat of a healthy picture for the export front. According to its report, India's steel exports are expected to remain strong in the coming months as higher prices and regional demand would drive the steel companies to divert part of their output to exports. In its report 'Steel – Asia Pacific: Higher raw material costs reduce benefit of steel price gains amid Ukraine conflict', Moody's said,

"We expect India's steel exports to remain strong in the coming months." Moody's also expects domestic steel demand to grow by around 10% through 2022 amid the government's continued focus on the construction of roads, railways, ports and airports.

### **IPEF: A new window for Indian Steel?**

The new trade bloc Indo-Pacific Economic Framework (IPEF), formed at the recent Tokyo QUAD summit, has seen the inclusion of nine other southeast Asian nations – Indonesia, Brunei Darussalam, Republic of Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand and Vietnam – to the list of the original QUAD members, viz, the US, Japan, Australia and India.

IPEF is based on the pillars of trade, supply chains, infrastructure, clean energy and decarbonisation and tax and anti-corruption. The Indian steel sector would have a definite interest in participating in IPEF due to the ample room they will get to play to maximise benefits accruing from these.

However, according to industry observers, as India seeks a major role in the Indo-Pacific region, there are two challenges that IPEF would need to address for India's seamless accommodation in this grouping. The first is the Regional Comprehensive Economic Partnership's (RCEP) shadow hanging over IPEF and the second is India's trade relations with China.

India's refusal to join the RCEP in 2019 stemmed from the fear of imbalance of trade with China under the terms of the agreement. India also expressed concerns about Chinese goods finding their way into the Indian market by circumventing the rules of origin clause, which implies China could reroute its goods to India through other RCEP member countries. India feared that the provisions of RCEP provided inadequate protection against a surge in imports.

With all the other members of IPEF, barring USA and India, being part of RCEP with strong economic engagements with China, Beijing would remain an integral part of the supply chains of these countries. The present situation indicates that India's concerns about RCEP would be carried forward into IPEF as it would take time for this new grouping to create an alternate economic system that could exclude China.

These concerns notwithstanding, the observers are more or less certain that the Indian steel sector would play a major role in the creation of infrastructure in the Asia Pacific region for which QUAD has announced \$50 billion investment in the next five years.

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## India now among top 10 trading partners of Vietnam

By Steel Scenario Bureau



India is now among the top 10 trading partners of Vietnam. Bilateral trade between the two countries witnessed constant growth resulting from two-way trade upswings in the last financial year, as discussed in the 'Interactive Session on Doing Business with Vietnam' organised by Merchants Chamber of Commerce & Industry (MCCI) at Kolkata recently.

The session was attended by H.E. Mr. Pham Sanh Chau, Ambassador of the Socialist Republic of Vietnam to India, Mr. Do Duy Khanh, First Secretary, Trade Office Embassy of Vietnam in India, Mr. Namit Bajoria, Vice President, MCCI, and a host of industry captains.

During 2021-22, bilateral trade between India and Vietnam amounted to US\$12.63 billion. As both nations

have been able to grow the trade volume within one year, the trade target has been set at US\$15 billion for FY23.

"We feel that there can be numerous possibilities for considerable mutual investment and joint ventures in sectors like pharmaceutical, agriculture, tourism, smes, steel manufacturing, high technology, urban development, tourism development, and logistic infrastructure. India's investments in Vietnam are estimated at around US\$1.9 billion," informed Mr. Bajoria.

According to Vietnam's Foreign Investment Agency, as of April 2021, India has 299 valid projects with total invested capital of US\$9.095 billion. Major sectors of Indian investment are energy, mineral exploration, agro-processing, sugar, tea, coffee manufacturing, agro-chemicals, IT and auto components.

As of 2020, Vietnam had six investment projects in India with total estimated investment of US\$ 28.55 million, primarily in the areas of pharmaceuticals, information technology, chemicals and building materials.

India has built a long-standing development partnership with Vietnam that has made positive contributions towards capacity building, sustainable development goals and socio-economic development of Vietnam. India has been taking up quick impact projects (QIPs), each valued at US\$50,000, in different provinces of Vietnam for development of community infrastructure.

"India has provided technical assistance worth US\$ 2.25 million for conservation and restoration of our ancient Cham monuments located in the Quang Nam Province of Vietnam, showcasing the deep civilisational connection between the two countries," concluded Mr. Pham Sanh Chau.





# ECTA to help double trade between India & Australia to \$50 billion in 5 years

By Steel Scenario Bureau



The India-Australia Economic Cooperation and Trade Agreement (ECTA) signed on 2nd April 2022 is expected to nearly double trade between the two countries to around \$50 billion in five years from around \$27 billion presently and create over 10 lakh additional jobs. This was the main subject of discussion at the interactive session on India-Australia ECTA organised by the Merchants' Chamber of Commerce & Industry (MCCI) at Kolkata in May.

"This trade pact is a positive step for both partners as tariff will be eliminated on more than 85% of Australian goods including coal, sheep meat and wool exported to

India while Australian wines, almonds, lentils, and select fruits would have lower duty access in Indian markets," stated Ms. Sarah Storey, Deputy Head of Mission, Australian High Commission, New Delhi, while addressing the participants. Ms. Rowan Ainsworth, Consul General of Australia, was also present at the meet.

The Australian Government has decided to invest over US\$280 million to boost cooperation with India, to further grow its economic relationship and support jobs and businesses in both countries, said Ms. Ainsworth. Pointing out that Bengal was very much a part of this initiative, she informed that Australia is ready to invest US\$100 million in a logistic hub in Bengal. This, said the Australian Consul General, is part of the interest being shown by big industrial houses in Australia in building business capabilities in Bengal in the mining and logistic sectors.

"The ECT Agreement also unlocks huge opportunities for Indian export, for it provides zero-duty access to 96% of India's exports to Australia, including shipments from key sectors namely automobiles, textiles, foot wares, leather products, gems & jewellery and plastics," stated Mr. Rishabh C. Kothari, President, MCCI, in his address.

Besides trade in goods, the two countries have decided to take several initiatives in the field of education. Australian education is in the top tier of demand globally due to its high quality, strict accreditation standards, and sophisticated support for international students, relevant curriculum, and one of the highest graduate employability rates delivering a better return on investment. The governments of Australia and India will establish a task force to develop qualifications and recognition arrangements for Australia and India to enhance two-way mobility of the students. The initiative will support implementation of the Australian Strategy for International Education 2021-2030, which strengthens bilateral education cooperation between two nations to support sustainable growth of Australia's high quality education services offshore.





## 'India set to become 2nd largest construction equipment market globally'

By Steel Scenario Bureau



South Asia's largest construction equipment and construction technology trade fair's 11th edition, EXCON 2022, organised by the Confederation of Indian Industry (CII) at Bangalore during 17-21 May 2022 showcased clearly that India would soon become the second largest construction equipment market on a global basis.

The 5-day event at Bangalore International Exhibition Centre attracted over 1,000 exhibitors from India and abroad, including countries like the USA, UK, France, Germany, Italy, UAE, South Korea, Singapore and Sri Lanka, and 40,000-plus business visitors from all over the world. The Indian Construction Equipment Manufacturers' Association was the Sector Partner while the National Highways Authority of India and Builders' Association of India were Supporting Partners of the exhibition which focused on 'Building India for a New World: Competitiveness, Growth, Sustainability, Technology'.

"This edition of EXCON exemplified the role of smart technologies and innovation in India's infrastructure development to achieve the vision of making India the global hub for construction equipment (CE) manufacturing by 2030. India, which currently ranks as the third largest CE market in the world, enables our domestic CE industry to hold a prominent position in the global CE landscape. the Government of India's ambitious Rs. 111-lakh crore National Infrastructure Pipeline augurs well for the Indian CE industry to

become the second largest CE market in the world, with a size of USD 25 billion by 2030," felt Mr. V.G. Sakthi Kumar, Member, EXCON Steering Committee & Managing Director, Schwing Stetter (India) Pvt. Ltd.

EXCON plans to take forward India's infrastructure in an ecologically sustainable manner, enabling projects on Smart Cities, supporting Swachh Bharat programme, promoting skill development and positioning 'Make in India' as the "national agenda" for achieving holistic growth in the infrastructure and related sectors.



Mr. Deepak Garg, Member, EXCON Steering Committee & Managing Director, Sany Heavy Industry India Pvt. Ltd, said, "Encouraging the adoption of world-class technologies for speedy implementation

of infrastructure projects is the need all over the world. EXCON, with the presence of world-class players in the CE sector, will not only deliver the best-in-class technologies along with cost-effective solutions, but will also bring more awareness amongst all stakeholders on the latest developments in the CE Industry. The allocation of Rs. 20,000 crore in the Union Budget for PM Gati Shakti – multi-modal connectivity plan with focus on roads, railways, airports, ports and waterways, besides expansion of 25,000 kms of National Highway network in 2022-23 would give a tremendous push for infrastructure development in the country.”

The exhibition had marketing and educational platforms for all stakeholders. Government and senior bureaucrats marked it as a knowledge platform for various administrative departments (PWDs and Civil Engineering Departments), private contractors, builders, road or infrastructure developers, Smart City/urban planning and Army Border Roads Organisation among others. Stakeholders received latest technology outlook information, along with equipment and machinery displays relating to the accelerated infrastructure development needs of the nation. The main CE manufacturers showcased the versatility of machines, sophisticated construction technologies and, more importantly, the cost-effective solutions for builders and contractors for speedy implementation of projects with focus on quality, safety and environmental sustainability.

A conference on 'Shaping the future of Components Sector in the Construction Equipment Industry' was also organised by CII during the event. In his inaugural address, Mr. P. Ravi Kumar, Chief Secretary, Government of Karnataka, observed: “Karnataka is regarded as one of the most desired industrial locations and the state has been pursuing progressive measures to fulfil the changing demands of the economy and industry. To increase GSDP, the Karnataka government is introducing new initiatives to bolster the manufacturing sector and increase the share of exports from Karnataka. Developing in-house

technologies is also critical so that we can expand our innovations and become less dependent on imports to build large scale infrastructure projects, roads, ports, etc. The Government's Gati Shakti initiative enables comprehensive planning and implementation of infrastructure connectivity projects.”

“Encouraging the adoption of world-class technologies for speedy implementation of infrastructure projects is the current need of the industry. The sector is also creating employment opportunities for labourers. Hence, we seek support from the government to strengthen the sector so that we can generate more jobs and boost the economic growth of the country. EXCON aims to bring all of the key decision-makers together and showcase the best-in-class technologies and cost-effective solutions to bring more awareness amongst all stakeholders,” pointed out Mr. C.P. Rangachar, Chairman, Task Force on Components and SMEs, CII EXCON,

Additionally, Mr. Dimitrov Krishnan, Co-Chairman, EXCON 2021 & President, ICEMA, and MD, Volvo CE India, said, “The theme of 'Building India for a New World' focuses on sustainable infrastructure development and hence the focus will be on newer technologies that will take the place of traditional technologies to improve efficiency in construction activities. To drive sustainability, we also need to consider climate impact perspective in terms of introduction of cleaner engine technology and alternative fuels. Additionally, this year our focus is also around the growth of the CE sector. While infrastructure development is already making progress, we need to start preparing for the surging demand in the coming years. This will ensure that not only is the industry growing in size but also creating opportunities of scale not only for India but also for exports of machines and components. By 2030, India will be the second largest market for CE in the world. For critical high precision hydraulic components we need high amount of investments and then they need scale. In this exhibition, we will focus on creating local capabilities, and enhancing supply.”





