

# Auto Track

Q2 FY22



**#GTBharat**  
SHAPING A VIBRANT INDIA



# Contents

Foreword	3
Industry overview and recent trends	4
Quarterly domestic sales trend analysis	8
Story of the quarter	11
Auto Inc pushes 'China-plus one' strategy for deep localisation	12
Coverage	14
Reviewing semiconductor shortage impact on Japanese automakers	16
Regulatory updates	21
OEMs mandated to offer bio-fuel vehicles	22
Support to Indian automobile dealerships	23
Conclusion	24

# Foreword

**The global chip supply crunch has disrupted production across global automotive industries. With no quick solution to the current semiconductor shortage, immediate respite is unlikely and considerable investments into the semiconductor supply chain would be required in the coming years.**



Today, the Indian automobile industry is capable of end-to-end development including product design, prototyping, mass manufacturing and selling its products in both domestic and international markets. The industry is one of the largest recipients of foreign direct investment (FDI) with an inflow of USD 24.5 billion in the last two decades, accounting for 5.1% of the total FDI inflows.

Moreover, the improvements in market sentiment brings a positive growth momentum in the industry, which is clearly visible in the passenger vehicle industry with the stabilisation of macro-economic factors, good monsoons and increase in consumer shift towards personal mobility. The worldwide shift to electric vehicles (EVs) has come out to be one of the most important trends in the industry. On the sales front, despite an increase in year-on-year (YoY) sales, chip shortage as a challenge persists, which is likely to impact vehicle supplies going forward along with potential fuel economy revisions.

Nevertheless, we firmly believe that the country's growth fundamentals are still strong in the medium to long term. India is expected to grow to USD 5 trillion by 2025-26 and to USD 8-10 trillion in the next 10-12 years. India is expected to benefit

from its competitive advantage and low-cost manufacturing facilities. We need to make a successful transition to high technology and value-added products, which will act as an important growth driver. Overall, we see a successful transition where the industry would accomplish several notable trendlines this year and in the coming decade.

## **Saket Mehra**

**Partner and Automotive Sector Leader  
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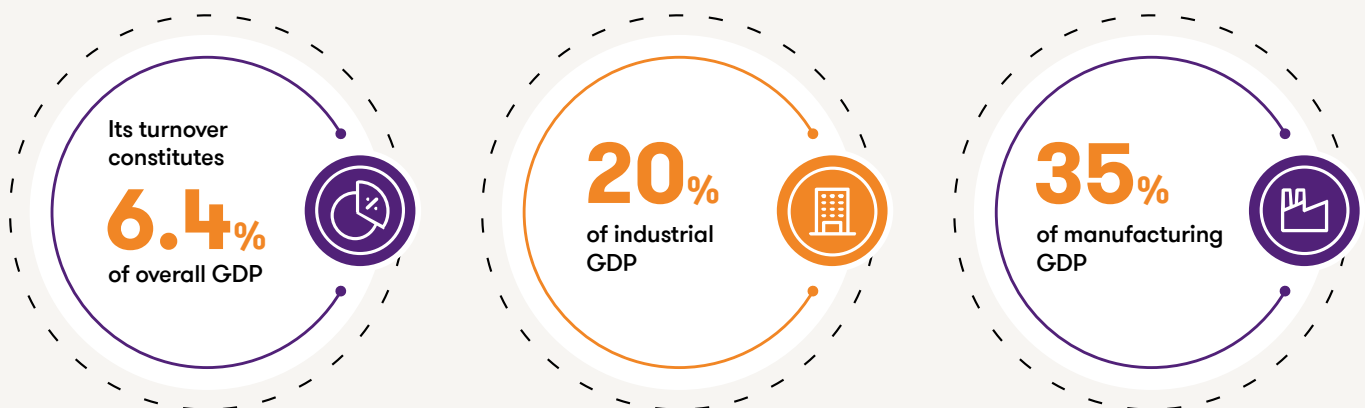


# Industry overview and recent trends



## Industry Synopsis

The Indian automobile industry is **INR 8,200 billion** industry



## Government notifies PLI scheme for automobile and auto components

**15 September 2021**

India's central government approved production-linked incentive (PLI) scheme for automobile and auto components with a budgetary outlay of INR 259.38 billion (USD 3.50 billion) in order to boost domestic manufacturing capacity, including the production of electric and hydrogen fuel cell vehicles.

**23 September 2021**

The PLI scheme for automobile and auto components and its guidelines have been notified in the Gazette of India.

The PLI scheme\* for the automotive industry envisages

- to overcome the cost disabilities of the industry to manufacture advanced automotive technology products in India.
- to aid in expanding India's participation in the global supply chain of these advanced automotive technology products by encouraging the local industry to make fresh investments to the tune of INR 425 billion (USD 5.73 billion) over the next five years\*. These investments are further expected to translate into an incremental production of over INR 2.3 trillion (USD 30.69 billion).
- to push forward India's transition to clean energy along with accelerating India's share in the global automotive trade (unit production and components).
- to incentivise cost-efficient manufacturing of high value advanced automotive technology vehicles and products like sunroofs, adaptive front lighting, automatic braking, tire pressure monitoring systems, and collision warning systems.

\* To be implemented over a period of five years, starting from FY 2022-23.

## Shortage of semiconductors: Automobile production takes a hit

With chip demand exceeding the supply, production for many automobile manufacturers and consumer electronics companies across the world has been affected. Manufacturing

cannot be increased on short notice and making chips is a complex process that takes months.

