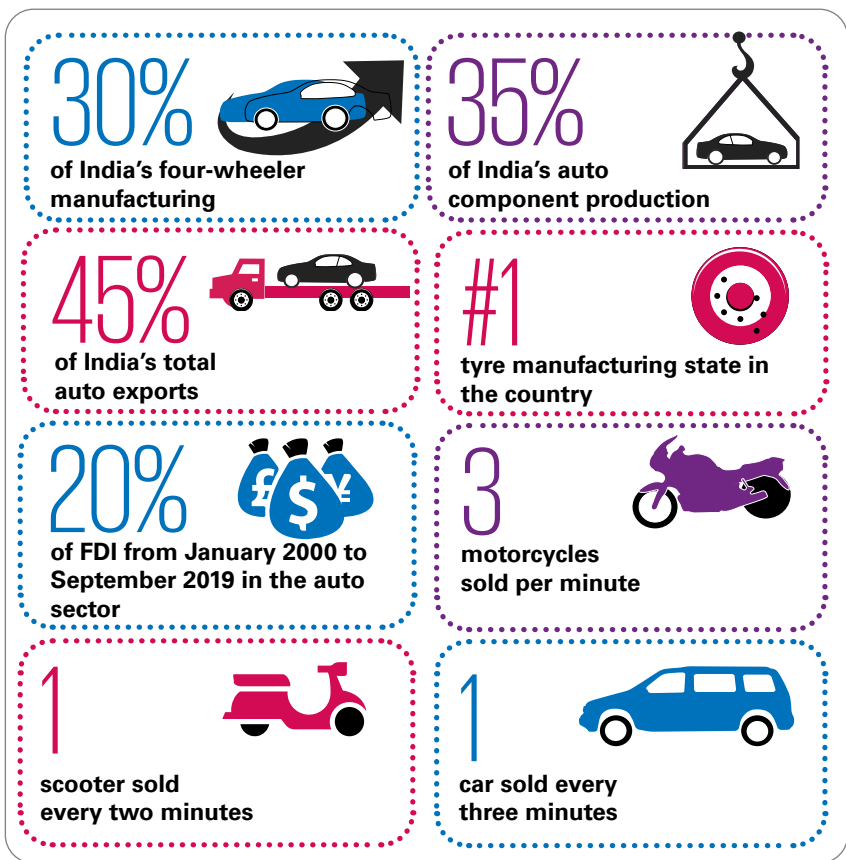




# Automotive

Tamil Nadu is one of the largest auto hubs in India and ranks among the top 10 in the world<sup>99</sup>



Tamil Nadu is one of the largest contributors to the automobile sector in India in terms of industrial output and is one of the top 10 global auto hubs with an annual installed capacity of 1.46 million units for passenger cars. The state also hosts the largest auto components industry base and accounts for 35 per cent of India's production of auto components. The auto components sector is projected

to grow at a CAGR of 20 per cent over the next five years, with exports likely to grow at 30 per cent CAGR.<sup>100</sup>

The Tamil Nadu Automobile and Auto Components Policy, 2014 has helped reduce operational costs for companies through dedicated auto parks, seamless transport connectivity, availability of auto components, employable talent and testing facilities that adhere to safety standards.<sup>101</sup>

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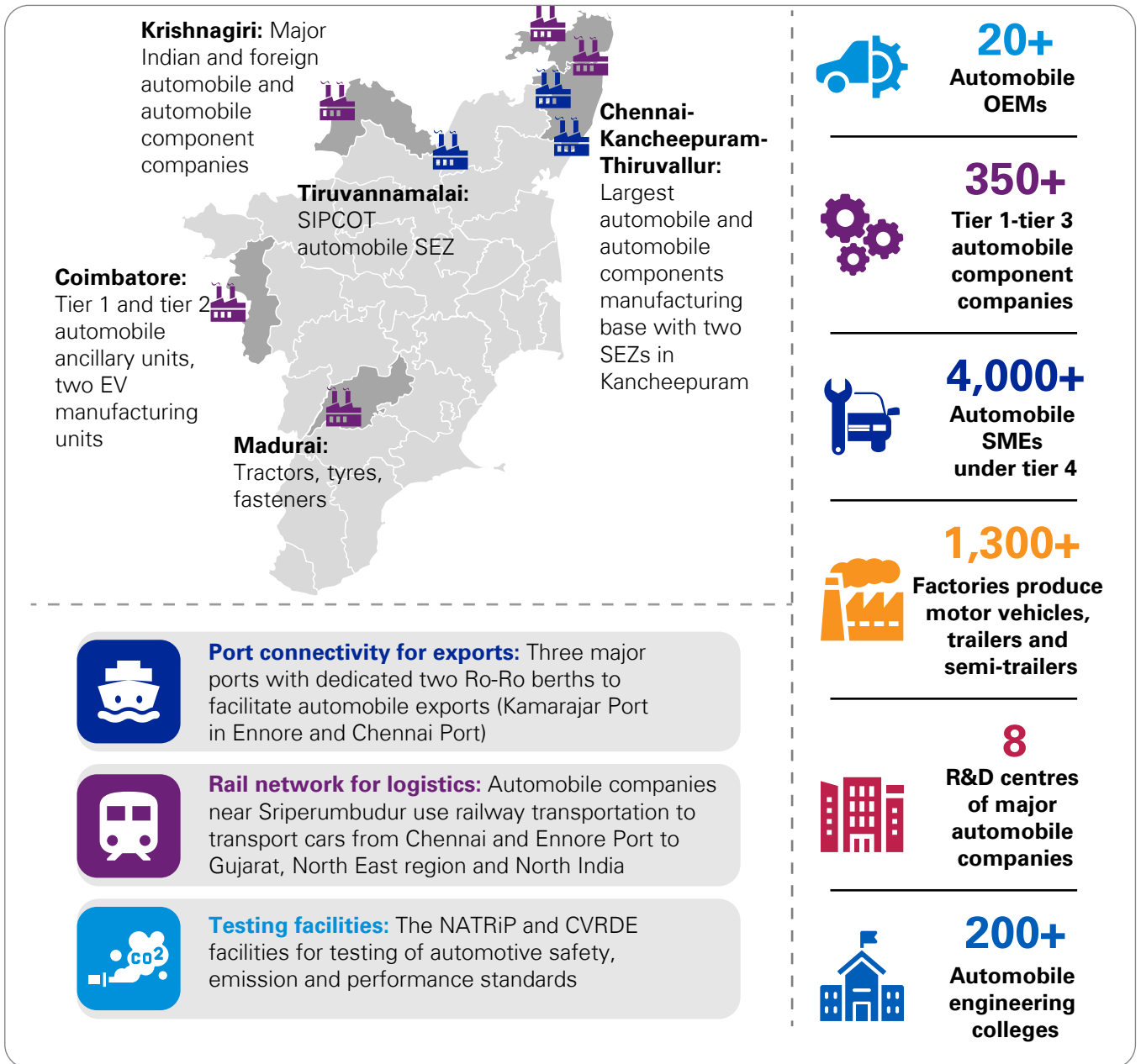
In India, the state of Tamil Nadu has been home to Hyundai for the last 24 years. The mutually benefitting partnership between Hyundai Motor India and Tamil Nadu has built a strong trust, collaboration and synergy. The state-of-the-art facility of Hyundai Motor India in Sriperumbudur has been the manufacturing hub for world-class Made-in-India cars for domestic and global markets. We have been an integral part of the economic development of the state and empowering a highly talented workforce towards a brighter future.