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## Asia Pacific region will continue to dominate coated steel market in next 5 years

The Asia Pacific region, which is the world's largest market for coated steel products, is also expected to be the fastest-growing market till 2027, according to industry studies. Consumption growth is likely to be registered in countries such as China, India and Japan where increased construction and infrastructure development activities are likely to take place during 2022-27.

These countries are also the primary providers of manufacturing and assembling services to companies in the US as well as European companies based out of Germany and France. With First World countries such as these increasingly rolling out facilities for production of electric vehicles, demand for coated steel materials will certainly rise, since batteries in EVs generally have coatings of coated steel. These companies are also in the process of digitizing their businesses for complete integration of their operations. This has encouraged OEMs in Europe and North America to outsource their production to countries in the Asia Pacific region, say news agencies.

The excitement around coated steel market growth has spawned several studies which provide more or less the same kind of positive outlook. According to one, the global market for coated steel would be around 282.49 million tonnes in 2022 and was expected to grow at an estimated CAGR of 3.67% till 2027. Another study covering the period 2021-27, anticipates a CAGR of 4.4%.

The market is segmented by

- product type – hot-dipped, electro galvanized, aluminized, galvanized, and other product types;
- application – automotive components, appliances, construction and building components, pipe and tubular, and other applications; and
- geography – Asia Pacific, North America, Europe, South America, and Middle-East and Africa.

Based on product type, global coated steel market from metallic coated steel is further segmented into electrogalvanized, hot-dip galvanized, and others (galvanneal, galvalume & aluminized). The others segment is expected to grow at a CAGR of over >3.8% up to 2027.

When a coating of organic or metallic compounds is applied to the steel surface to prevent corrosion, it is called coated steel. Coated steel is considered ideal and effective method for protecting steel from corrosive environments. Coated steel finds various uses in the construction industry to create attractive and functional buildings that meet high environmental and quality requirements. Coated steel provides strength making it suitable for constructing buildings. In addition to this, coated steel possesses other characteristics, such as tensile, ductile, flexible, and cost-effective.

Increasing construction and infrastructure development activities are primarily driving the industry growth. Besides, advancements in galvanizing technology to better protect steel from corrosion are enhancing the industry outlook. Steel sheets are used throughout a broad spectrum of areas such as automobiles, home appliances, building materials, housing, beverage cans, and transformers. Coated steel sheets such as hot-dip galvanized steel sheets and pre-painted steel sheets are widely used in the construction industry as exterior, interior, and structural materials.

Consumption of coated steel products are slated to increase in China in the forthcoming five years as a result of the US\$ 6.47 billion infrastructure development plan proposed by the government earlier this year.

Similarly, construction and infrastructure development projects are being encouraged by the Indian government under its National Master Plan for Multimodal Connectivity called Gati Shakti and the Atma Nirbhar Bharat scheme, aimed to make the country self-reliant in all spheres, particularly to act as a stimulant to companies to set up facilities for production of goods and services that are hitherto being imported.

The other big coated steel using segment that is likely to take off vertically in India within another couple of years is the production of EVs. The rising prices of fuels, India's commitment to reduce carbon footprints, and other similar concerns have driven the government to announce a swatch of favourable policies and subsidies to encourage EV manufacturing. In 2021, according to official data, 329,190 EVs were sold in the country, a growth of 168% over the previous year.

Then there is the Fehmarn Belt Fixed Link Project in Europe, which includes the construction of an 18-km tunnel between Germany and Denmark, which is expected to cost around Euro 7.4 billion and be completed by 2028. Additionally, the construction sector in the Middle East and Africa region is expected to grow at its fastest pace in the upcoming years, as regional governments are investing in infrastructure projects.

The worldwide construction sector is predicted to reach US\$8 trillion by 2030, with countries such as India, China, and the US driving the growth. According to the US Census Bureau, total construction spending in January 2022 was estimated to be US\$ 1,677.2 billion on a seasonally adjusted yearly basis. Therefore, construction and building components application is expected to witness strong growth during the forecasted period.

The major players influencing the global coated steel business arena include JSW Steel Ltd, Severstal' PAO, SSAB AB, Baosteel Group, OJSC Novolipetsk Steel, Nippon Steel Corporation, JFE Steel Corporation, Voestalpine AG, Posco Holdings Inc, Essar Group and ArcelorMittal. These companies are focusing on new product development and innovations to elevate their standing in the marketplace.

For instance, Nippon Steel Corporation launched coated steel sheets brand named ZAM-EX last year to take advantage of the surging demand for corrosion-resistant coated steel sheets in the solar power industry. In November 2021, Wuppermann and Tata Steel partnered together to expand their range of hot-rolled high-strength steels for auto chassis with good corrosion protection. In 2020, Tata Steel had launched its novel coated steel called Galvanova that caters to a wide range of applications across home appliances, automotive, solar panel, and HVAC industries.

*(Courtesy: News agencies)*

### Steel production to soar, thanks to reduced steel prices

The Government of India has decided to impose 15 per cent duty on export of steel and iron ore resulting to reduction in price of steel. Locally produced steel will witness a reduction by Rs. 7000 – 8000 and main producers by Rs. 4000 PMT.

Mr. Narinder Bhamra, President, Fastener Association of India stated, "Another cut by prime producers of the country in the steel prices is expected within couple of days. The rates have come down recently as the government decided to impose duty on export of the steel. This will help local industry get more export orders of finished products, which will be exported at the rate of Rs. 150 per kg instead of Rs. 70 to Rs. 80 per kg. This will boost the domestic industry and garner more revenue for the Government."

"However, the permanent solution to this problem is formation of regulator so that in future prime producers do not form cartel to increase prices of steel at their own will," Mr. Bhamra added.

Mr. Badish Jindal, President, All Industries Trade Forum said, "The local industry dealing in furnace, fastener, bicycle and parts is upbeat because they are getting orders, which can be materialised at better prices. We were writing to the PM, ministry and other higher-ups for long to curb this cartelisation, but no heed was paid to our pleas. Ever since the government has imposed duty on steel exports, its prices have come down. This was what we wanted to promote Make in India concept. Finished products get better place in domestic market. Besides, industry will also receive more export orders of finished products at good rates."

# Domestic stainless steel demand likely to reach 20 MT by FY47

By Steel Scenario Bureau

Domestic stainless steel demand is expected to reach 20 million tonnes (MT) by financial year 2047, according to a report. In 2021-22, the country's demand for stainless steel was 3.7-3.9 MT, as per the 'Stainless Steel Vision Document 2047' released in April 2022.

The report was launched by Additional Secretary, Steel Ms. Rasika Chaube at the ongoing Global Stainless Steel Expo (GSSE) 2022. The report said it expects, "stainless demand to register a compound annual growth rate (CAGR) of 6.6-7.5% over fiscals 2022-2025 and reach 4.6-4.8 MT." Further, sectors like construction, infrastructure, and manufacturing – key contributors to the country's GDP – are expected to drive the growth.

Thus, the consumption is expected to reach 12.5-12.7 MT and 19-20 MT by FYs 2040 and 2047, respectively.

As of March 2022, India's installed stainless steel capacity is at 6.6-6.8 MT. The capacity utilisation is estimated to have improved from 50% in FY2021 to 58-60% FY2022, the report said. The report further said India needs to develop enough capacities while improving utilisation to meet the estimated demand.

India is the second largest consumer of stainless steel and one of the fastest-growing markets. The country's per capita stainless steel consumption has more than doubled to 2.5 kg in 2022 fiscal from 1.2 kg in 2010. The per capita consumption of stainless steel will reach 8-9 kg by 2040 and 11-12 kg by 2047, the report said.

The growth is set to jump by leaps and bounds owing to the government spending across various sectors where steel is used, Ms. Chaube said in her address.

Over 1,500 participants from all over the world attended GSSE 2022. The event was held for the first time for the stainless steel industry.

## Tata Steel, JSW, SAIL and JSPL to witness low export map

The Indian Government imposed a 15% export tax on eight steel products, also minimizing the import duty on crucial raw materials for the sector to zero. Top steel-makers who had been banking on exports like – Tata Steel, SAIL, Jindal Steel and Power (JSPL) and JSW Steel - will be majorly impacted.

The government aims to bring down prices of steel in the domestic market by driving up the volumes. This move will have a direct impact on the core inflation which has been rising for the last few months. The export tax will also minimize the margins on steel exports, which were attractive for the last one year. Indian companies had been gaining after lower exports from China due to its de-carbonisation drive; and higher energy prices in Europe.

Analysts assume that the producers' exports will reduce by 50%. According to reports, this will lead to increased steel supply in the domestic market which will lead to reduction in domestic steel prices.

This move will severely impact domestic steel prices and in turn profitability of steel players, given elevated coking coal prices. Lower earnings would impact growth capex, increase debt and reduce steel sector valuation.



# Government initiatives for Indian steel industry

By Steel Scenario Bureau

The central government's call for Atma Nirbhar Bharat has provided a whole new dimension to the nation with regard to development for self-reliance, and industry is wholeheartedly participating in it. Similarly, the Gati Shakti initiative for development of multi-modal connectivity in the country has opened up new vistas for a wide range of industries, particularly those associated with infrastructure development and construction. Both these government initiatives have been especially beneficial for the Indian steel industry.

According to information presented to Parliament by Union Steel Minister Mr. Ram Chandra Prasad Singh recently, growth of the domestic steel sector by import substitution of around Rs 22,400 crore so far is a direct benefit accrued from the Domestically Manufactured Iron & Steel Products Policy notified by the Government on 8th May 2017 and subsequently revised on 29th May 2019 and 31st December 2020.

In addition, The PM Gati Shakti National Master Plan is a Rs. 100 lakh crore investment roadmap for infrastructure development over the next five years. The various initiatives for infrastructure development under the plan will boost the demand for steel in various sectors thereby enhancing steel usage and growth of the steel sector in the coming years.

To give a boost to increased steel usage, the Government has worked tirelessly to support MSMEs especially in the post-Covid period. While bringing immense relief to small steel using businesses in the unorganized sector that suffered hugely during the repeated pandemic waves from early 2020, Government initiatives like the speciality steel production-linked incentive (PLI) scheme have boosted production plans of large producers of steel as well.

**Some other recent Government initiatives relating to the steel Industry are as follows:**

- In October 2021, the government announced guidelines for the speciality steel PLI scheme that had been approved in July 2021. The scheme is expected to attract investment worth ~Rs. 400 billion (US\$ 5.37 billion) and expand speciality steel capacity by 25 million tonnes (MT) to 42 MT in FY27, from 18 MT in FY21.
- Also in October 2021, India and Russia signed an MoU to carry out R&D in the steel sector and produce coking coal (used in steelmaking).
- In June 2021, former Minister for Steel & Petroleum & Natural Gas Mr. Dharmendra Pradhan addressed a webinar on 'Making eastern India a manufacturing hub with respect to metallurgical industries' organised by the Indian Institute of Metals. [In 2020, the Steel Ministry had launched 'Mission Purvodaya' to accelerate the development of the eastern states of India (Odisha, Jharkhand, Chhattisgarh, West Bengal and the northern part of Andhra Pradesh) through the establishment of an integrated steel hub in Kolkata, West Bengal.] Eastern India has the potential to add >75% of the country's incremental steel capacity. It is expected that of the 300 MT capacity to be created by 2030-31, >200 MT can come from this region alone.
- In June 2021, JSW Steel, CSIR-National Chemical Lab (NCL), Scottish Development International (SDI) and India H2 Alliance (IH2A) joined forces to commercialise hydrogen in the steel and cement sectors.
- Under the Union Budget 2020-21, the Government had allocated Rs. 39.25 crore (US\$ 5.4 million) to the Ministry of Steel. The budget's focus was on creating infrastructure and manufacturing to propel the economy. In addition, enhanced outlays for key sectors such as defence services, railways, and roads, transport and highways would provide impetus to steel consumption.
- In January 2021, the Ministry of Steel signed a Memorandum of Cooperation (MoC) with the Ministry of Economy, Trade and Industry, Government of Japan, to boost the steel sector through joint activities under the framework of India-Japan Steel Dialogue.