**Auto sector to be among the most affected by the crisis**



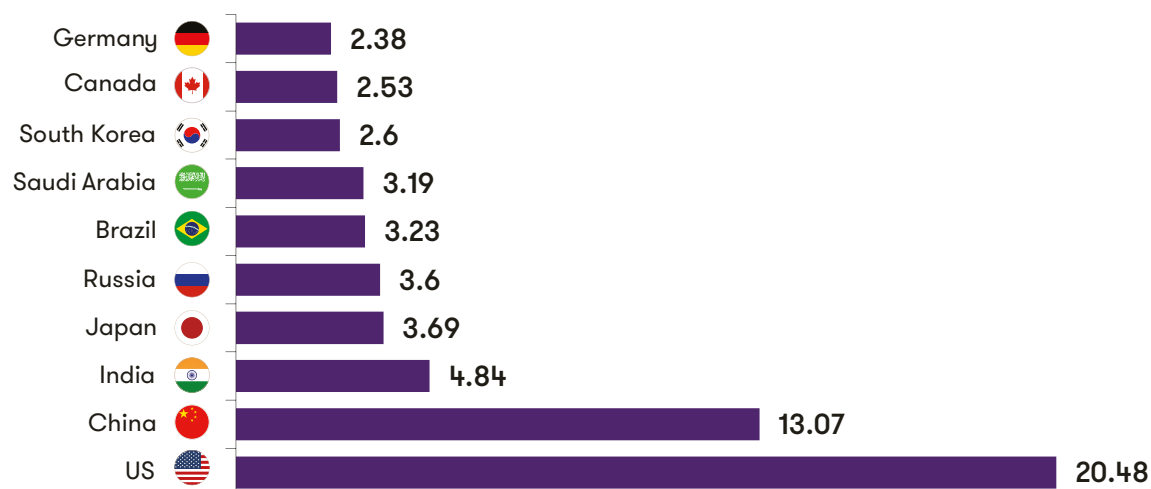
Reasons of chip shortage	Impact of chip shortage	Solution for chip shortage
<ul style="list-style-type: none"> <li>Adoption of technologies, such as driver assistance systems and autonomous driving</li> <li>Stronger demand for more advanced chips</li> <li>Shortage of raw materials and unavailability of containers</li> </ul>	<ul style="list-style-type: none"> <li>Industries face further output cuts and delays</li> <li>Increased investment in production capacity</li> <li>Elongated lead times</li> <li>Decline in suppliers' delivery time index component of the manufacturing PMI (Purchasing Manager's Index)</li> <li>Affect on the profitability of OEMs</li> </ul>	<ul style="list-style-type: none"> <li>Chip companies doubling down on capital expenditure plans to capitalise on the growing chip demand and the current supply constraints</li> <li>Situation is expected to improve in 2022 gradually</li> </ul>

## Fuel volatilities: Concerns for economy

The global average price of petrol has doubled over the past 20 years. Fuel prices in India have been hovering at record levels **on account of 41 increases in its retail rates since April 2021**. High taxes largely contribute to the high cost.

The Reserve Bank of India's monetary policy lowered retail inflation projections to **5.3%** from **5.7%** for the fiscal year ending March 2022, and warned about the risk of higher fuel prices.

### Top oil consumers (million barrels per day)




1 barrel = 42 gallons = 159 Litres

Source: OPEC Annual Statistics | 30 September, 2021

## Vehicle scrapping policy- Updates

The Ministry of Road Transport and Highways, Government of India, released a list of incentives and disincentives for the vehicle scrapping policy which is aimed at encouraging the vehicle owners to discard their older vehicles that have higher maintenance and fuel requirements.

Rules for fitness test/scrapping centre:  
**1st October 2021**



Criteria to determine vehicle fitness would primarily be emission tests, braking, safety equipment, among many other tests, as per the Central Motor Vehicle Rules, 1989.

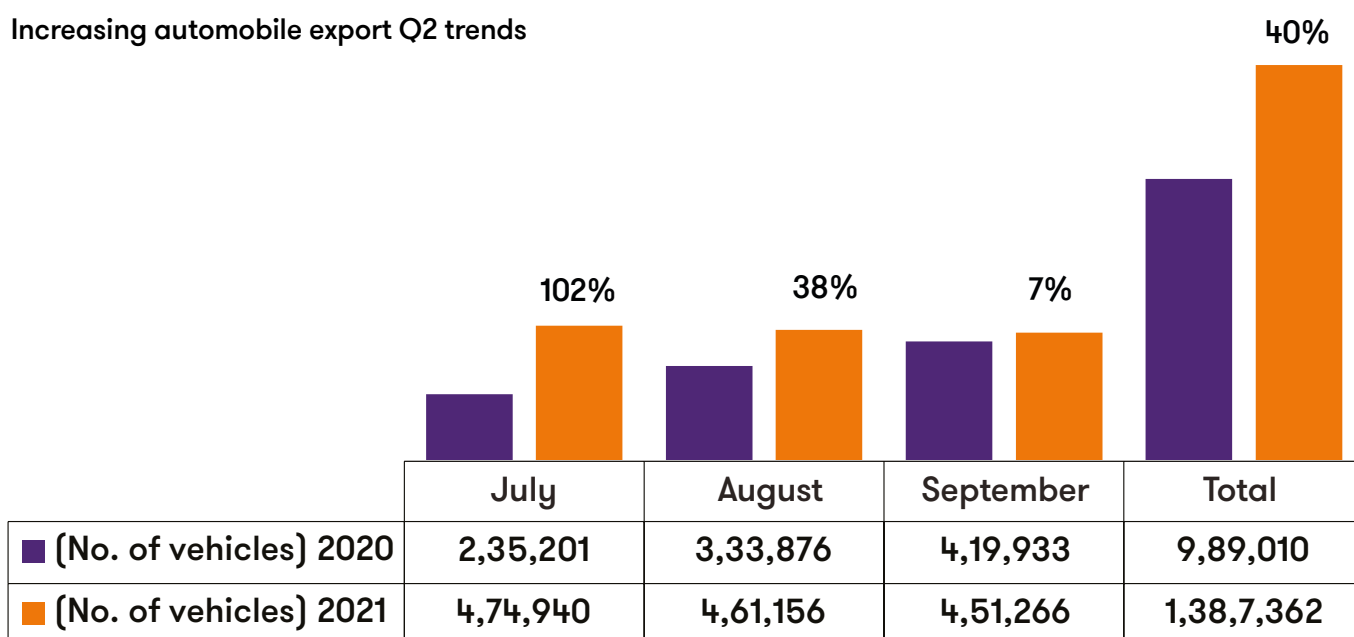
Incentives	Disincentives
Fee waiver for issue of registration certificate for a new vehicle purchased against the Certificate of Deposit (CoD) issued for a vehicle being scrapped	Increase in fee for conducting fitness test and renewal of fitness certificate for motor vehicles more than 15 years old
	Increase in the fitness certification fee for transport vehicles more than 15 years old
	Increase in the renewal of registration fee for personal vehicles (non-transport vehicles) more than 15 years old.

## Further extension of the moratorium on loans for dealers

RBI gave borrowers time until 30 September 2021 to approach their lenders to request restructuring of their loans. The lender

would have to implement the new moratorium within 90 days by fulfilling all conditions.