From an investor's perspective, the state government offers a conducive business environment for the industrial growth and Hyundai Motor India has also signed MoU with the Tamil Nadu government to take-up many infrastructural investments in the state. Hyundai Motor India looks forward to a well incentivized and industry-friendly packages in the coming years as well. Also, the growing mandate for cleaner and greener mobility solutions has opened new avenues and opportunities for OEMs like ourselves to bring in innovation and superior products including Electric Vehicles in the market.

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**SS Kim,**  
MD & CEO,  
Hyundai Motor India Ltd.

**”**



The automotive sector was bracing for a difficult year even before the COVID-19 pandemic. Auto sales had been tepid for 12 to 15 months when the outbreak stalled production and overall economic activity. However, despite the sectoral slowdown and pandemic-induced demand shocks, the state's automobile sector recorded INR35 billion<sup>106</sup> investments during the first quarter of 2020-21, with MoUs signed by multiple global automakers on expanding their operations in the state.

Under the new Tamil Nadu Electric Vehicle Policy, 2019, the state is building a domestic production ecosystem

for electric vehicles (EV), thereby creating new opportunities in the EV value chain. In November 2020, the government declared 100 per cent tax exemption for all battery-operated transport and non-transport vehicles and also announced plans to set up the country's first park exclusively for EV production ecosystem. It is targeting investments of about INR500 billion in the EV segment and has announced a series of incentives such as 100 per cent GST reimbursement and 50 per cent capital subsidy, to attract investments in this space.<sup>107</sup>



# Opportunities ahead

The state will play a critical role in India's Automotive Mission Plan 2016-26, which targets 3x growth and aims to establish the country as a manufacturing base and an export hub. However, with COVID-19 stalling production and overall economic activity, the government and the auto industry players would focus on achieving an ideal state of mobility with convenient, affordable and enhanced last-mile connectivity through public transport

Tamil Nadu is also on the radar of companies looking to realign supply chains by considering a 'China + n' approach to their future course of action.

To capitalize on the future auto trends, particularly in electric mobility, Tamil Nadu can invest more in expanding production capacity, establishing dedicated R&D centers, offering demand-centric incentives, investing in vocational training, building charging and battery swapping infrastructure to promote electric mobility. Promoting localisation to reduce reliance on imports will also remain a critical area supporting growth.

Further, as the industry emerges from the pandemic, industry players will need to realign themselves to new realities such as:

- Preference for personal mobility, which would effectively translate into a higher preference for affordable personal

mobility, which could boost sales for auto manufacturers, especially in entry-level vehicles.

- Digitising customer interactions, with several OEMs, both premium and mass market, already recognising this trend and launching a complete online buying experience, starting from initial enquiries and customisation of features, to booking, financing and delivery in a completely contact-less transaction. The pandemic has also significantly accelerated the pace of the shift towards digital marketing including augmented and virtual reality technologies.
- OEMs innovating by adding better health, hygiene and sanitation features in their vehicles, such as in-built sanitisation, enhanced air-purification systems and anti-bacterial surfaces, etc.

As the automotive sector embarks on the course for recovery, the growth trajectory will depend on how well manufacturers and retailers are able to respond to challenges and adapt to the evolving trends in the post COVID-19 world.