The National Steel Policy, 2017 envisages 300 MT of production capacity by 2030-31. The per capita consumption of steel has increased from 57.6 kgs to 74.1 kgs during the last five years. The government has a fixed objective of increasing rural consumption of steel from the current 19.6 kg/per capita to 38 kg/per capita by 2030-31. With continuous government support, the road ahead for the Indian steel industry is full of opportunity, with a huge scope of employment generation and development of the nation.

## Real estate sector welcomes import duty cuts on iron, steel inputs

By Steel Scenario Bureau

On 21st May 2022, the Government slapped an export duty on certain steel products, reduced the import duties on select raw materials for steel and plastics, and sought to shore up supplies of cement through better logistics. Real estate experts said that these actions were timely and hoped they would have the desired effect, considering that prices of steel and cement had gone up by almost 40-45% in the recent past, prompting developers to increase prices.

“Measures are being taken up to improve the availability of cement and through better logistics to reduce the cost of cement,” tweeted Union Finance Minister Ms. Nirmala Sitharaman. “Similarly, we are calibrating customs duty on raw materials & intermediaries for iron & steel to reduce their prices. Import duty on some raw materials of steel will be reduced. Export duty on some steel products will be levied.”

The move by the Government to reduce import duties on steel products has come as a sigh of relief to all stakeholders. Real estate developers welcomed the Government's announcement. A reduction in import duty of iron ore and steel intermediates will further bolster the availability of raw materials domestically, cool off the prices of steel products, and help tide over the rise in prices of projects, strengthening consumer sentiment, real estate developers said.

The FM's assurance to improve logistics and help domestic availability of cement and lowering custom duties on coal products used in the production of cement will have a positive impact on the cost of the commodity, felt CREDAI president Mr. H.V. Patodia, who is also CMD of Unimark Group. A reduction in prices of fuel tax to pre-Covid levels will help bring down the transportation costs of all raw materials and essentials in industries agnostic of their businesses and reduce the pressure on the end consumers, he added.

“Going forward, we suggest the state government cut down on state duties on fuel too to have a direct impact on the rise in inflation. CREDAI sincerely hopes that manufacturers will pass on the price cuts to end-users. This will help the real estate developers negate increased construction costs over the last two years, which will only help prospective homebuyers,” Mr. Patodia said.

Mr. Anuj Puri, chairman, Anarock Group, termed it a timely move and hoped that it will have the desired effect. “Input costs of steel, cement, etc., have gone up by almost 40-45% in recent past, thereby prompting developers to increase prices. This possibility of price hike was also highlighted in Anarock's recent consumer survey, wherein at least 56% of the respondents felt that property prices will increase in 2022,” he said.

In fact, on deep dive it emerged that a price rise of more than 10% will have a 'high impact' on residential sales and less than 10% rise will have a 'moderate-to-low impact' on sales. The current sales velocity may thus be impacted by price rise of more than 10%. In short, there is a self-limiting scope for increasing prices due to increased input costs. Means must be found to bring down the cost of construction materials, as there is no natural limit to control the heights they can go to if kept unchecked, he said.

Mr. Sunil Furde, president, CREDAI Maharashtra, also welcomed the move. “We appreciate the FM's positive approach to our requests and we are hopeful that the steel, cement and other construction material manufacturers take note and positively act to help cool down the prices immediately. The diesel rate cuts will additionally help them reduce the prices which will further help us get lower input costs,” he said.

“This was a much needed step that the industry was looking for as the high prices of steel and cement were impacting the viability of real estate projects, especially PMAY and affordable housing which have very thin margins,” said Mr. Gaurav Gupta of SG Estates and joint secretary, CREDAI (NCR). He hoped that prices of both steel and cement would cool down by at least 25%, as they are currently at 40-60% higher than what they were six months ago.

Asked if developers would continue to increase prices of housing units, he said: “This step is not that big that prices will be back to previous levels. This is more of a nudge/signal to the steel and cement industries to keep a check on prices. Most importantly, it will help break the cement industry cartel which creates artificial scarcity and controls prices. Moreover, cement attracts GST @28% which is the highest slab. It needs to be brought down to 18% as cement is one of the most important components in nation building,” he observed.

Mr. Niranjan Hiranandani, vice chairperson, NAREDCO and MD Hiranandani Group, said that in the backdrop of inflationary pressures and global supply chain blockages, the Indian real estate sector has been grappling with construction cost hikes due to increase in raw material costs. The Government has taken pragmatic steps to overcome these challenges, with lowering of taxation on fuel resulting in lower costs as regards the supply chain, he said.

Similarly, reduction in import duties on three key raw materials for steel production and three inputs for making plastic items, will help reduce cost of production in turn, impacting cost of steel and plastics required for construction. “Along with this, the government has also notified export duty on 11 iron and steel intermediates, which will ensure that not all production gets exported – effectively, ensuring supply in the domestic market as well,” Mr. Hiranandani added.

### **India's second stainless steel foot-over-bridge opens at Srikakulam Railway Station**

India's second stainless steel foot-over-bridge was opened at the Srikakulam Railway Station by State Assembly Speaker Shri Tammineni Seetharam. Jindal Steel Company constructed this most cost-effective foot-over-bridge (FOB) and RDSO-approved stainless steel grade for coastal railway infrastructure was used. The bridge was thrown open to the public in the presence of local MP Shri K. Ramamohan Naidu and Divisional Railway Manager Shri Anup Satpathy. Waltair Division of East Coast Railway provided the 2nd FOB at Srikakulam Road Railway Station.

Shri Satpathy stated that this was the second such FOB after the one at Naupada in Indian Railways where a stainless steel girder was used for an FOB. The codal life of the stainless-steel FOB is 125 years as per RDSO. Being in the coastal area, this stainless steel structure will be corrosion-free and life will be much more than that of any normal mild steel FOB.

Shri Seetharam appreciated the efforts of the Ministry of Railways and Waltair Division authorities in particular, for providing such amenities at the station. He said that the second FOB, a long standing demand, will definitely be more useful to the public of this region.

Ramamohan Naidu said that it was a proud moment for everyone that India's first and second stainless steel FOB were commissioned in Srikakulam district and hoped the demands raised by the local public for improvement of amenities would also be fulfilled in near future. He congratulated all the railway team.

Jindal Stainless developed the most cost-effective and high-quality stainless steel for structural applications – Jindal Durasafe especially for coastal areas. The grade, IRS 350 CR, has 10-12 per cent chromium, a key ingredient in fighting corrosion, and has been designed for zero maintenance, about 100 years' service life, and lower life cycle cost and carbon footprint. It comes in offerings like plates, girders, and channels. The company collaborated with RDSO (Research Designs & Standards Organisation) and IIT Roorkee for testing, approval and endorsement of the grade, which eventually led to its formalisation for coastal railway infrastructure applications.



## Meet WEF's Technology Pioneers of 2022

On 10th May 2022, the World Economic Forum (WEF) welcomed 100 innovative tech firms to its Technology Pioneers community. Full of young and growing tech companies, the 2022 cohort is forging new paths from as diverse sectors as healthcare and food production to financial services and the metaverse and more, with cutting-edge technologies. In addition to their tech prowess, the firms are focused on solving some of the world's most pressing issues such as climate change, cybersecurity and energy conservation.

The Tech Pioneers selected by WEF in 2022 are a truly global community representing 30 countries, with Vietnam, Rwanda and Czech Republic represented for the first time. Following their selection, this year's companies will join an impressive group of alumni that include many household names, such as Airbnb, Google, Kickstarter, Mozilla, Spotify, TransferWise, Twitter and Wikimedia. By joining this community, the Tech Pioneers begin a two-year journey where they are part of the WEF's initiatives, activities and events, bringing their cutting-edge insight and fresh thinking to critical global discussions.

Of the 100 companies, three are from the Middle East and North Africa, five each are from Africa and Latin America, 30 are from countries in the Asia Pacific region, 23 from Europe, and 34 from North America. For the first time ever, more than one-third of the selected firms are led by women, which is well above the industry average.

This year's intake includes Emerge, which is improving virtual interactions through a device that gives a tactile effect to users at virtual gatherings. Ampd Energy is reshaping the construction industry by pioneering battery energy storage systems, and Alife is supporting healthcare advances by using artificial intelligence to improve the success rate of in-vitro fertilization.

In Mexico, for example, microTERRA builds on-site water treatment systems with microalgae that transform wastewater into a sustainable protein source and clean water. Luxembourg's Mission Space has developed a satellite-based space weather intelligence system. In the United States, Bonumose is transforming global food systems with its technology to support the affordable production of healthy alternative sugars such as tagatose and allulose.

The Technology Pioneers of 2022 bring together 100 early- to growth-stage companies from around the world that are pioneering new technologies and innovations. These include healthy alternative sugars and plant proteins, the enhancement of virtual connections via tactile effects, satellite-based space weather intelligence systems and many more.

Technology Pioneers are an integral part of the WEF's Global Innovators community which is an invitation-only group of the world's most promising start-ups and scale-ups that are at the forefront of technological and business model innovation. The community is also part of the Centres for the Fourth Industrial Revolution Network, where members contribute to shaping new policies and strategies in areas such as artificial intelligence, blockchain and digital assets, the internet of things and autonomous vehicles.