## Increasing automobile export Q2 trends



Source: SIAM



# Quarterly domestic sales trend analysis





(in units)	July			August			September		
	2020	2021	YoY % change	2020	2021	YoY % change	2020	2021	YoY % change
PVs	182,779	264,442	44.68	215,916	232,224	7.55	272,027	160,070	-41.16
2Ws	128,135	125,393	-2.14	1,559,665	1,331,436	-14.63	184,954	152,847	-17.36
3Ws	12,728	17,888	40.54	14,534	23,210	59.69	18,976	29,185	53.80

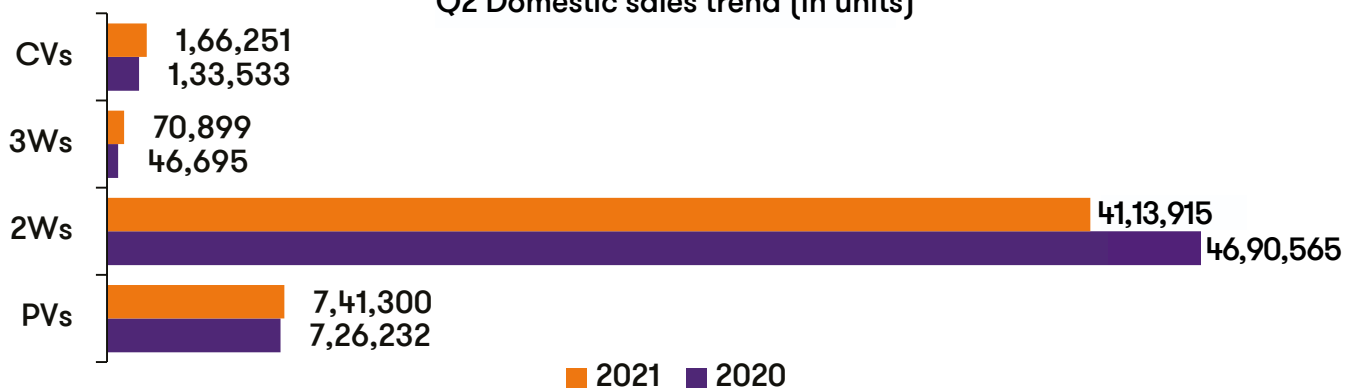
#### Q2 (in units)

July-September  
2021

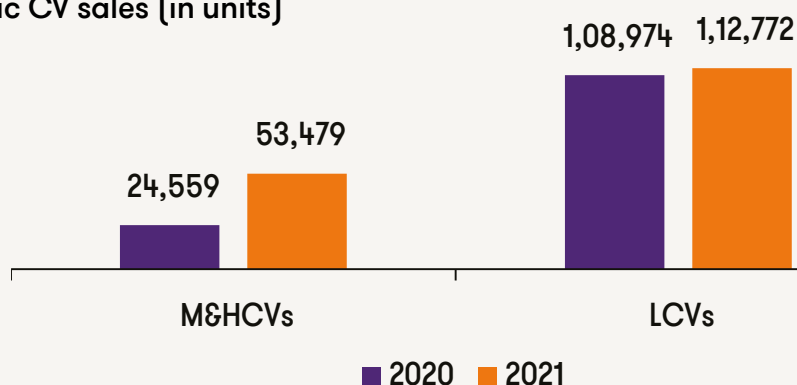
YoY % change

PVs	↑ 2.07
2Ws	↓ -12.29
3Ws	↑ 51.83
CVs	↑ 24.50

#### Q2 Domestic sales trend (in units)

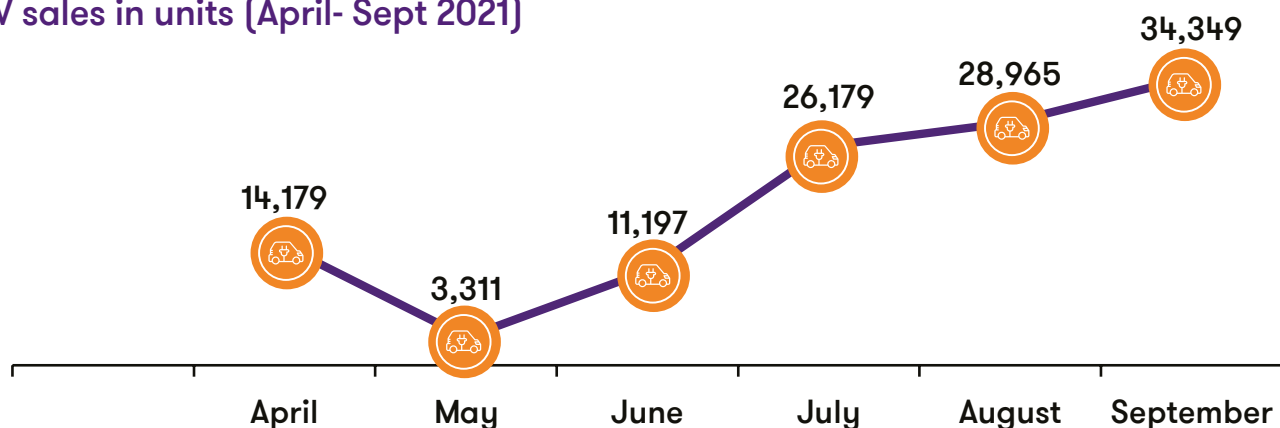


#### Q2 Domestic CV sales (in units)



Note: The sales numbers do not include wholesale volumes of Tata Motors, BMW, Mercedes, and Volvo Auto.