# Apparel and textiles

Tamil Nadu is the largest textiles and garments hub in India<sup>108, 109, 110</sup>

4%



of National  
GDP

19%



of the total textiles  
output in India

28%



of total employment  
in the sector in India

33%

of the textile  
business in India



3rd

largest recipient  
of FDI in India



20%



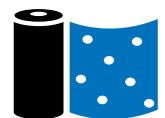
of India's exports of  
ready-made garments

50%



of India's total  
textile mills

22%



of India's  
power looms

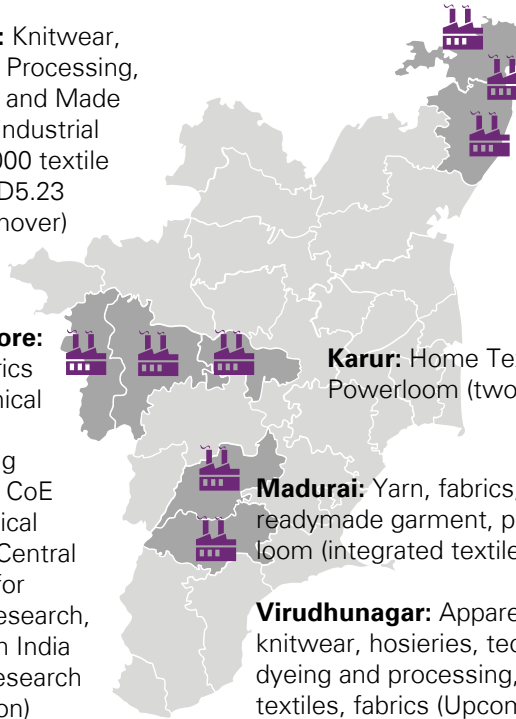
Tamil Nadu has a well-developed ecosystem with around 320,000 power looms, many handlooms clusters and functional textile parks and an abundant supply of cotton yarn. The state's textile sector employs over 3.1 million people, with 75 per cent of the power loom products earmarked for direct and indirect exports.<sup>111</sup>

## Textile manufacturing hotspots and ecosystem<sup>112,113</sup>

**Tiruppur:** Knitwear, Weaving, Processing, Hosieries and Made ups (five industrial parks, 6,000 textile units, USD5.23 billion turnover)

**Coimbatore:**

Yarn, fabrics and technical textiles (1 weaving park, two CoE for Technical Textiles, Central Institute for Cotton Research, The South India Textile Research Association)



**Karur:** Home Textiles, Powerloom (two industrial parks)

**Madurai:** Yarn, fabrics, readymade garment, power loom (integrated textile park)

**Virudhunagar:** Apparels, garmenting, knitwear, hosieries, technical textiles, dyeing and processing, spinning, home textiles, fabrics (Upcoming mega textile park and red category land for textile operations)

**Chennai-Kancheepuram-Thiruvallur:** Readymade garments and technical textiles (three industrial parks)



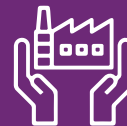
**6,500+**

**Garment operating units**



**32GW**

**Installed power capacity**



**13**

**Textile parks**



**54**

**Handloom clusters**

- SIPCOT is setting up textiles processing parks of over 500 acres
- 150MLD water supply plant to come up at Nemmeli in Kancheepuram by 2021
- Three desalination plants with 10MLD capacity each
- 20+ common effluent treatment plants for textile bleaching and the dyeing sector

The Tamil Nadu New Integrated Textile Policy 2019,<sup>114,115</sup> offers various fiscal incentives to attract investors, such as interest subvention for technology upgradation, interest subsidy for power handloom weaver co-operative societies, credit-linked investment subsidy on new shuttleless looms, free electricity supply to weaver households on certain conditions and funding to support innovation and product diversification.

The government plans to drive the sector by focussing on developing traditional handlooms and readymade garments sector, expediting the capacity building of the

environment-friendly processing sector, decentralising knitting and garmenting in other potential clusters, promoting technical textiles, and facilitating skill development.

To achieve the same technological edge as other leading apparel and textile manufacturing nations, it would be crucial for the state to modernise the industry, particularly the weaving and processing segments. The industry should explore opportunities in technical textiles such as agrotech, meditech, buildtech, and homotech.

# Opportunities ahead



Tamil Nadu with its inherent strengths in strong natural fibre value chain can capitalize on new opportunities in sustainable and organic end products in both Apparel and Home Textiles segments. In addition, the state may capitalize on large scale order exodus out of China that has been witnessed since 2014<sup>116</sup> by developing core competencies and capacities in Global high value/high-tech products.

With strong value chain capabilities, Tamil Nadu stands to gain significantly from the recent regulatory reforms of the Central Government such as abolition of anti-dumping on PTA, National Technical Textiles Mission, Performance Linked Incentives, etc. To capitalize on this, the state will need to further strengthen its value chain especially in processing and setting up large scale fabric plants.

To target focused investments (both FDI and domestic), Tamil Nadu may provide focused performance linked incentives on specific products/segments, such as Airbags (Mobiltech). It can also focus on Man-Made Fibre (MMF) value chain, build capacities and focus on functional fibres used for high-value apparel and technical textiles products.

The Atmanirbhar Bharat campaign also has the potential to transform textiles manufacturing landscape in Tamil Nadu. The State needs to focus on key imported product categories across textiles value chain. For Instance, Top 15 Technical Textiles product categories imported in India account for ~USD1.2 billion<sup>117</sup> (57% of total imports annually). Most of these products are used for domestic consumption. By focusing on building competencies in these products, Tamil Nadu can capture an annual economic value retention of ~INR85 billion leading to

large scale employment opportunities across textiles value chain.

At Global level, COVID-19 has expedited major disruptions that had already started in 2014, due to large scale order exodus out of China. During the first wave of order exodus during 2014-19, other countries such as Vietnam, Cambodia and Bangladesh captured the order exodus out of China. COVID-19 has forced major brands/retailers/importers to look for alternate sourcing destination to China and Tamil Nadu can capitalize on this opportunity, provided, the State builds required infrastructure and attracts large scale investments in Synthetics value chain with focus on functional fibres.

Textiles has been a focus sector for most key States in the country over the last few years, resulting in high competition. To counter this and attract investors, Tamil Nadu can position itself as investment destination for global high growth/highvalue products/segments with focused incentives/subsidies.

To summarize, Tamil Nadu needs to build on its value chain capabilities with special focus on MMF value chain, build indigenous machinery manufacturing capabilities, set up plug and play mega industrial parks and strengthen its capabilities in segments such as processing and provide for product/segment level focused incentives to attract investments.