*(Courtesy: World Economic Forum)*

STEEL MARKET PRICE (thousand tonnes)

May 2022

CITY	INGOT	BILLETS	TMT 12MM	WIRE	SCRAP	COIL/CR/HR	SPONGE IRON
AHMEDABAD	48200		53300		39000		
BHIWARI	47500	47800			34000		
BHAVNAGAR	47500	48500	52400		42000		
DURGAPUR	44500	45100	49000	5.5mm-51200/12G HB-53700		72000/63000	32100
GAZIABAD			51800		38500	81000/70000	
INDORE	47800	48200	52700		39000		
JAMMU	49200						
KANPUR					35000		
KOLKATA	45200	45800	49000			75000/69000	
LUDHIANA	48100	48500			40100	76500/68500	
MANDI GOBINDGARH	49000	48500	54000				36800
MUMBAI	48500	48000	55300		38500	79300/69300	
MUZAFARNAGAR	48500	48900	50600		41000		
RAIGARH	44000	45000	48500				31700
RAIPUR	45500	46000	48000	5.5mm-51200/12G HB-53600			33900
ROURKELA	43400	44000	49500				31600

Source: Metal Market





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## Vibrant Automobile Market

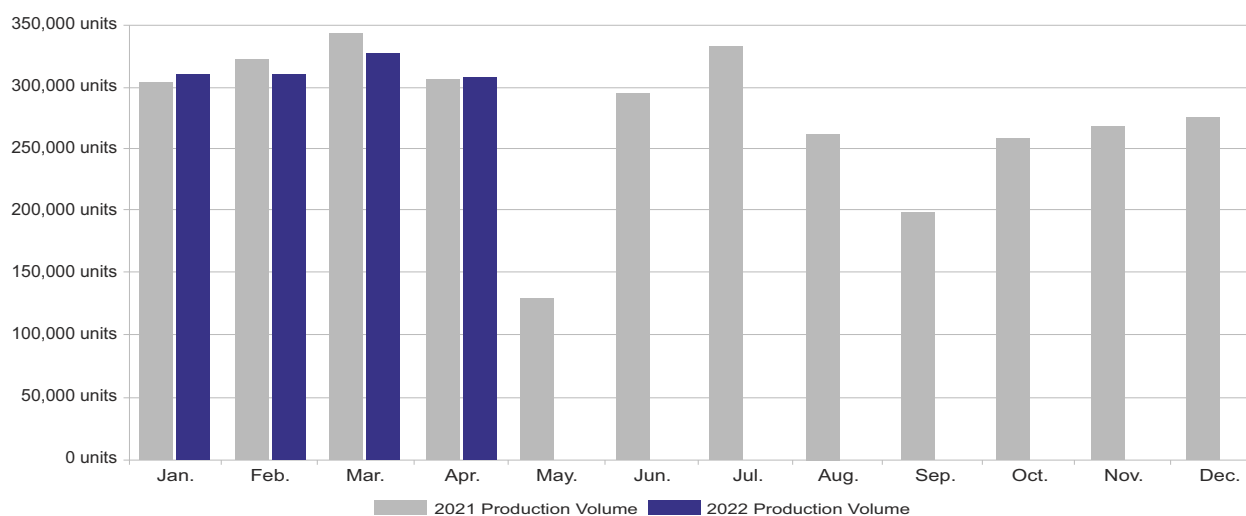
The Automobile industry of India, currently manufactures 22.7 million vehicles including Passenger Vehicles, Commercial Vehicles, Three Wheelers, Two Wheelers, and quadricycles in April-March 2020, of which 4.1 million are exported. India holds a strong position in the international heavy vehicles arena as it is the largest tractor manufacturer, second-largest bus manufacturer, and third largest heavy trucks manufacturer in the world. India is expected to be the world's third-largest automotive market in terms of volume with the \$222 bn Automobile industry is expected to reach \$300 billion by 2026.

To keep up with the growing demand, several auto makers have started investing heavily in various segments of the industry during the last few months. The industry attracted Foreign Direct Investment equity inflow (FDI) worth US\$ 30.78 billion between April 2000-September 2021, accounting for 5.49% of the total equity FDI during the period. In January

2022, total production of passenger vehicles\*, three-wheelers, two-wheelers and quadricycles reached 1,860,809 units. In February 2022, a memorandum of understanding (MoU) was signed between electric two-wheeler company Ather Energy and Electric Supply Companies (ESCOMs) of Karnataka for setting up 1,000 fast charging stations across the state. In February 2022, Tata Power and Apollo Tyres Ltd announced a strategic partnership for the establishment of 150 public charging stations across India.

**India - Automotive Production volume, 2022**

India is also a prominent auto exporter and has strong export growth expectations for the near



India is also a prominent auto exporter and has strong export growth expectations for the near future. In addition, several initiatives by the Government of India and major automobile players in the Indian market is expected to make India one of the leaders in the two-wheeler and four-wheeler market in the world by 2022. Automobile exports reached 4.13 million vehicles in FY21, growing at a CAGR of 3.47% during FY16-FY21. Two wheelers (79.38%), passenger vehicles (9.79%) and three wheelers (9.52%) made up the majority of exports from India.

Electric vehicles, especially two-wheelers, are likely to witness positive sales in 2022-23. In Q3 FY22, electric vehicle (EV) sales reached a new high of 5,592 units. Overall, in 2021, 329,190 EVs were sold in India, indicating a 168% YoY growth over last year's sales of 122,607 units. Investment flow into EV start-ups in 2021 touched an all-time high, increasing nearly 255% to reach Rs. 3,307 crore (US\$ 444 million). EV startups that attracted maximum funding in 2021 were Ola Electric (US\$ 253 million), Blusmart (US\$ 25 million), Simple Energy (US\$ 21 million), Revolt (US\$ 20 million) and Detel (US\$ 20 million).

The automobile industry is dependent on various factors such as availability of skilled labour at low cost, robust R&D centres, and low-cost steel production. The industry also provides great opportunities for investment and direct and indirect employment to skilled and unskilled labour.

# Electric Vehicle market: All charged up

By Industry Scenario Bureau

## May 2022

- The Shanghai-based Chinese state-owned automobile manufacturer SAIC Motor Corp. Ltd set up an energy technology subsidiary named Shanghai Jieneng YidianEnergy Technology Co. Ltd with a registered capital amounting to US\$ 4.497 million. The scope of business of this subsidiary includes sales of new energy vehicle battery swapping facilities and operation of EV battery charging facilities, according to reports.

## April 2022

- General Motors and Honda announced plans to co-develop a series of affordable electric vehicles based on a new global architecture using next-generation Ultium battery technology. The new EV series is expected to go on sale in 2027, starting in North America.
- Honda signed a joint development agreement in the area of lithium-metal secondary batteries with SES Holdings Pte Ltd, a US-based EV battery research and development company.
- Stellantis and Qualcomm Technologies Inc. announced a multi-year technology collaboration to utilise the latest Snapdragon® Digital Chassis advancements to deliver intelligent, customisable, and immersive in-vehicle experiences to millions of vehicles across Stellantis' 14 iconic automotive brands beginning in 2024.

## February 2022

- Renault Group, Valeo and Siemens Automotive announced that they signed an MoU to form a strategic partnership for the design, co-development, and manufacture in France of a new-generation automotive electric motor, eliminating the use of rare earth metals. The partners will combine their knowhow and recognised expertise to design a unique electric powertrain system that is unparalleled worldwide, offering more power on less energy, without the use of rare earth metals.
- Tesla Inc. revealed plans to expand parts production at its Shanghai factory to meet the growing export demand.

- MG Motors showcased its upcoming EV, the MG 4, which is expected to launch in India later in 2022. The EV will come with a 61.1 kWh battery pack and is expected to run around 400 km.

## January 2022

- Volkswagen announced the development of its ID.5 model based on the Skoda Enyaq iV model. The vehicle is expected to have a range of around 300 miles on 1 charge.

## December 2021

- BYD launched its new second-generation e6 EV for the Indian market. The deliveries for this model were started by February 2022. This MPV comes with a 71.7 kWh battery pack and a range of around 250+ miles per charge.

## November 2021

- BMW launched its new i4 electric sedan with a range of approximately 300-367 miles. The vehicle can reach 100 km/hour in just four seconds. It comes with automatic transmission and connected vehicle features.

## June 2021

- Opel/Vauxhall, a subsidiary of Stellantis, launched its Mokka EV, which comes with a max range of 209 miles and a 50kWh battery. The car is FWD and comes with connected vehicle features.

## April 2021

- BYD launched four new EV models equipped with Blade battery in Chongqing. These models come with advanced battery safety features.
- Volkswagen unveiled the 7-seater EV ID.6 Crozz and ID.6 X produced along with FAW and SAIC in China. The vehicles, sold only in China, come in two battery versions and four powertrain configurations.

## March 2021

- Volvo showcased its new C40 Recharge model designed as a pure electric car with most features similar to its XC60 model.

## December 2020

- Nissan announced 2021 Leaf model with a choice of battery between 40 kWh and 62 kWh and mileages



ranging between 149 and 226 miles per charge for the US market.

It is obvious from the facts above that leading automobile manufacturers and energy companies across the globe are collaborating with other players and investing in new technologies and products to gain significant and strategic market share of the electric vehicle (EV) and related businesses industry segment. It is significant that all of these collaborations are aiming to offer niche products in various categories – purely automotive, auto cum energy, energy storage, energy distribution, et al. The trend clearly indicates a move by pure auto manufacturers towards evolving into integrated hybrid auto-cum-energy producers in the coming years.

Yes, rapid developments are rapidly taking place in the EV manufacturing segment worldwide. The progressive thrust by governments and various trade blocs upon design and manufacture of environment-friendly products, along with favourable government policies, have started yielding results, especially in the electric mobility field. The datelines of the developments above clearly show that even disruptions caused by the Covid-19 pandemic globally did not deter leading auto companies from investing hugely in R&D and collaborations to provide newer models of EVs with better energy savings. The activities seem to have speeded up from early 2021 as competition has intensified in the main EV markets of China, USA and Europe, and now other countries in the Asia Pacific region are also emerging as big playgrounds.

As per data available, the EV market is dominated by established players such as Tesla and General Motors (US), Volkswagen AG (Germany), SAIC Motors, BYD, BAIC and Chery (China), Toyota and Honda (Japan), Hyundai (South Korea) and Stellantis (Netherlands). These companies also offer extensive products and solutions for the automotive industry. These companies have strong distribution networks at the global level, and they invest heavily in R&D to develop new products.

In the Asia Pacific region – which is being predicted to become the fastest growing market in the world by 2030 – China is already a market leader, being the world's largest EV producer and user in the passenger car and urban bus segments. In addition to incentivising its huge population to purchase subsidised EVs and making it mandatory for all auto companies to manufacture EVs as a percentage of their total production, China provides fulsome support to this burgeoning industry by installing EV charging

points across all major urban areas and heavily penalising polluting vehicles. However, countries like Japan and South Korea have also been steadily growing their EV markets, mainly with governmental support, like China, in the form of policy initiatives that establish strict emission values and phaseout deadlines for vehicles with internal combustion engines (ICE), besides installation of charging stations. Other countries in the region like Thailand, Indonesia, Malaysia, and Vietnam have also started initiatives to reduce vehicular emissions and adoption of EVs as the preferred means of transport.

In India too there is huge excitement about EVs and their gradual appearance on the roads, in view of the volatility in fuel prices in recent times. The government has already initiated policy for old vehicle scrappage to encourage growth of this industry and incentivise its growing urban populace to adopt low-emission vehicles for mobility. Other policies are also reportedly on the anvil and industry observers predict that within the next five years India will be the dominant market for EVs in South-East Asia.

The Asia Pacific region is already the largest market for electric passenger cars, followed by Europe and North America. In Asia, China, Japan and South Korea lead the passenger EV segment. Germany, France, Netherlands, Norway, Sweden and UK have growing passenger EV demand.

With countries across the world setting targets to reduce carbon footprints by 2030-50, and with ICE vehicles being identified as being amongst the biggest sources of pollution, development and sales of EVs and related charging infrastructure is now a big focus of not only the automotive industry – which stands to gain immensely given the high public interest – but governments as well. For instance, the US government has invested billions of dollars already to promote EV infrastructure such as charging stations. Several governments are also providing various incentives such as low or zero registration fees and tax exemptions to encourage adoption of EVs. In 2020, due to these measures, Europe's EV sales went beyond China's EV sales, but China sold more EVs in 2021 due to the growing demand of mini-EVs.