## EV sales in units (April- Sept 2021)



Source: CEEW Centre for Energy Finance

2021	Impact analysis	
<b>July</b>	<p>Domestic passenger vehicle sales surge 44.6% to 2,64,442 units in July 2021.</p> <p>Similarly, electric vehicle sales witnessed a robust growth from 143 units in the same month last year to 1,270 units in July 2021.</p> <p>Sales of 2Ws declined to 12,53,937 units (-2.14%) compared to 12,81,354 units sold in the corresponding period of the last financial year. The sales of motorcycles dipped to 837,096 units.</p>	<p>July 2021 registered a strong increase in volumes benefitting from the pent-up demand as well as good monsoon that induced rural demand.</p> <p>Companies observed the fear of COVID-19 third wave loomed large.</p> <p>Supply constraints because of semiconductor shortage resulted in higher waiting periods.</p>
<b>August</b>	<p>Automobile wholesales declined 11% YoY.</p> <p>2Ws dispatches from OEMs to dealers declined by 14.635% while PVs (+7.55%) and 3Ws (+59.69%) wholesales witnessed an increase over August 2020.</p> <p>Motorcycle sales were down 20% and similarly, scooter dispatches declined 1% to 4,51,967 units last month from 4,56,848 units a year ago</p>	<p>The semiconductor shortage hit production processes across the industry.</p> <p>While the demand fundamentals for PVs remain strong, growth was constrained by supply chain challenges.</p>
<b>September</b>	<p>Sale of PVs declined by 41.16%.</p> <p>In the 2W segment too, sales declined 17.36% to 1,528,472 units. The sales of motorcycles fell 23% to 948,161 units, and those of scooters dropped 7% to 517,239 units.</p> <p>3Vs sales rose 53.8% to 29,185 units, albeit on a low base.</p>	<p>OEMs curtailed production plans.</p> <p>Demand revival witnessed in the market but supply side challenges with high raw material costs continued.</p> <p>The economic damage caused by the second wave of the pandemic kept away consumers in the entry-level motorcycle segment, especially in rural markets.</p>

On the sales front, barring the COVID-19 period, the visible impact in H1 2021 was witnessed on all segments

H1 Sales of	Below
PVs	2016-17 levels
2Ws	2011-12 levels
CVs	2010-11 levels
3Ws	2000-01 levels

Source: SIAM

# Story of the Quarter



## Auto Inc pushes ‘China plus one’ strategy for deep localisation

Many auto companies are contemplating diversifying their dependence on China and look for alternatives for production/trade. This strategy known as ‘China-Plus-One’. The strategy is aimed at providing an efficient supply chain management. It is likely that diversifying the sourcing portfolio from China (either nearshoring or offshoring) would help address challenges among supply chain, logistics or availability of raw materials.

As automakers globally move to clean connected vehicles, there is a need for the component industry to enhance its focus, investments, research and development on all clean powertrain technologies. For this, many multi-national organisations are adding new operations in developing Asian countries like India, Vietnam, Thailand, Bangladesh and Malaysia, remaining open to other new manufacturing opportunities.

India, Mexico and Vietnam are undertaking initiatives and implementing policies that will facilitate their emergence as the new hub for manufacturing. From increasing adoption of technology to relaxation of FDI norms, implementation of reforms in land acquisition, countries are now steadily catching up with the alternative sourcing giants in the world.

**As a result, the ‘China plus one’ strategy, with firms venturing into other Asian nations, has become a popular trend that is likely to continue in the long run. Notably, focus of some firms is likely to remain on China for production for short-term. The Asian countries continue to appeal the multinational firms for building up infrastructure and production capacity.**

### Is the strategy working?

For now, the ‘China plus one’ strategy is working for some companies. One key determinant of how sustainable the trend will be, is how quickly infrastructure can be built to accommodate more firms moving into other nations. However, companies that do choose to diversify into Southeast Asian nations will continue to take advantage of the varied and easily accessible suppliers from other Asian nations.

In addition, the recently signed Regional Comprehensive Economic Partnership (RCEP) will allow firms with supply chains distributed among several Asian nations to take advantage of common rules of origin for the entire bloc. This will allow RCEP countries to use only a single certificate of origin.

### Indian scenario

In the light of ‘China plus one’ strategy for India, auto and auto component industries could work together in developing technologies and take advantage of the global market while leaving imprints on the global value chain. In order to develop India as a sourcing hub; the domestic industry needs to move as close as possible to ‘Carbon Net Zero’ with local manufacturing. The government has taken further steps in the same direction with the announcement of PLI schemes for multiple sectors like textiles, electronics, automobiles and at the same time, has raised import duties on some products. Some other initiatives from the government’s end include reduction in corporate tax rates, push for Aatmanirbhar Bharat, and others policies that will incentivise domestic production.

**The Society of Indian Automobile Manufacturers (SIAM) and the Automotive Component Manufacturers of India (ACMA) have identified 12 key components with localisation potential, seeking to cut imports by 15-20% or INR 34,400 crore over a period of five years.**

### Favourable factors of production towards a strong business ecosystem

- Increased value addition
- De-risk local manufacturing
- Investment in innovative technology
- Conducive business environment
- Incentivising government policies



### Shifts in supply chain



India introduced the production-linked incentive scheme.

This factor contributed to attracting some companies to set up manufacturing plants in India.

### Expansion of existing facilities



Low-cost labour and lower logistics expenses are the key factors drawing large organisations to diversify.

### Availability of raw materials



Easy availability of raw materials is a key concern; scarcity of which forces manufacturers in several industries to rely on imports to produce goods.

### Technology adoption and automation







Many organisations have already taken the initiative and invested in Industry 4.0 Center of Excellence- to invite businesses looking for alternative locations to China.



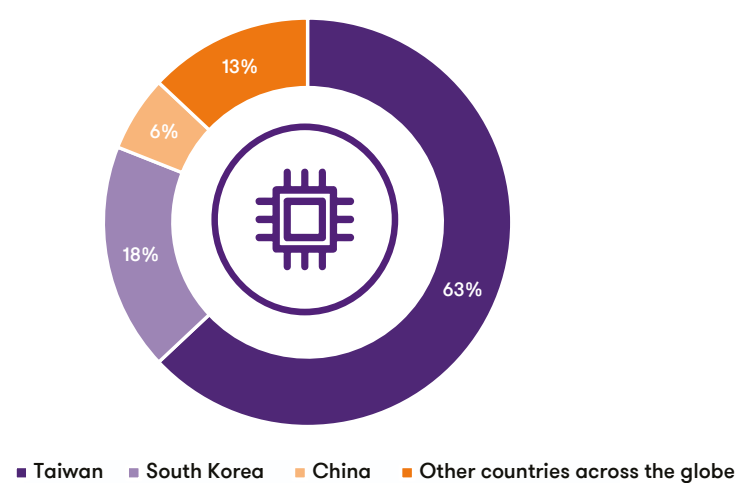
# Coverage



Semiconductors are an integral part of all kinds of sensors and controls in any vehicle. They are silicon chips that cater to control and memory functions in automobiles along with various other electronic items. The shortage of these silicon chips (a crucial component) has been impacting the automotive industries, further forcing them to cut down on production. This continues to be a challenge in the Indian market.