# Agriculture and food-processing

Agriculture and its allied sectors are the largest source of livelihood in Tamil Nadu – more than two third of rural households in the State rely largely on agriculture for their sustenance.<sup>118</sup> The state has been promoting sustainable

agriculture by adopting frontier technologies to increase productivity and farmer income. Its food grain production has crossed 10 million metric tonnes per annum since 2011–12.<sup>119</sup>

**Tamil Nadu enjoys a competitive advantage driven by abundant agro resources, growing demand, and access to national and export markets<sup>120,121</sup>**


- Agriculture and allied activities account for 12 per cent of the state's economy and provide sustenance to about 40 per cent of the state's population
- More than two-thirds of rural households depend primarily on agriculture
- The state:

~3% to India's  
**food grain  
produce**

~8% to  
India's **food  
processing  
output**

~7% to India's  
**vegetable  
produce**

~12% to India's  
**fruit produce**

  
**Leading  
Producer of  
Tapioca, Bananas  
and Tamarind**

**2nd**   
**Largest producer  
of poultry, dairy  
and Coconut  
in India**

**2nd**   
**Among  
registered food  
processing units  
factories**

**3rd**   
**Largest producer  
of tea and coffee  
in India**

**4th**   
**Marine  
fish  
production**

**5th**   
**Largest producer  
of fruits in India**

“

One could focus on models in the agri sector that could enable member-farmers to benefit from economies-of-scale in securing inputs, processing and marketing their produce, and also support member-farmers in accessing timely and adequate credit, without losing ownership of their land. Fostering Competitive Productivity in agriculture sector is equally important. Cities like Coimbatore and nearby areas could benefit from a planned approach to Industrial Parks which could integrate allied sectors such as agriculture, floriculture, horticulture, aquaculture and animal husbandry activities (Dairy, Poultry) etc., to promote and gain a competitive advantage locally and globally. This can also give impetus towards achieving objectives such as increasing farmers' income, reducing wastage of food products, and value addition to farm products.

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**B. Soundararajan,**  
Managing Director,  
Suguna Holdings Private Limited

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An enabling infrastructure, including one mega food park, eight industrial parks and four agri-export zones, has been driving investment in Tamil Nadu's food processing sector. In addition, in February 2020, the state approved the setting up of a mega food park, seven food parks and eight agro-processing clusters. The seven food parks have been proposed in Dharmapuri, Ariyalur, Perambalur, Karur, Nagapattinam, Ramanathapuram, and Tenkasi districts. Eight agro-

processing clusters have been proposed in Theni, Dindigul, Krishnagiri, Tiruvannamalai, Salem, Cuddalore, Villupuram, and Madurai districts.<sup>122</sup>

To minimise the impact of the pandemic on its farm sector, the state government has set up a committee to prescribe policy measures to address issues such as slow procurement pace and inadequate cold storage infrastructure.

**The state's focus on increasing farm incomes as well as promoting food processing, would drive more investments across the agri value chain**

### Enhancing farm efficiencies



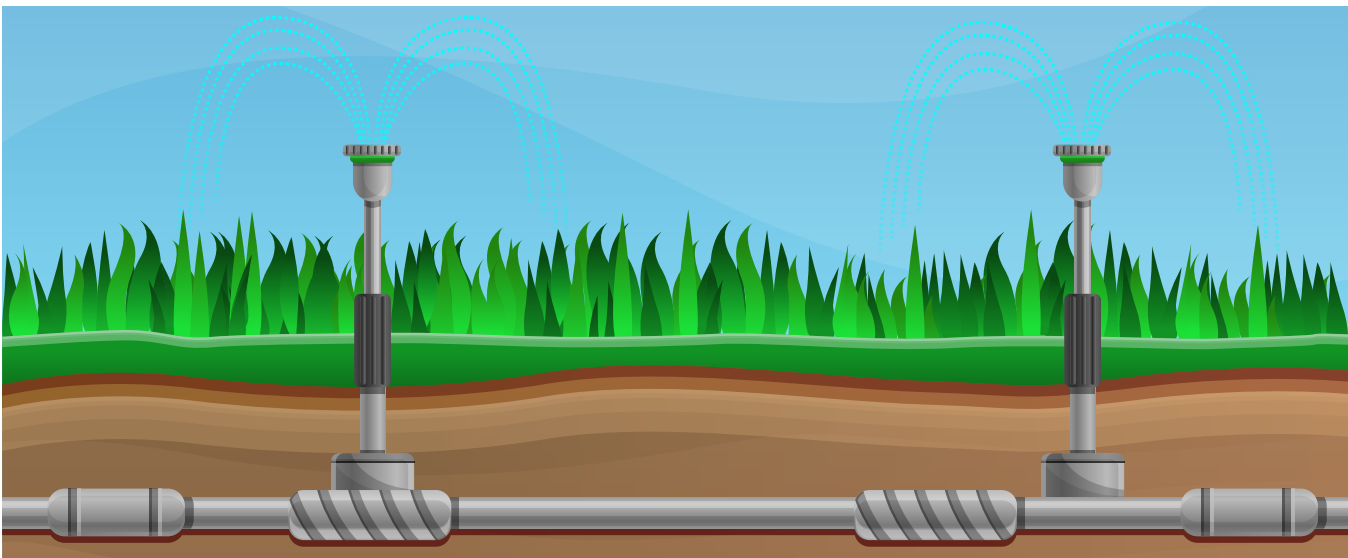
- Increasing crop yield using crop management technologies
- Focusing on production and distribution infrastructure
- Increasing on-farm incomes
- Focusing on generating off-farm incomes
- Facilitating transfer of technology
- Focus on soil and water testing for better nutrient management and soil health
- Using modern information embedded technological tools for farm solutions
- Adopting integrated and sustainable farming



### Promoting food processing



- Augmenting quality production across agriculture and allied sector
- Promoting food processing clusters
- Developing food parks
- Promoting entrepreneurship and fostering agri-tech startup ecosystem
- Establishing skill centres
- Supporting farmer producer organisations.