Many countries have announced plans to stop ICE vehicle sales in the coming decades. Europe is expected to be the first region with plans to fully shift to EVs. The Netherlands, Israel, Ireland, Iceland, and Denmark have plans to adopt EVs by 2030. According to reports, the UK aims at dominating the entire vehicle market with EV sales by 2030. Norway, where EV sales growth is already high – as in Germany – plans

to do so by 2025. China and Japan also plan to stop ICE vehicle sales by 2035.

The rising demand for EVs has spawned growth in demand for components and equipment associated with EV charging, such as charging cables, connectors, adapters, and portable chargers too. The cost of EV batteries – one of the most expensive components of EVs, accounting for around 40-50% of a vehicle – has been steadily decreasing due to adoption of new technologies that permit production on a mass scale in large volumes and lower cost of cathode material. Cost of an EV battery was as low as US\$ 120 per kWh in 2021 in comparison to US\$ 1,100 in 2010 in the USA. In China, an EV battery can be purchased for only US\$ 100 per kWh today. Industry analysts say EV batteries are likely to cost around US\$ 60 per kWh by 2030 in most countries with EV markets, with technology transfer becoming simpler and more affordable in the interim. Resultantly, cost of EVs at the end of this decade will fall sharply, making them cheaper than conventional ICE vehicles.

This progress promotes electrification of transport modes such as two/three-wheelers, light-duty vehicles like cars and vans, taxis and shared vehicles, buses and heavy-duty vehicles with short range requirements such as urban deliveries.

According to market data, the EV market was valued at over US\$ 411 billion in 2021, and it is expected to cross the level of US\$ 1390 billion by 2027, witnessing a CAGR of over 19% during the period. Some market observers even expect the global market to touch 40 million EV units by the end of this decade from a level of 10 million units in 2020, at an estimated CAGR of around 22%. In 2021 alone, 2 million EV units were sold globally.

The projected spectacular growth of the EV market is

expected to ride on the back of increased demand for high-performance EVs and other fuel-efficient and low-emission vehicles, lowering EV battery costs, establishment of easily accessible and cost-effective charging infrastructure and hydrogen fuelling stations, increasingly strict laws and regulations on vehicle emissions and, of course, rising costs of refining traditional fossil fuels to meet declared global environmental targets.

Manufacturers are continuing to expand the number of EV models available to customers. However, besides incentivising companies to develop more efficient electric mobility solutions, governments across the world need to benchmark and standardise charging infrastructure norms for sustained growth in EV sales. A big constraint for potential buyers of EVs is that different countries use different standards for fast charging of vehicles.

As per one report, Japan uses CHAdeMO; Europe, the US, and Korea use CCS; and China uses GB/T. Again, US-based electric car maker Tesla uses high-performance superchargers unique to Tesla that cannot be used for other EVs. The Indian government had initially mandated the installation of CHAdeMO and CCS methods that increased the installation cost of charging stations. However, in 2019, the government modified the guidelines and allowed charging station developers to choose their preferred method.

These different charging standards are acting as a big source of concern for infrastructure companies planning to venture into the EV charging station business. Many companies are installing either a common socket or multiple types of sockets in charging stations. Standardisation of charging points would simplify charging EVs and lead to faster growth of EV demand worldwide.

### Pinnacle Industries to set up EV manufacturing facilities with Rs 2,000 cr.

Pinnacle Industries will invest Rs 2,000 crore for establishing electric vehicle (EV) manufacturing facilities in Indore and Pune. The company is one of the 20 companies which received approval under the PLI scheme to set up EV manufacturing units.

Pinnacle Industries is a Pune-based company that recently established an EV unit under the name of Eka.

“We are one of the 20 successful applicants for the auto PLI scheme for the EV segment. We will be investing Rs 2,000 crore over the next five years to develop EV buses and build manufacturing units in Pune and Pithampur near Indore. The plants should be ready over the next 12-18 months, and we plan to invest Rs 2,000 crore into the EV business over the next five years,” Pinnacle Industries and Eka CMD Sudhir Mehta.

The company has already manufactured two buses that are waiting for regulatory approval. These buses are 10-15% lighter than their competitors because of use of stainless steel material. Pinnacle will launch around 1,000 buses and in the long run. The company also plans to design, manufacture and supply various ranges of EVs, alternative fuel vehicles, and fuel cell EVs.



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# Indian market taking infant, but firm, steps

By Industry Scenario Bureau

Spotting vehicles with green numberplates is getting more and more common on Indian roads. There are already over 9.6 lakh battery-operated electric vehicles in India. According to e-vahan portal, Uttar Pradesh leads with 276,217 EVs, followed by Delhi with 132,302. Arunachal Pradesh and Mizoram have the least number of EVs. According to industry projections, the value of the Indian EV market will cross US\$ 206 billion by the end of this decade.

It would not be wrong to say that the Indian automobile sector is undergoing a much-awaited paradigm shift, driven primarily by government initiative. EVs in India are exempt from permit regulations and requirements. The Ministry of Road Transport and Highways (MoRTH) has also issued a notification advising states to waive road tax on EVs, which in turn will help reduce the initial cost of EVs, as per reports.

In 2015, the Government of India (GoI) launched the Faster Adoption & Manufacturing of (Hybrid and) Electric Vehicles (FAME) scheme to promote the adoption of hybrid and EVs across the country. Phase-2 of the scheme is currently in operation for a period of five years with effect from 1st April 2019, with total budgetary support of Rs. 10,000 crore. Under this phase, 1.6 million hybrid and EVs – including two/three-wheelers, buses and cars – and their parts, have been targeted for manufacturing domestically utilising various incentives. GST on EVs has also been reduced from 12% to 5% to encourage Indians to transition to this environment-friendly transport. GST on charging stations has also been reduced from 18 to 5% to incentivise infrastructure companies to invest.

Exactly a year ago, in May 2021, the GoI also extended its Production-Linked Incentive (PLI) scheme to the manufacturing of advanced chemistry cell to control the prices of EV batteries and, resultantly, lower the prices of EVs. The PLI scheme was extended to auto components in September last year with a total outlay of Rs. 25,938 crore. These initiatives are meant to strengthen the GoI's Atma Nirbhar Bharat policy aimed to encourage import substitution. The government is seeking to stimulate the auto sector, which is among

the high-value importers in India, to source its input materials from domestic producers if the required standards are met.

However, reports indicate that only 3% of funds allocated under FAME II have been utilised for a total of only 30,000 vehicles till mid-April 2022. To achieve GoI's target of 30% EV sales of total auto sales by 2030, both the industry and the government must jointly evolve plans to hasten adoption of EVs and phase out ICE vehicles in a systematic and realistic manner.

It is worthwhile that the state governments are also appreciating the Centre's initiatives on EVs and many of them have announced plans to convert their public transport vehicles completely to the electric versions in phases. The New Delhi government launched a public awareness campaign last year to promote its **EV policy** announced in August 2020. The policy targets 25% EV sales of total auto sales by 2024 and 50% of all new buses to be running on batteries. Other metros like Kolkata, Pune, Nagpur and Bangalore are electrifying their public bus fleets under the FAME II programme that supports provision of one low-power charger per bus and one high-power charger for 10 buses.

Electric mobility is being especially promoted by the GoI because it can go a long way in helping the country meet its Sustainable Development Goals (SDGs), including developing sustainable cities. Among its various efforts to control vehicular emissions and pollution is the imposition of Bharat Stage VI (BS-VI) standards – which are largely aligned with Euro 6 standards – on new sales of motorcycles, light- and heavy-duty vehicles.

Among the leading EV manufacturers in India are Mahindra Electric, Tata Motors, Hyundai Ltd and Ashok Leyland. Mahindra pioneered manufacturing of EVs in India. Its first EV, an electric passenger car named Reva, was launched in 2001. With a dedicated R&D unit in Bangalore, the company has since then brought Mahindra E20 and eVerito among its other EV options to the market. Mahindra Electric manufactures both EVs as well as batteries, and is collaborating with various institutions to promote the setting up of charging infrastructure.

Tata Motors is India's largest EV manufacturer. Its products include both light- and heavy-duty vehicles, and defence vehicles. The company scores over its competitors with its ability to access resources from all over the world. Tata Motors has set up R&D centres in India, the UK, Italy and South Korea, aiming to cooperate with its subsidiary Tata Motors UK European Technology Centre to develop sustainable EVs for the future. Tata Motors focuses on the electric bus and passenger car market in India. It foresees long-term demand for electric buses in the country to reach a level of about 400,000 vehicles. Among vehicles, the company offers EV models Tigor EV, Nano EV and Tiago EV. The company is also planning to enter the business of charging stations.

Hyundai's market debut in India was with its Hyundai Kona EV, specially designed and manufactured for

Indian conditions. Due to the high cost of the car and its limited availability, it is not a popular model. However, Hyundai Motor is developing another electric car for the mass market.

Ashok Leyland, the flagship of the Hinduja Group, is the world's fourth-largest bus manufacturer and a leader in the Indian commercial EV market. The company has partnered with Sun Mobility to expand its EV knowhow. Hence it has commercialised options specifically for Indian conditions and introduced battery replacement functions in electric buses. A variety of different electric buses from the Ashok Leyland stable such as Circuit, HYBUS, and Electric Euro 6 Truck run on roads in India and other countries. The company has announced a new model called iBUS and is looking to increase exports.

### Feasibility study of CO<sub>2</sub> capture & utilisation project at IOC Koyali refinery over

The techno-economic feasibility study of the proposed Carbon Capture & Utilisation Project at Indian Oil Corporation's the 13.7 MTPA (million tonnes per annum) Koyali refinery in Gujarat has been successfully completed. The study was undertaken by Dastur International Inc. (DII) and Dastur Energy. The project was funded by a grant from the US Trade & Development Agency (USTDA), according to a report in Hindu Businessline.

Mr. Atanu Mukherjee, President and CEO of DII, said the project would provide IOC with a techno-economically viable solution for capturing up to almost 0.7 MTPA of CO<sub>2</sub> from its steam methane reforming-based hydrogen generation units (HGUs) at a very competitive cost structure. "The carbon capture solution designed by Dastur would allow IOC to substantially decarbonise its HGU operations and supports IOC's strategy of producing clean hydrogen. The project also supports the government's mandate of decarbonising the oil & gas sector," Mr. Mukherjee added.

The captured CO<sub>2</sub> will be transported to ONGC's Gandhar oilfields near Koyali for injection into its maturing oil wells for enhanced oil recovery (EOR), in accordance with an MoU signed between IOC and Oil & Natural Gas Corporation (ONGC) in 2019. A part of the captured CO<sub>2</sub> is also expected to be liquified and purified to 99.9% for supply to the food & beverage sector. IOC may eventually supply CO<sub>2</sub> to other industrial sectors as well with the option of storing CO<sub>2</sub> available as well.

IOC has signed a similar MoU with Oil India Ltd (OIL) for IOC's Digboi refinery to provide CO<sub>2</sub> for EOR from OIL's Naharkatiya and Dikom oilfields in Assam, as per information available on the USTDA website.

The carbon capture system designed by Dastur would provide IOC with an integrated solution across the carbon value chain, enabling industrial-scale carbon capture and disposal. The project would bring together the collective expertise of DII and Austin, Texas-based Dastur Energy's knowhow and capabilities in the areas of energy engineering, gas processing, carbon capture technologies, energy supply chains and economics; Houston, Texas-based Air Liquide's carbon capture technology offerings; the University of Texas at Austin's Bureau of Economic Geology's experience in EOR R&D; and India based MN Dastur & Co's engineering and capital project delivery capabilities, the report stated.