Semiconductor industry	
Size	USD 439 billion
Epicenter	Taiwan 
Integral part of manufacturing supply chains	Vietnam, South Korea and China   
Indian auto industry	Accounts for 10% of the overall semiconductor demand

Semiconductor foundries in the country (in %)





OEMs can turn this supply constraint into a big opportunity as demand for the technology-based equipment has increased manifold in various sectors alongside the automotive segment. It is yet to be seen whether OEMs will develop and/or manufacture their own chips.

Few developments in the semiconductor supply chain

India: The Ministry of Electronics and Information Technology (MeITy)	Drawn up the Scheme for Promotion of manufacturing of Electronic Components and Semiconductors (SPECS).
The US Government	Offered USD 2 trillion infrastructure investment package including USD 50 billion for the semiconductor industry.
South Korean Government	Announced a massive USD 451 billion investment to help companies boost production of semiconductors.





## Reviewing semiconductor shortage impact on Japanese automakers

The global shortage of semiconductor chips has greatly affected a number of Japanese companies. Similar to India, Japan, homeland for major automobile manufacturers, also felt the heat as semiconductor shortage impacted production. As Japan's biggest automakers report depressed earnings, investors looking for trading cues are tuned into any assessment of the future impact of a global chip shortage that has shaken-up the production.

### Suspended production

Japan's dependence on East-Asian countries as supplier of advanced semiconductors is high and securing future supplies of the essential components is becoming increasingly critical.

Thus, Japanese automobile manufacturers suspended production operations across factories in the world followed by decreased production during Q2 2021, as they could not purchase the sufficient semiconductor and auto parts from suppliers. Toyota, Honda, Nissan, Suzuki are among some original equipment manufacturers (OEMs) that have scaled down output.

The shortage has resulted in an increased lead-time from six weeks in July to a record high of 21 weeks in August. Following this, production cutbacks were witnessed in the Japanese automotive industry.



## Impact on the vehicle production of Japanese automobile companies

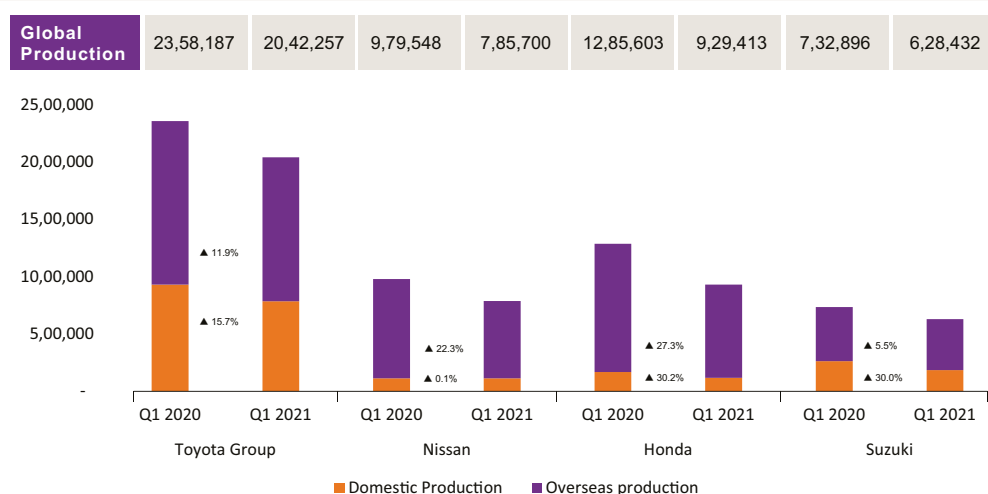
OEM	Issues
Toyota Group	<ul style="list-style-type: none"> <li>The global production of Toyota Group including Daihatsu Motor and Hino Motors in Q2 of 2021 decreased to 20,42,257 units with reduction rate of 13.4% from the same quarter in the last year.</li> <li>Toyota Group could not source the sufficient auto components from South East countries and halted 27 factories in Japan in August and September 2021 temporarily.</li> </ul>
Nissan	<ul style="list-style-type: none"> <li>Nissan decreased the global production by 1,93,848 units in Q2 of 2021 compared with the same quarter in 2020. The production in China, the US, Mexico significantly went down and the reduction rate of the production in China, US, Mexico was recorded at 17.4%, 39.8%, 19.2% in August 2021, respectively.</li> <li>The Nissan factory in Tennessee region of the US shutdown for two weeks in August 2021 as the Nissan factory could not import the semiconductor from the supplier in Malaysia<sup>i</sup>.</li> </ul>
Honda	<ul style="list-style-type: none"> <li>Honda also reduced the global production by 3,56,190 units to 9,29,413 units in Q2 of 2021. In August and September 2021, the shortage of semiconductor and lockdown in the South East Asian countries affected the production of Honda Japan and the company halted the factory operations and adjusted the production volume.</li> <li>The utilisation rate of the factory in Japan in August and September 2021 was around 40% <sup>ii</sup>.</li> </ul>
Suzuki	<ul style="list-style-type: none"> <li>The overseas production of Suzuki in July 2021 increased with growth rate of 48.6% because of significant increase of the production in India, Indonesia, Thailand and Pakistan.</li> <li>However, it is currently estimated that the total vehicle production volume in India in September 2021 could be around 40% of normal production owing to a supply constraint of electronic components due to the semiconductor shortage situation<sup>iii</sup>.</li> <li>Besides, the factories in Japan suspended the operation temporarily and decreased the production by 30% in Q2 of 2021.</li> </ul>

<sup>i</sup> 12 August 2021, The Yomiuri Shimbun, URL: <https://www.yomiuri.co.jp/economy/20210812-OYT1T50187/>

<sup>ii</sup> Press release, 14 September 2021, Honda Motor Co., Ltd.

<sup>iii</sup> Press release, 31 Aug 2021, MARUTI SUZUKI

### The automobile production of Japanese companies in Q2 2020 vs Q2 2021



Data Source: Press release of Toyota, Honda, Nissan, Suzuki

## Securing supply-chain globally

In fostering semiconductor production, the quad alliance India, Japan, China and Australia has joined hands to secure supply chains. It is imperative to have bilateral investment agreements that would include tariff reductions on dozens of products which are used to make semiconductors. It has become vital to share national interests to have resilience, diversity and security in supply chains.

The semiconductor shortages are likely to cost the auto industry **USD 210 billion** in revenues this year, which when translated into volumes means production of **7.7 million** units will be lost in 2021.