# Opportunities ahead

Tamil Nadu is well positioned to promote infrastructure-based development in allied sector like fisheries and dairy through the underlying potential and available biodiversity. Promotion of Farmers Producer Organisations (FPOs) in these sectors as well as improve in the overall capacity of the farmers for higher earning per unit of resource is also critical for growth.

The government can also leverage the Agriculture Infrastructure Fund (AIF) to build farmgate infrastructure across the sectors and build entrepreneurship in the state. Further the central government's Atmanirbhar Bharat scheme can also help the state diversify PACS (Primary Agricultural Cooperative Society) and facilitate capacity building up of FPOS/ Farmer Producer Companies (FPCs) / Self-help groups (SHGs) etc.

The government can also drive farm mechanization in the state through schemes like AIF and SMAM (Sub Mission on Agriculture Mechanization) by promoting digital technologies and start-up ecosystem.

It can also leverage organic farming, Tomato, Onion and Potato (TOP) scheme (now extended to other horticultural crops as well) for better price realization to the farmers and bridge gap of production versus consumption areas.

With Farmer bills passed, the government can look to create online e-commerce platform to create larger ecosystem of buyers benefitting both the buyers and sellers.





# Electronics and hardware

Tamil Nadu has a strong manufacturing base for electronics and hardware, accounting for 16 per cent of India's electronics production. The state ranks second in India in computer electronics and optical products manufacturing, and third in terms of electronics exports.<sup>123</sup>

The Tamil Nadu Electronics Hardware Manufacturing Policy 2020<sup>124</sup> has set the following targets for the state: increase electronics industry output to USD100 billion, contribute 25 per cent of India's total electronic exports, and upskill more than 100,000 people by 2025. To accelerate growth of the industry, the state government is providing investors with incentives such as subsidy for capital, land lease, training, interest, environment protection infrastructure, intellectual capital and enhanced quality certification; exemption on stamp duty and electricity tax; and single window portal for clearances.

This has helped the state attract global investors in the recent years, including a few noteworthy investments since the onset of the pandemic. In July 2020, a Taiwanese contract manufacturer that assembles smartphones announced expansion plans worth almost USD1 billion<sup>125</sup> for its factory in Tamil Nadu. Another Taiwanese cable manufacturer is setting up a manufacturing plant in Chennai.<sup>126</sup> The move is a part of their strategy to gradually diversify production networks, as they navigate disruptions from a trade war and the pandemic. Further, in December 2020, a large global mobile phones manufacturer commenced production of next generation 5G equipment at its Chennai plant. The equipment is being exported to countries in advanced stages of 5G deployment.

The sector would also receive support from new electronic schemes introduced by the Government of India - Production

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**Tamil Nadu continues to attract major players in the Electronics Industry and has today become the most preferred destination for Electronics manufacturing due to the prevailing conducive environment, eco-system, incentives, government support and notably availability of talent pool at all levels. With the focused approach in mind by the government to attract large corporations into TN, the main area that needs transformation is infrastructure (specifically roads, port facilities) in order to improve efficiencies and provide seamless experience to investors.**

**Leveraging digital technologies, shortening total lead time and improving on ease of doing business indexes, will provide major boost to attract further investments.**

**Tamil Nadu is all set to be a leading destination for exports of electronic goods in coming years!**

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**Sasikumar Gendham,**  
Managing Director,  
Salcomp India

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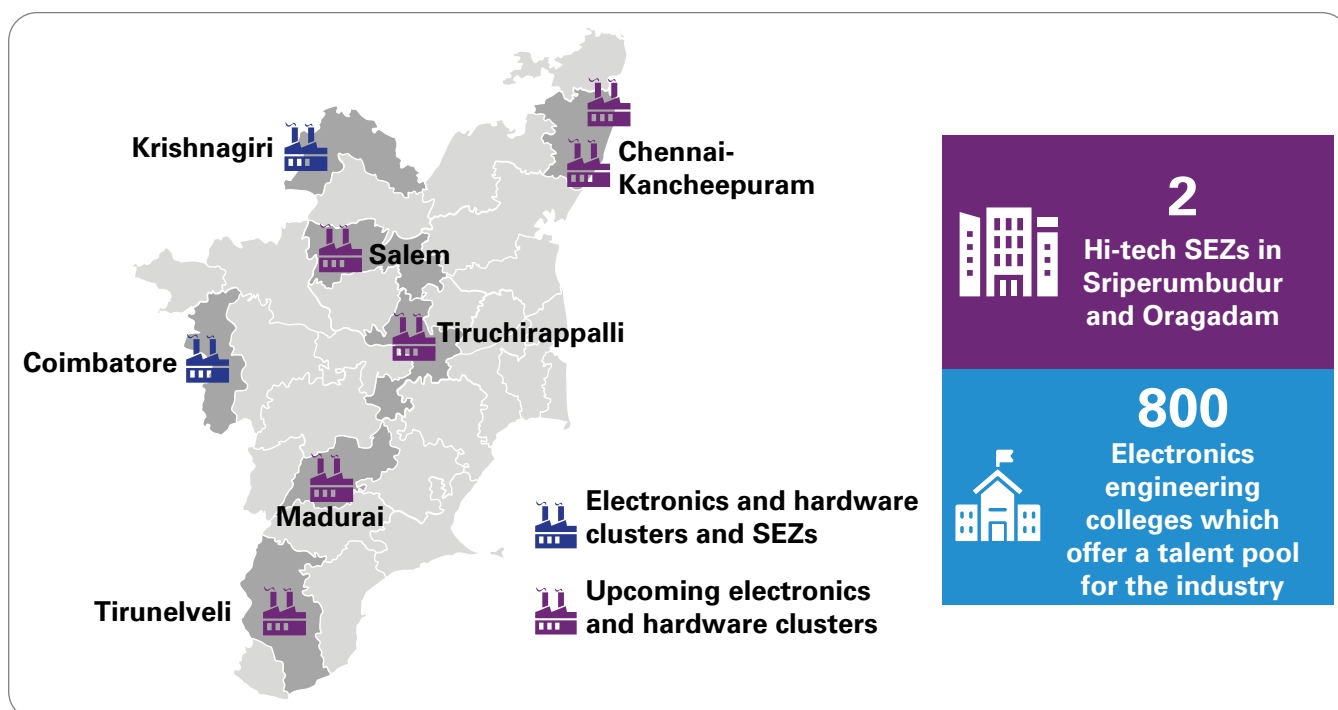
Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing, Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS) and Modified Electronics Manufacturing Clusters Scheme (EMC 2.0). An Indian diversified conglomerate has taken advantage of the PLI scheme and announced USD1.5 billion<sup>127</sup> mobile phone and component manufacturing plant in Tamil Nadu.