## EV Initiative: Promoting clean energy globally

The Electric Vehicles Initiative (EVI) is a multi-governmental policy forum established in 2010 under the Clean Energy Ministerial (CEM). Recognising the opportunities offered by EVs, the EVI is dedicated to accelerating the adoption of EVs worldwide. To do so, it strives to better understand the policy challenges related to electric mobility, help governments address them and to serve as a platform for knowledge sharing.

The EVI facilitates exchanges between government policy makers that are committed to supporting EV development and a variety of partners, bringing them together twice a year. Its multilateral nature, openness to various stakeholders and engagement at different levels of governance (from country to city-level) offer fruitful opportunities to exchange information and to learn from experiences developed by a range of actors in the transition to electric mobility. IEA. All rights reserved. The International Energy Agency (IEA) serves as the coordinator to support the EVI member governments in this activity. Governments that have been active in the EVI in the 2020-21 period include Canada, Chile, People's Republic of China, Finland, France, Germany, India, Japan, Netherlands, New Zealand, Norway, Poland, Portugal, Sweden and United Kingdom. Canada and China co-lead the initiative. Greece and Ghana are observers.

The EVI also helps to raise the ambition levels for electric mobility worldwide through the linked CEM campaigns of EV30@30 and Global Commercial Vehicle Drive to Zero Campaign, each endorsed by different members.

For EVs to unleash their full potential to combat climate change, **the 2020s will need to be the decade of mass adoption of electric light-duty vehicles.** In addition, specific policy support and model expansion for the medium- and heavy-duty vehicle segments will be crucial to mitigate emissions and make progress toward climate goals.

Making the 2020s the decade of transition to EVs requires more ambition and action among both market leaders and followers. In markets that demonstrated significant progress in the 2010s, a primary direction in 2021 and beyond should be to continue to implement and tighten, as well as to broaden, regulatory instruments. Examples include the European Union **CO2 emissions regulation** for cars and vans, China's **New Energy Vehicles (NEV) mandate** or California's **Zero-Emission Vehicle (ZEV) mandate**.

Near-term efforts must focus on continuing to make EVs competitive and gradually phasing out purchase subsidies as sales expand. This can be done via differentiated taxation of vehicles and fuels, based on their environmental performance, and by reinforcing regulatory measures that will enable the clean vehicle industry to thrive.

In the long term, realising the full potential for EVs to contribute to cut vehicle emissions requires integration of EVs in power systems, decarbonisation of electricity generation, deployment of recharging infrastructure and manufacturing of sustainable batteries.

Countries that currently deploy limited numbers of electric cars can profit from the lessons learned and advances already made in automotive and battery technology to support the production and uptake of EVs. Product innovation and the expertise developed in the charging services industry will also be beneficial for emerging economies. But they will also need to significantly tighten fuel economy and emissions standards. Emerging economies with large markets for second-hand imported cars can use policy levers to take advantage of electric car models at attractive prices, though they will need to place particular emphasis on implications for electricity grids.

*(International Energy Agency)*



## INDIA-PRODUCTION OF VEHICLE

### Passenger Vehicles

Make	2022		Y-o-Y (%)
	Apr.	Share (%)	
Maruti Suzuki India Ltd	152,954	49.7	-2.9
Hyundai Motor India Ltd	59,000	19.2	3.3
Kia Motors India Pvt Ltd	27,650	9.0	46.5
Mahindra & Mahindra Ltd	24,516	8.0	37.6
Honda Cars India Ltd	9,122	3.0	-9.1
Toyota Kirloskar Motor Pvt Ltd	8,735	2.8	73.2
Renault India Pvt Ltd	8,568	2.8	-27.7
Volkswagen India Pvt Ltd	4,634	1.5	4.5
SkodaAuto India Pvt Ltd	4,387	1.4	520.5
MG Motor India Pvt Ltd	3,208	1.0	-4.5
Nissan Motor India Pvt Ltd	3,034	1.0	-43.7
FCA India Automobiles Pvt Ltd	1,341	0.4	-5.1
Isuzu Motors India Pvt Ltd	223	0.1	374.5
Force Motors Ltd	99	0.0	-
PCA Motors Pvt. Ltd	35	0.0	-87.8
Ford India Private Ltd	N/A	-	-
Tata Motors Ltd	N/A	-	-
<b>Total Passenger Vehicles (PVs)</b>	<b>307,506</b>	<b>100.0</b>	<b>0.5</b>

### Commercial Vehicles

Make	2022 Mar.	Y-o-Y (%)	2022 Jan.-Mar.	Y-o-Y (%)
Tata Motors Ltd	N/A	-	111,332	8.6
Mahindra & Mahindra Ltd	N/A	-	71,574	34.7
Ashok Leyland Ltd	N/A	-	48,040	7.6
VECV-Eicher	N/A	-	19,720	5.8
Maruti Suzuki India Ltd	N/A	-	11,916	27.7
Isuzu Motors India Pvt Ltd	N/A	-	4,668	201.7
Force Motors Ltd	N/A	-	2,838	-5.8
SML Isuzu Ltd	N/A	-	2,614	24.7
<b>Total Commercial Vehicles (CVs)</b>	<b>N/A</b>	<b>-</b>	<b>272,702</b>	<b>15.9</b>

Source: MarkLines Data Center

March data for General Motors and Ford has not yet been released.

Tata and Commercial vehicles will be updated every 3 months.

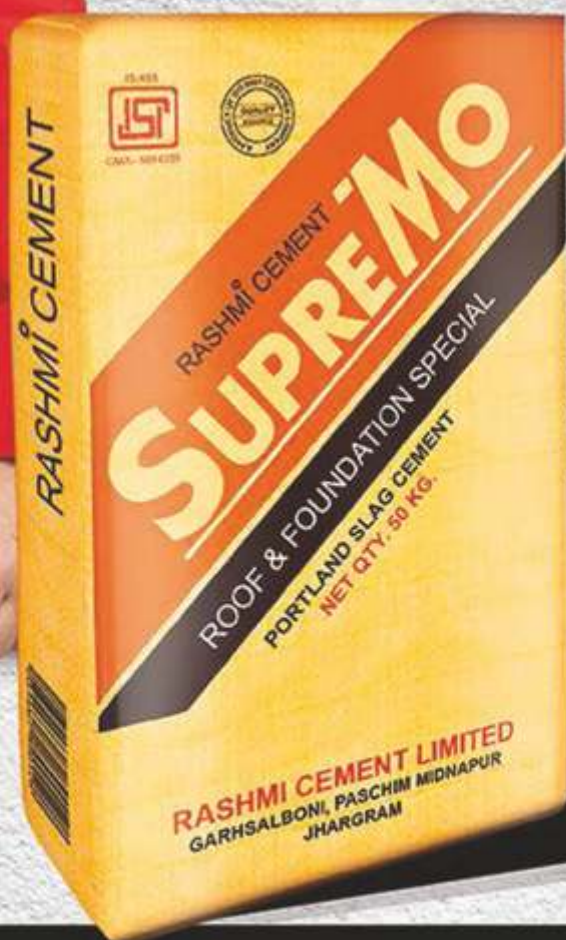


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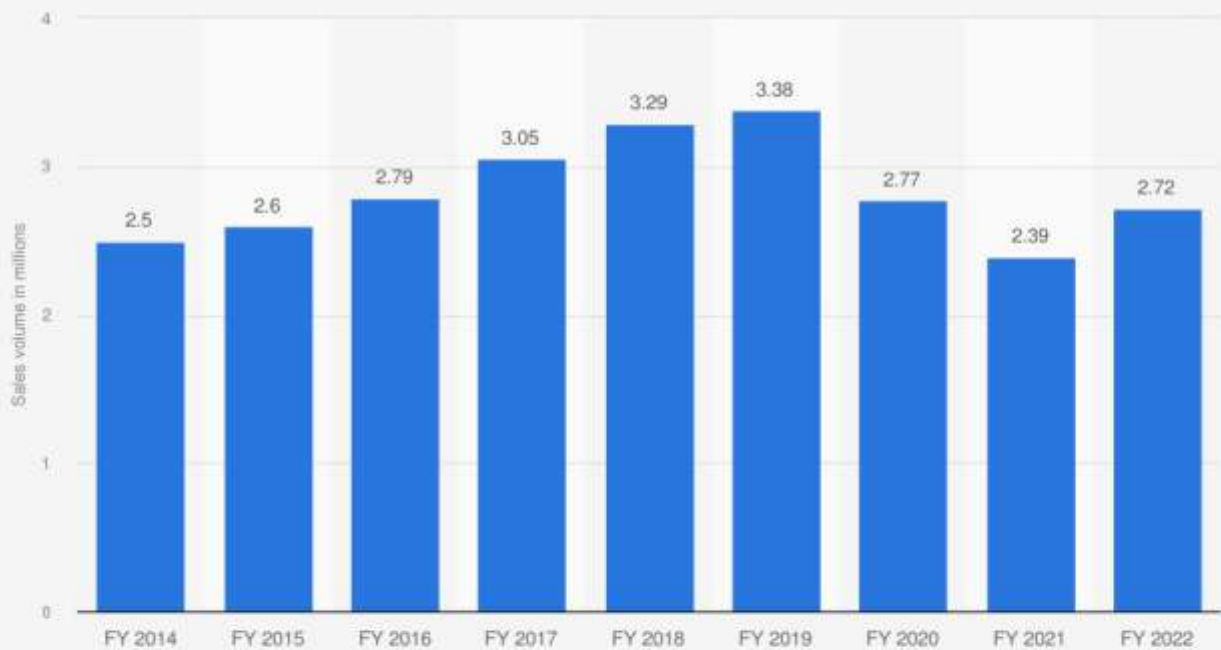
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**Sales volume of passenger vehicles across India from financial year 2014 to 2022 (in millions)**



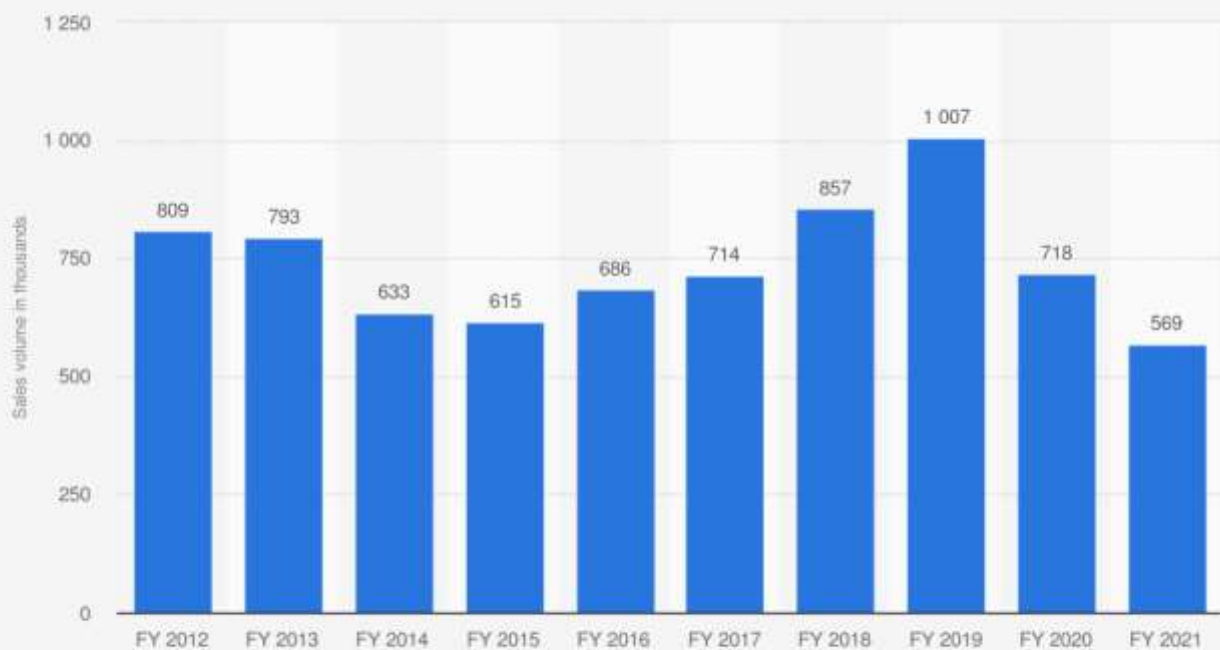
**Sources**

Auto Punditz; Website (team-bhp.com)  
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**Additional Information:**