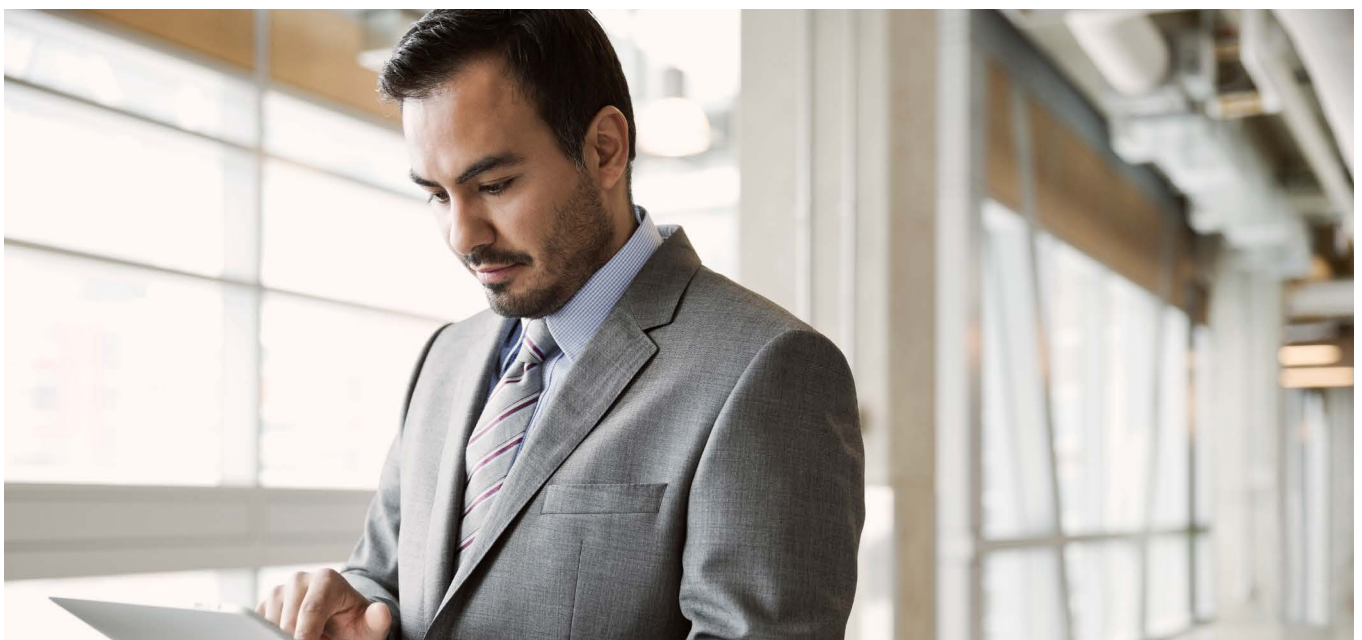
## India-Japan relationship

India and Japan incubated alternative solutions to pandemic problems together, be it the India-Japan-Australia Resilient Supply Chain Initiative (RSCI) or the Quad's Vaccine Partnership.

Japan has emerged as an enabling force in key nation building initiatives with India aspiring to be a leading power in a multipolar world, sourcing technology, investments, and development assistance to modernise its economic foundation.

While the RCSI is mapping knowledge gaps in supply chain structure, it's a steep learning curve as India tries to plug into the global manufacturing ecosystem. Production-linked incentives (PLI) are expected to make manufacturing competitive. While Japanese companies have projected a few 'Make in India' success stories, they continue to favor Southeast Asia as witnessed during recent subsidy-supported diversification following the pandemic. Thus, overall, the cultural gaps need to be narrowed down at a greater scale.

**Additionally, the Quad's Semiconductor Supply Chain Initiative needs to be effectively leveraged along with cooperation with other players like Taiwan and South Korea to collectively create a robust ecosystem.**





USA	EACs	China and Taiwan	Malaysia
<ul style="list-style-type: none"> <li>• USA leads the R&amp;D intensive areas like Electronic Design Automation (EDA), Core IP, Logic.</li> <li>• USA has the most prestigious universities and ecosystem of knowledge, fund and human resource to create the innovation.</li> </ul>	<ul style="list-style-type: none"> <li>• East Asian countries (EACs) like China, Taiwan, South Korea and Japan have strength on these areas and have the share of 73% for Materials and 72% for Wafer fabrication.</li> </ul>	<ul style="list-style-type: none"> <li>• In terms of capacity location outsourced semiconductor assembly and testing (OSATs) firms, China and Taiwan account for more than 60% of the world's assembly, packaging and testing capacity.</li> </ul>	<ul style="list-style-type: none"> <li>• Recently OSAT firms have also started to diversify their own global footprint, building new capacity in other locations with low labour costs such as Malaysia.</li> </ul>

Data Source: BCG & SIA (2021)