Tamil Nadu aims to increase the level of value addition in the state, especially across focus sectors such as mobile handsets, LED products, fabless chip design, printed circuit boards, solar photovoltaic cells, medical electronics and automotive electronics.

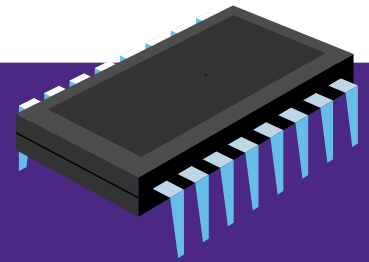
The state can achieve the above objectives by fostering an environment of research and innovation, undertaking focused R&D programmes, promoting start-ups and innovation-led enterprises, developing technologically advanced solutions, and attracting at least two major semiconductor fabrication investments in the next three years.

The government is also looking to promote an eco-park to enable environment-friendly processing e-waste leveraging a PPP mode to integrate formal and informal operators.<sup>128</sup>

### Electronics and hardware manufacturing hotspots and ecosystem<sup>129,130</sup>



# Opportunities ahead

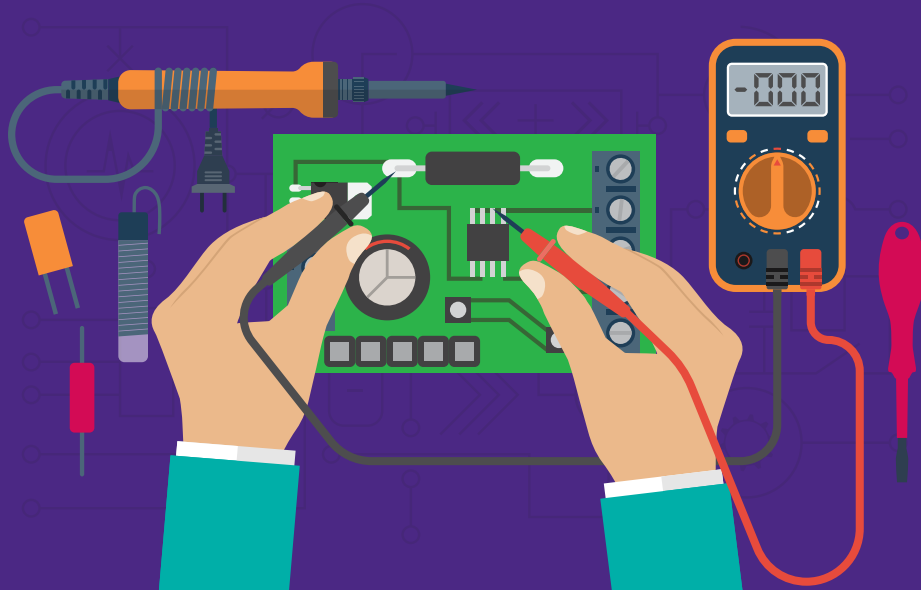


India has huge potential in electronics hardware manufacturing with the demand for electronic manufacturing set to reach USD400 bn by the year 2025.<sup>131</sup> Given the recent pandemic, global supply chains are undergoing a radical reconfiguration. Electronics being at the heart of the world trade and with the current government's focus on this sector, India is strongly poised to become a global leader in the electronics manufacturing industry. With the increase in the use of smartphones, uptake of smart homes, smart cities, etc. the contribution of electronics hardware is set to expand further.

Tamil Nadu is home to 37 SEZs with 2 dedicated SEZ for electronics hardware manufacturing and has largest number of factories in India.<sup>132</sup> The state has some distinct advantages for potential investors in terms of land, labour and infrastructure.

With introduction to 'The Tamil Nadu Electronics Hardware Manufacturing Policy 2020' and central as well as state government's focus on the sector the state offers to be the most favourable destination for top manufacturers to invest and setup electronic manufacturing unit.

The state should leverage this opportune post COVID times and capitalise on several existing strengths to formalise the short, medium- and long-term localisation strategy based on market attractiveness, ability to compete and intensity of R&D. As per KPMG in India analysis for electronics components manufacturing in India, display assembly and PCBs are two among the group of components that can be considered for integration of sub-assembly in India. Both these offer a sizeable market with a relatively lower intensity of investment.<sup>133</sup>





# Logistics

Tamil Nadu is a multimodal trade hub comprising 5 seaports, 65 dry ports and 3 international air cargo terminals which makes the state an ideal destination for manufacturing and trade operations. The state has 23 State owned SIPCOT Parks, 41 SEZs, 3 FTWZs, 25 private industrial parks and more than 120 SIDCO parks for small scale industries. These facilities entail large demand for warehousing and logistics facilities in the state. Being the closest point of contact for major manufacturing hubs in China, Korea, Taiwan, Japan and ASEAN nations, Tamil Nadu is an ideal location for export logistics operations.<sup>134</sup>

A dedicated freight corridor, PPP and full income tax exemption for port development projects have improved multi-modal transportation in Tamil Nadu.<sup>135</sup>

The proposed industrial corridors such as VCIC, CBIC and Tamil Nadu defence corridor and existing industrial clusters in the state such as automobile, e-commerce, and food processing companies are also driving the need for developments in the logistics sector.