India; FY 2014 to FY 2022

**Sales volume of commercial vehicles across India from financial year 2012 to 2021 (in 1,000s)**



**Source**

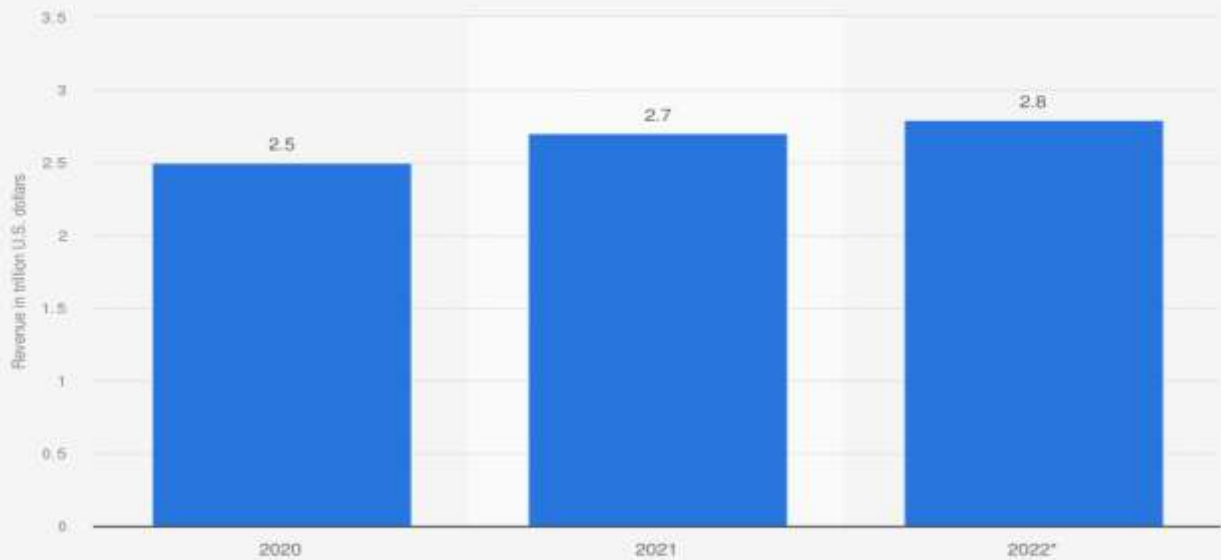
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**Additional Information:**

India; FY 2012 to FY 2021



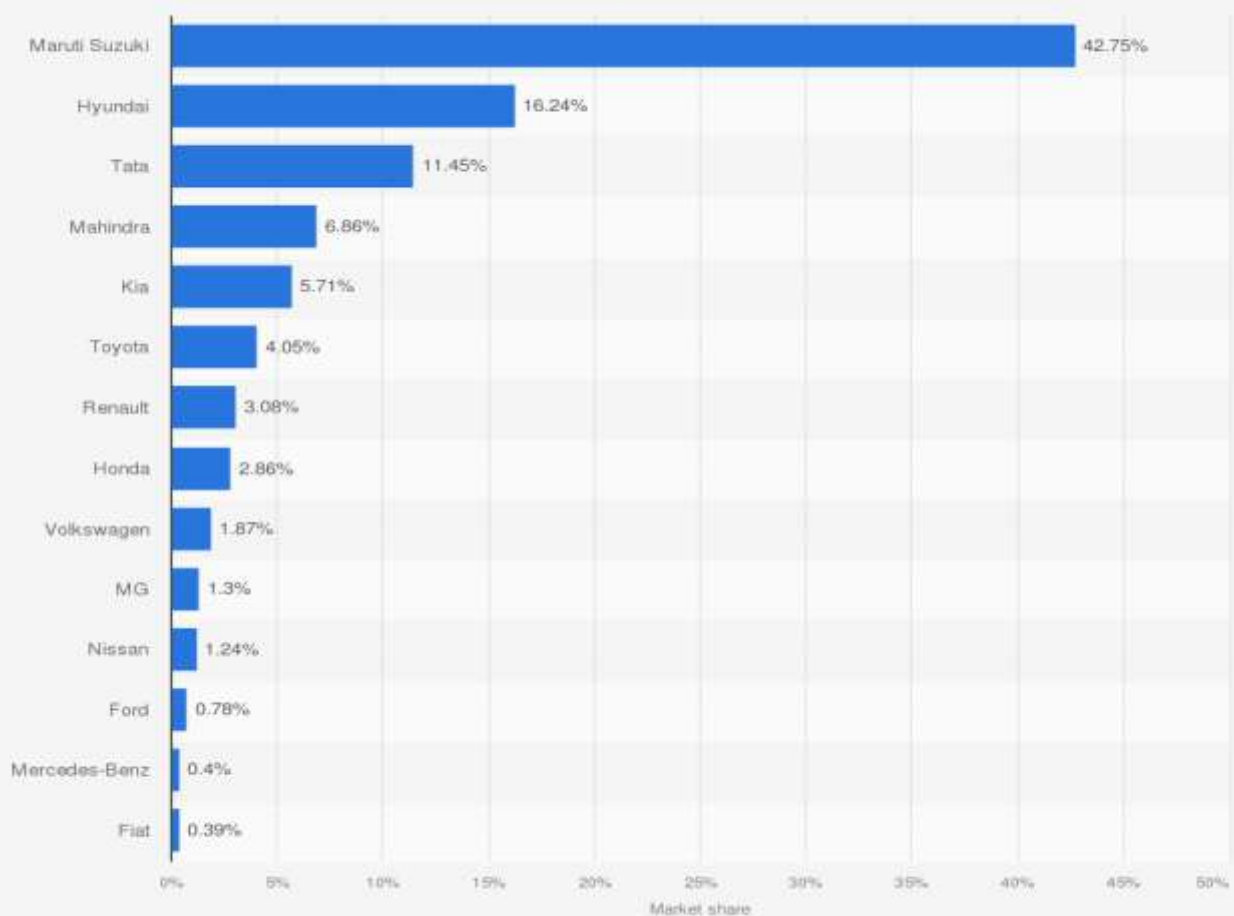
Global automotive manufacturing industry revenue between 2020 and 2022 (in trillion U.S. dollars)



Source:  
IBISWorld  
© Statista 2022

Additional Information:  
Worldwide, IBISWorld, 2020 to 2021

Passenger car market share across India in financial year 2022, by vendor



Sources:  
Auto Punditz; Website (team-bhp.com)  
© Statista 2022

Additional Information:  
India, FY 2022

## Pakistan exports first vehicle under new auto policy

Pakistan has exported its first vehicle under the new Auto Industry Development and Export Policy (AIDEP 2021-26). Master Changan Motors — the first automaker in Pakistan to initiate vehicle export under the new policy — confirmed the development and informed that the vehicle has been exported to the Oceania region.

Meanwhile, the statement issued by the company mentioned that under the new auto policy, all Original Equipment Manufacturers (OEMs) were required to initiate vehicle exports to help develop the local industry and expand the export capability of the country.

The country's first export unit under the new policy is the Changan Oshan X7. The Oshan X7 is also the country's first vehicle to be launched through a global RHD premiere earlier in March 2022. "Pakistan is the only country outside of China to produce the latest model of Changan Oshan X7," the statement read.

Speaking on the occasion, the company's CEO Danial Malik said: "We are delighted and proud to lead Pakistan into a new chapter for the auto industry and make its mark on a global level. The Changan Oshan X7 is the first of many more vehicles to be exported under our vision to stay Future Forward, Forever."

Oshan X7 was launched in March 2022 and features class-leading specifications. According to details, the vehicle is a package of head-turning looks and best-in-class performance. Equipped with the newest generation 1.5L Turbo engine, a 7-speed DCT Transmission and intelligent features like adaptive cruise control, collision warning and auto-braking. Oshan X7 churns out an incredible 300 Nm torque and 185 hp output.

*(Courtesy: The News)*



Titagarh Wagons has bagged the single largest order-ever from the Indian Railways for 24177 wagons, valuing at Rs. 7838 crore plus taxes. This order will be executed over a period of thirty-nine months.

It is going to be a game changer in the path of nation's development and Titagarh has pledged to contribute to this plan of the Government of India with full sincerity towards the Prime Ministers vision and dream of making India truly Aatmanirbhar.

# Toyota Indus of Pakistan gearing up to launch locally assembled hybrid EV

By Industry Scenario Bureau

Karachi-based Toyota Indus Motor Company (IMC) is actively upgrading its assembly plant to locally assemble hybrid electric vehicles (HEVs) by next year. According to Toyota IMC CEO, Ali Asghar Jamali, the company will launch the locally assembled HEV Toyota Corolla Cross in 2023.

He stated that the company aims to launch its hybrid crossover SUV in a Rs. 5-7 million price bracket. However, given the current economic situation and the Pakistan government's plan to increase taxes on cars, Toyota IMC will reveal its final price next year.

Toyota has already invested \$100 million to produce HEVs in Pakistan and plans to bring electric vehicles EVs in the long term when the country is ready for this technology, said Jamali. He explained that HEVs are an interim solution as Pakistan still doesn't have the infrastructure for production of EVs.

According to Jamali, Pakistan can reduce its oil imports by up to 50% if all cars are converted to HEVs.

Toyota IMC is a joint venture between certain companies of the House of Habib of Pakistan, Toyota Motor Corporation (TMC) and Toyota Tsusho Corporation (TTC) of Japan. Incorporated in 1989, the company manufactures and markets Toyota brand vehicles in Pakistan. These include several variants of the flagship Corolla and Yaris in the passenger car segment, Hilux in the light commercial vehicle segment and Fortuner in SUV segment.

## Tata motors files record 125 patents in FY22

Premier Indian automobile manufacturer Tata Motors filed a record 125 patents in FY22, according to a statement it issued in the last week of May. The patents cover a variety of “innovations and developments in traditional and new energy powertrain technologies, safety, connected vehicle technologies, body in white (BIW) and trims along with other vehicle systems”. While details of the technologies for which the patents were filed were not disclosed, a company spokesperson said the innovations related to both commercial and passenger vehicles.