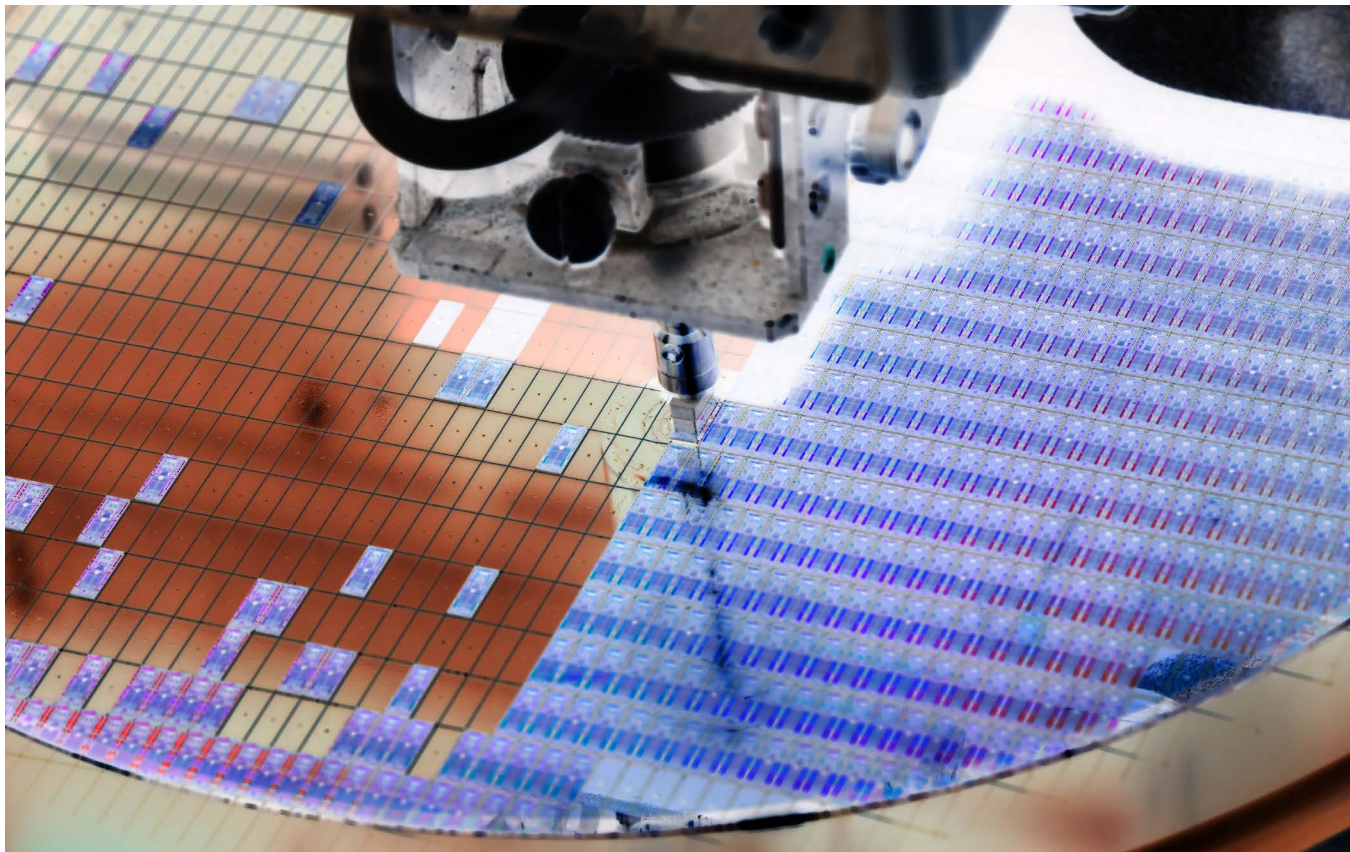
## Possible resolution for the shortage

The chip shortage has created a ripple effect while impacting businesses across the value chain as OEMs and their suppliers scout for chip sources. Both the auto players and the semiconductor manufacturers need to align their short and long-term strategies to overcome this supply-chain disruption.

While these OEMs cut down their production, many manufacturers (globally) resorted to dropping off features which require chips and customers are likely to overlook. For instance, Stellantis shipped some pickup trucks without an Electronic Detection System which looks out for blind spots. Similarly, Tesla removed the adjustable lumbar support from the front passenger seat of some vehicles.

To stride through the semiconductor shortage, the auto manufacturers are also trying to prioritise what to manufacture and shift chips away from their less profitable vehicles and using them in the more profitable and popular models.





## Notable initiatives

- In the US, the Biden administration rolled out USD 2 trillion infrastructure investment package which includes USD 50 billion for the semiconductor industry.
- The South Korean government too announced a massive USD 451 billion investment to help companies boost production of semiconductors. Countries need to park a corpus for meeting the component shortage on similar lines.
- The Japanese government is likely to subsidise up to half of Taiwanese behemoth Taiwan Semiconductor Manufacturing Company (TSMC's) estimated 1-trillion-yen (USD 8.82 billion) investment for building a chip plant in Kumamoto, southern Japan expected to produce semiconductors for automobiles.

## The strategies could be in line with global players

### Solutions

#### Long-term

- Creation of duplicate supply chains and building surplus capacity
- Need for shifting manufacturing within their countries and becoming self-reliant.
- Have own engineering teams to design and develop the electric products with same function but less semiconductors

#### Short-term

- Reconsider 'just in time approach' and keep the affordable inventories
- Adopt the long-term agreements of 12 months to 18 months
- Change the payment terms to upfront payments
- Developing robust analytics team to match demand and supply; acting as enablers to provide clear inputs for internal communication (between suppliers and customers)



# Regulatory updates



## OEMs mandated to offer bio-fuel vehicles

### India aims to run on biofuels and OEMs would offer vehicles with flexible engines

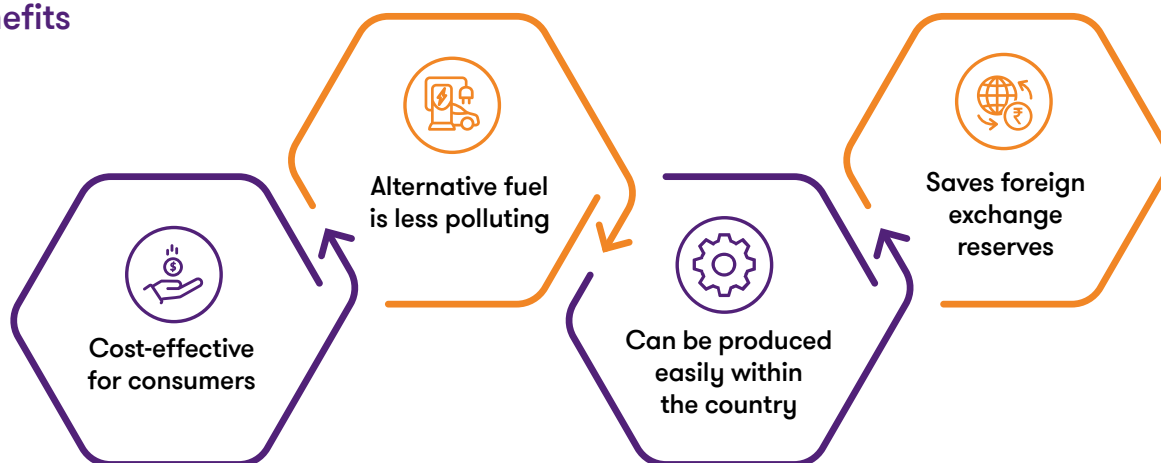
The automakers are encouraged to focus on rolling out flexible-fuel vehicles (FFV) within a year. FFVs can run equally on both biofuels and fossil fuels.

Further, expanding the use of alternate fuel options for vehicles, Indian government looks at making green hydrogen an important fuel alternative to petrol, diesel and electric vehicles.

India to be the leading auto manufacturing hub in the world offering vehicles with all the fuels for the world in the coming five years.