In November 2020, an Indian supply chain management service provider set up a 350,000 square feet 'built-to-suit' warehousing capacity in Kancheepuram district providing 'flexible and scalable' fulfilment and integrated distribution solutions to an e-commerce player and a German auto-component supplier.<sup>136</sup> In August 2020, an APAC focused logistics real estate platform announced plans to build a 36 acres industrial and logistics park in the heart of Chennai's Oragadam industrial belt.<sup>137</sup>

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**Tamil Nadu has been very responsive on the ease of doing business, focusing on the most important asks of the business community and developing the state's attractiveness for investors. It is noteworthy to consider Tamil Nadu's accomplishments in developing an admirable manufacturing ecosystem and this could be extended into building a strong supply-chain and logistics ecosystem as well. Digital integration is the key to achieve efficiencies in supply-chain management. Tamil Nadu is also well positioned to be the regional hub in the context of spare-part warehousing across sectors including automotive, aerospace, defence, renewable energy equipment, etc**

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**R. Dinesh,**  
Managing Director,  
TVS Supply Chain Solutions




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## Industrial clusters in Tamil Nadu

### Salem

 Steel Manufacturing

### Coimbatore

 Information Technology  
 Manufacturing  
 Light Engineering




### Tiruppur

 Textile




### Sivagangai

 Papers  
Manufactureing





### Chennai

 Information Technology  
 Heavy Engineering  
 Auto, Electronic and Manufacturing

### Tiruchirappalli

 Cement  
 Electronics  
 Manufacturing

### Thoothukudi

 Manufacturing  
 Food Processing  
 Fertilisers  
 Chemicals

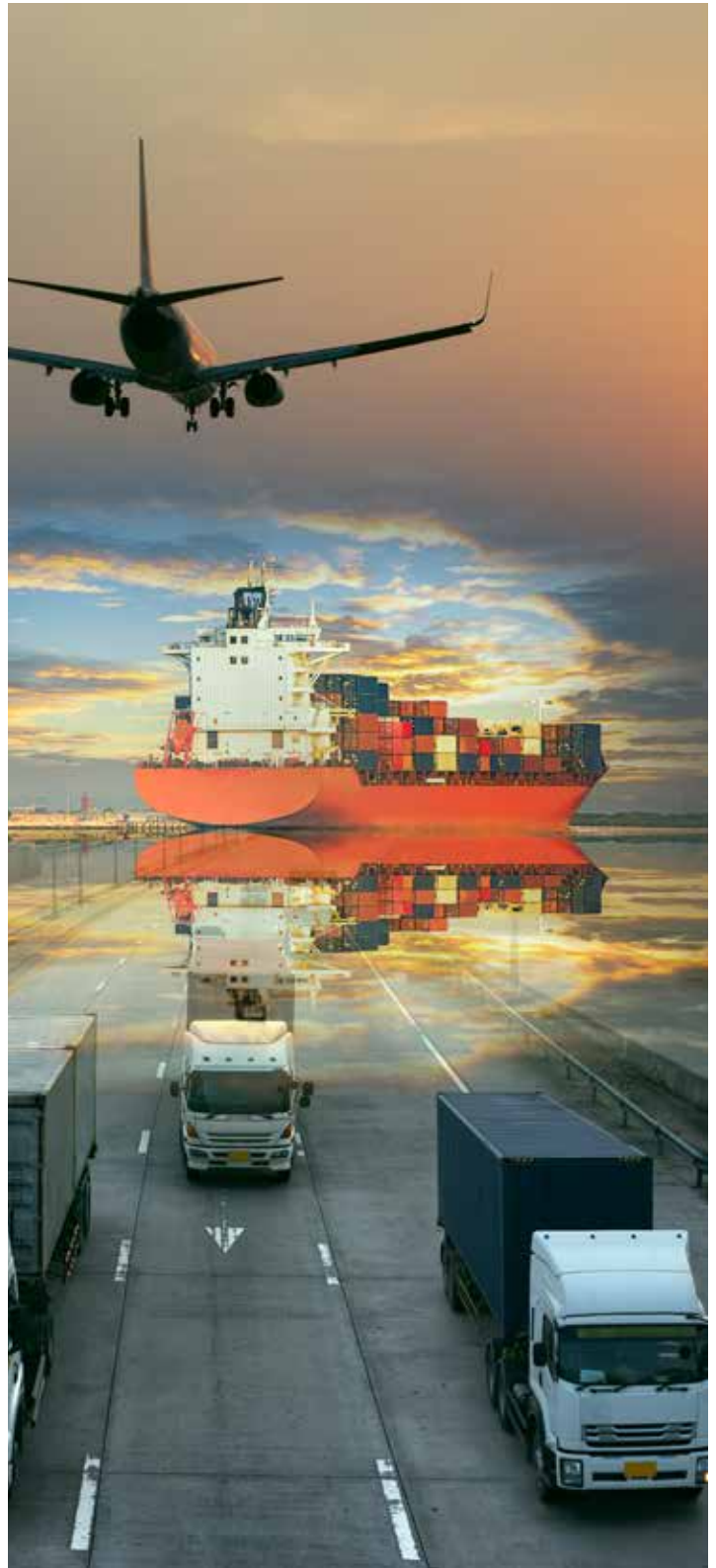
Source: Guidance Tamil Nadu

The Central government's efforts to build multi-modal logistics parks across the country and grant 'industry' status to the logistics sector has boosted its efficiency.