According to Mr. Rajendra Petkar, President & CTO, Tata Motors, the company has “established a legacy of setting new benchmarks with cutting-edge technologies and features in the areas of new energy solutions, safety, product performance, cost of ownership and digitalisation.”

During FY 2022, Tata Motors was granted 56 patents.

Additionally, in the biggest single-day delivery ever seen in the country, Tata Motors – India's leading automobile company – along with its dealer partners, delivered 712 EVs (564 Nexon EVs and 148 Tigor EVs) to individual customers in Maharashtra and Goa earlier this month.

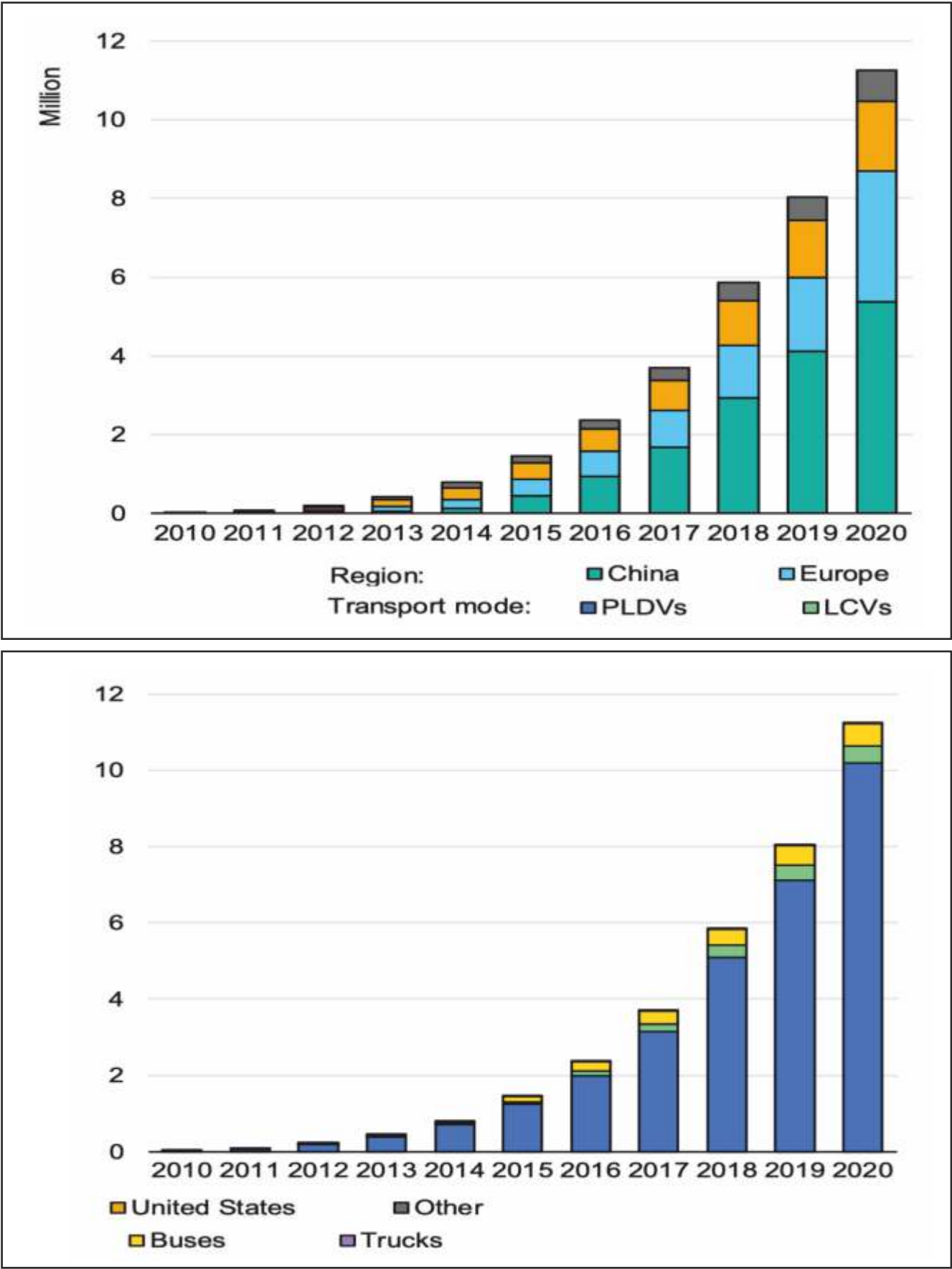
Commanding a market share of 87% (11M, FY22) and over 21,500 Tata EVs on road till date, Tata Motors is playing a leading role in proactively driving the adoption of electric mobility in the country.

The Nexon EV, an aspirational SUV, delivers an anxiety-free long-range (ARAI certified range of 312 km) on a single charge with zero emissions. It is equipped with a powerful and high-efficiency 129 PS permanent-magnet AC motor, powered by a high capacity 30.2 kWh lithium-ion battery.



Electric vehicles across all transport modes had steady growth over the last decade

Global electric vehicle stock by region (left) and transport mode (right), 2010-2020



## Technical Specifications

MODEL	Prima 2830.K 9/8 m <sup>3</sup> RMC REPTO	Prima 3530.K 10 m <sup>3</sup> RMC REPTO
ENGINE	Cummins ISBe 6.7 l BS6 SCR	
MAX POWER	225 kW @ 2 300 r/min	
MAX TORQUE	1 100 Nm @ 1 100 - 1 700 r/min	
CLUTCH	430 mm Single Plate Dry Friction with Organic Lining	
EMISSION	SCR	
TRANSMISSION	Tata G1150 9 Speed Gearbox	
FRONT AXLE	Heavy Duty Forged I Beam Reverse Elliot Type	
REAR AXLE	Single Reduction, Heavy Duty Rear Axle with Differential Lock	
SUSPENSION	Front: Parabolic Leaf Spring   Rear: TML Bogie Suspension	
FRAME	Custom-built RMC Frame with Riveted/Bolted Cross Members	
CAB	Comfortable Prima Cabin	
TYRES	11 x 20 (Nylon Tyres)	
VENTILATION	Air-conditioning	
SERVICE BRAKE	New iCGT Brakes	
FUEL TANK	300 l HDPE Tank	
WHEELBASE OPTIONS	4 570 mm	5 250 mm
OVERALL LENGTH (cabin chassis / FBV*)	8 110 mm / 9 281 mm	8 442 mm / 9 600 mm
MAX HEIGHT (FBV*)	3 750 mm	3 800 mm
TURNING CIRCLE DIAMETER (TCD)	17 400 mm	19 700 mm
GROSS VEHICLE WEIGHT	28 000 kg	35 000 kg
BODY OPTIONS	8 m <sup>3</sup> and 9 m <sup>3</sup> RMC Transit Mixer	10 m <sup>3</sup> RMC Transit Mixer

\* FBV dimensions may differ based on Drum manufacturer equipment. 9 m<sup>3</sup> dimensions considered for Prima 2830.K

# PRIMA

2830.K 9 / 8 m<sup>3</sup> RMC | 3530.K 10 m<sup>3</sup> RMC



3-Mode Fuel Economy Switch



Comfortable & Spacious Prima Cabin



Truck Hub Unit (THU)

## Technical Specifications

MODEL	Signa 2825.K 8 m <sup>3</sup> RMC REPTO
ENGINE	Cummins ISBe 6.7 l BS6
MAX POWER	186 kW @ 2 300 r/min
MAX TORQUE	950 Nm @ 1 000 - 1 700 r/min
EMISSION	SCR
CLUTCH	430 mm Single Plate Dry Friction Organic Lining
TRANSMISSION	Tata G1150 9 Speed Gearbox
FRONT AXLE	Heavy Duty Forged I Beam Reverse Elliot Type
REAR AXLE	Single Reduction, Heavy Duty Rear Axle with Differential Lock
SUSPENSION	Front: Parabolic Leaf Spring   Rear: TML Bogie Suspension
FRAME	Custom-built RMC Frame with Riveted/Bolted Cross Members
CAB	Signa Cabin
TYRES	11 x 20 (Nylon Tyres)
VENTILATION	Blower / Air-conditioning (Optional)
SERVICE BRAKE	New iCGT Brakes
FUEL TANK	300 l HDPE Tank
WHEELBASE OPTIONS	4 280 mm
OVERALL LENGTH* (cabin chassis / FBV*)	8 084 mm / 8 879 mm
MAX HEIGHT (FBV*)	3 750 mm
TURNING CIRCLE DIAMETER (TCD)	16 800 mm
GROSS VEHICLE WEIGHT	28 000 kg
BODY OPTIONS	8 m <sup>3</sup> RMC Transit Mixer

\* FBV dimensions may differ based on Drum manufacturer equipment

# SIGNA

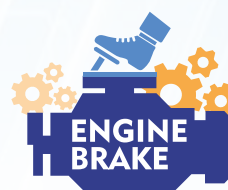
2825.K 8 m<sup>3</sup> RMC



3-Mode Fuel Economy Switch



Comfortable & Spacious Signa Cabin



Truck Hub Unit (THU)  
In select models



## Presenting Tata RMC Range with **New REPTO Technology**

**Direct Power. More Advantage.**

**REPTO**  
REAR ENGINE POWER TAKE OFF



Prima 2830.K RMC 9 m<sup>3</sup>

Signa 2825.K RMC 8 m<sup>3</sup>

Prima 3530.K RMC 10 m<sup>3</sup>

**BS6**

To Know More,  
Scan QR Code



## What is REPTO? (Rear Engine Power Take-off)

It's about power drawn directly from the engine!



### Proven Cummins PTO Technology

more than 10 00 000 hours  
duty cycle globally



### High Reliability

PTO is an integral part of  
engine assembly



### High Torque Capacity

upto 500 Nm continuous & 600 Nm  
intermittent torque



### Low Vibration Characteristics

enhanced damping with  
vibration dampener

REPTO is powered by  
reliable & proven Cummins Engine,  
assuring you of:



### Highly Efficient Power Delivery

upto 98 % torque realisation



### Drum Rotation Failsafe

PTO rated torque even at  
engine de-rate r/min



### Application Versatility

ease of calibration customisation



### Low Carbon Footprint

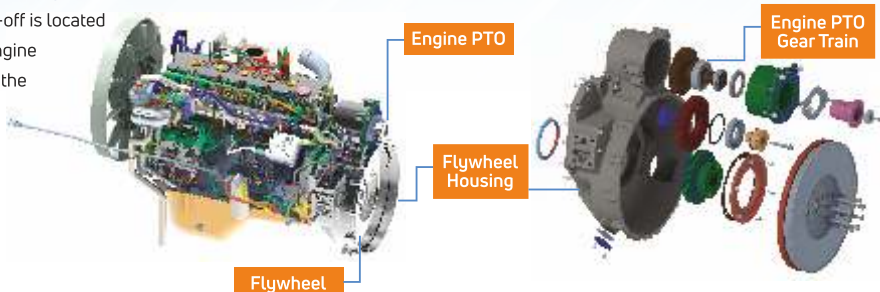
with BS6 technology



## REPTO Architecture

### Cummins ISBe 6.7 l BS6 Engine

- Engine Power Take-off is located at the rear of the engine
- It is encased within the flywheel housing



### Engine PTO Assembly

Geared drivetrain transfers the drive from the crankshaft assembly to the Engine Power Take-off