The recently launched vehicle scrappage policy will help in sourcing of raw materials

### Benefits



### Our View

There have been recurring transformations in the auto industry with government wanting OEMs to switch to EVs, CNG-powered vehicles and FFVs at large. In order to drive in alternate fuel options for vehicles, the stage is also set for hydrogen fuel cell-powered vehicles, however, the industry-readiness is yet to be seen towards utilisation of hydrogen as a fuel for transportation.

Also, the planned transition to EVs over the next few years is quite encouraging coupled with a strong push for 100% ethanol vehicles. In such scenario, the petrol prices would bound to soar higher in the next few years. The phased manner will eventually push the petrol vehicles out and lead to decrease in consumer preference to purchase a petrol vehicle.

The government is also expected to promote ethanol as the preferred fuel for all those who still cannot afford an EV. Thus, looking at the time provisioning to OEMs, the mandate is expected to be announced in next six months.

In light of the abrupt exit of major OEMs, there is a high need of a more balanced and comprehensive legal provisions to maintain the OEM dealer statutory relationships; wherein clauses on termination, indemnification, repurchase obligations needs to be explicitly explained and implemented under the umbrella of drafted and enacted law. The situation would help dealers in protecting their interest, recover heavy investments and afford more flexibility in dealing with inadvertent termination of business by OEMs.

## Support to Indian automobile dealerships

### Government may consider introducing an Automobile Dealers' Protection Act to support automobile dealerships

In India, automobile dealerships are predominantly family-owned or partnership firms that are small or medium enterprises. Such firms do not have any bargaining power

with automobile giants of the world. As the existing laws are not adequate to protect their interests, automobile dealerships face unprecedented difficulties.

#### A large untapped Indian market is created when large foreign OEMs shut operations in the country

OEM	Year of exit	Years of operations in India	Reasons for exit
General Motor (GM)	2017	21 years	GM was not able to survive in the Indian market. Share of customers shrank from 4.7% in 2010 to about 1% in 2016. With less than 1% car sales in the country, the company decided to exit.
Volkswagen owned- MAN Trucks	2018	15 years	Formed a joint venture with Pune's Force Motors
UM Lohia	2019	2 years	Dispute with its domestic joint venture partner Lohia Auto
Harley Davidson	2020	9 years	Weak sales
Ford	2021	26 years	Recorded a USD 2 billion restructuring charge. The state of loss in the domestic market continues.



#### Adverse impact on the interests of consumers



- No avenues for after-sales services
- Plunge in the resale value of their vehicles
- Huge investment and employment losses

# Conclusion

Challenges for the Indian automobile industry continue to persist. While on one hand, we see a revival in vehicle demand, on the other hand, high commodity prices and semiconductor crunch has aggravated problems for auto manufacturers which is causing a major concern for the industry per se.

The increasing price of commodities in India has resulted in record-high prices for new and used vehicles in the country. It is expected that these high prices are likely to remain as such in the next year as well and may not reinstate until 2023. As far as semiconductor shortage is concerned, domestic manufacturing has turned out to be a key solution. However, can India really take on chip manufacturing remains a question. To rely on domestic manufacturing to fulfill semiconductor needs, the country may have to wait before chips are manufactured here. For now, the country's journey in the semiconductor sector is more likely to start with assembly, testing, marking, and packaging (ATMP) and specialty fabs.

In context to the efforts made by the government to become a self-reliant economy, the Indian automobile and manufacturing sector is expected to boost India's FDI for the current year on the back of production-linked incentive (PLI) scheme, which is designed to incentivise domestic manufacturing and thereby, aimed at increasing exports.

Moreover, India being the sixth-largest economy in the world is characterised by an exponential consumer base, making it desirable to potential investors where India's cost base is a great advantage. With the help of all such factors, India can also become a centre for auto design and engineering services.

Overall, on the back of all said developments, relaxed policies and investor-friendly reforms, India truly offers a conducive ambience for foreign investments in the near future.





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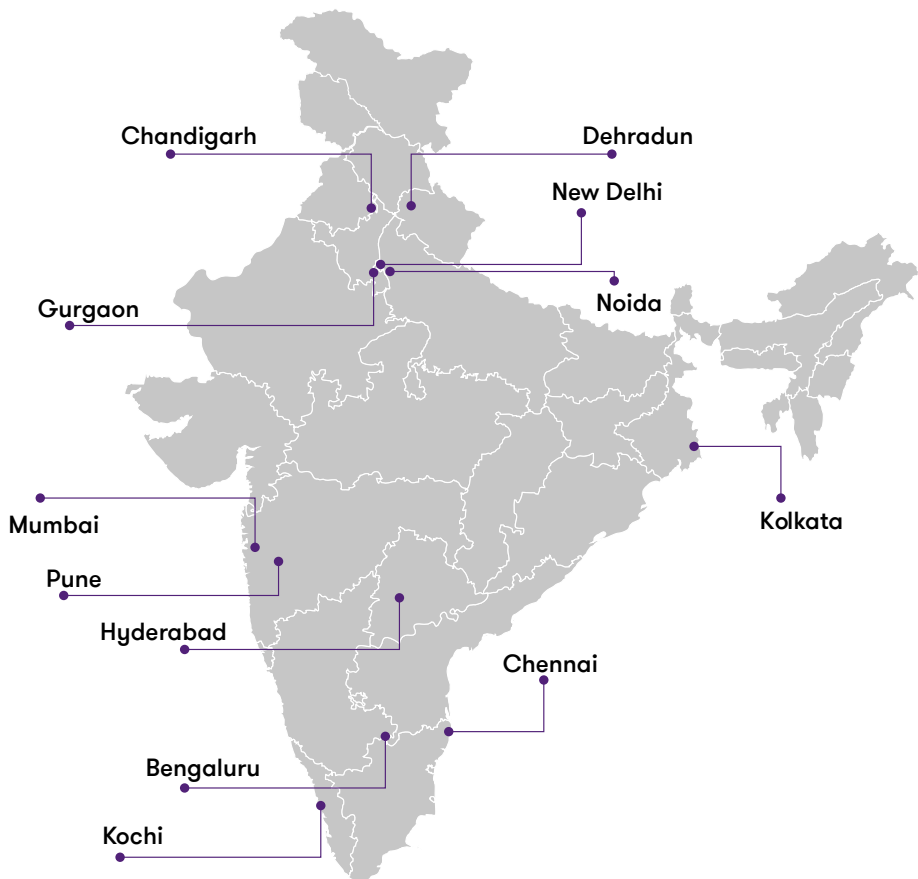
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people



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# Acknowledgements

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**Sources**

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