With an investment of INR12.9 billion earmarked under the Logistics Efficiency Enhancement Program (LEEP) of the Ministry of Road Transport and Highways, the Chennai region has been brought into spotlight. The city would also be home to one of the 35 logistics parks which are to be built under the Logistics Park Policy 2015. Infrastructure upgrades such as the proposed Chennai-Maduravoyal port and accelerated completion of Outer Ring Road are expected to highlight Chennai as one of the major logistics hubs in the country. Out of the USD1.2 billion investment in the Indian logistics and warehousing sector between 2017 and 2019, Chennai recorded the second largest inflows of USD220 million.<sup>138</sup>

Some of the major initiatives taken by the state government to promote Tamil Nadu as a logistics and warehousing destination include:<sup>139</sup>

- Comprehensive Road which is a flagship scheme Infrastructure Development Programme (CRIDP) is a flagship scheme to upgrade road infrastructure in the State. Under Budget 2020-21, INR55 billion (USD 80.25 million) has been allocated to the scheme.
- The state surpassed the targeted investment and attracted USD48.65 billion investment in 12 sectors including automobile, textiles, renewable energy, etc. During its second GIM in January 2019, around 146 MoUs were signed with an expectation to generate 1 million job opportunities in the state.
- In July 2020, the Tamil Nadu government signed MoUs worth USD1.48 billion; this is expected to create 13,507 jobs in fields such as solar cells, data centres and industrial parks
- Promoting and developing the Chennai Bangalore Industrial Corridor and Vizag Chennai Industrial Corridors which strengthens not only the industrial infrastructure but also logistics and warehousing infrastructure in the stretch.





# Opportunities ahead

The state is looking to invest in infrastructure – it has enlisted 179 projects worth INR8.6 trillion to be included in the central government's INR111 trillion National Infrastructure Pipeline (NIP) built on Infrastructure Vision 2025.<sup>140</sup>

The focus on single modal logistics has given way to multi-modal logistics which provides faster throughput and cost-effective logistic solutions. Tamil Nadu has seaports, airports, good road and rail network – all of which have to be harnessed in a coordinated manner to ensure that the potential for multi-modal logistics in the state is fulfilled. Multi-Modal Logistics Parks (MMLPs) are expected to play a significant role in catapulting the potential of the logistics sector in India to more than USD215 billion in FY 2020-21.<sup>141</sup> Tamil Nadu has huge potential to capture a large part of the MMLP value chain.

A dedicated policy for logistics and warehousing – or dedicated sub-sections in the industrial policy and other relevant policies for logistics and warehousing – can provide impetus for investors to invest in the state.

The focus of the government should be on integrating multiple modes of transport and logistics into a holistic solution for manufacturers and shippers. Digitization of paperwork and processes – from a holistic process point of view rather than from an individual process point of view can help drive efficiency in logistics and thereby attract investment.

Clustering is important to drive investments in logistics and warehousing. There are distinct industrial clusters in Tamil Nadu – for example, the

automotive cluster in Chennai. This would help drive investments in logistics and warehousing.

The outbreak of COVID-19 dismantled global supply chains as countries imposed lockdowns. This accentuated the reliance of businesses around the world on a few markets for fulfilling their manufacturing and sourcing requirements. Many companies looking to realign supply chains would consider a 'China + n' strategy to their future course of action. India and states such as Tamil Nadu are well positioned to attract companies for whom supply-chain relocation has become a top priority amid the pandemic. Favorable business environment and liberal FDI norms, improving Ease of Doing Business rankings, enormous consumer base and rapidly improving digital infrastructure make India a contender to emerge as a global manufacturing hub

The disruptions from COVID-19 have also triggered changes in logistics technology, with several start-ups in the e-logistics space coming up with new technologies for modernising logistics with real-time tracking of cargo, algorithm-based route optimisation and big data in addresses.

Supply chain leaders are also reassessing many long-held assumptions around global production networks in light of new realities and trying to forecast what the future may bring. This means working with current supply chains to improve efficiency and security of supplies while also finding new suppliers and routes that allow diversification in times of crisis.







# Pharmaceuticals and biotech

Tamil Nadu has set up India's first pharma park – the Alathur Pharma Park – in 1978.<sup>142</sup> The state has established presence in pharma, medical devices

manufacturing, and biotech sectors. However, Tamil Nadu's potential in these sectors are yet to be fully realised.

**Sunrise sectors – pharma, medical devices and biotech – are expected to drive the state's economy and present attractive investment opportunities<sup>143,144</sup>**

5th

largest pharma manufacturing state in India



400+

pharmaceutical companies



70+

institutes provide pharma & biotech degrees/diplomas



2.6%

national pharma production



75 of pharma companies,

75 are certified by Good manufacturing Practices (GMP)

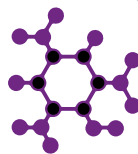


36

agro technology research stations support biotech



USD  
484 mn  
exports in 2018-19



10

of pharma companies, 10 have US FDA approvals



74%

FDI allowed under the automatic route



## Infrastructure/Clusters/SEZs

**Tamil Nadu Small Industries Development Corporation Limited (TANSIDCO)** – An undertaking of the Government of Tamil Nadu, with an objective to play a catalytic role in promoting and developing small-scale industries and expediting the industrial dispersal throughout Tamil Nadu.

**TICEL Bio Park, Chennai** – It provides laboratory infrastructure and services for biotech R&D.

**Golden Jubilee Biotechnology Park For Women, Chennai** – Provides self-employment opportunities for qualified women through biotechnological enterprises.

**HLL Medipark, Chengalpattu** – A joint venture between the Government of India and Government of Tamil Nadu to develop an integrated manufacturing hub for medical devices and technology sectors.

The state government constituted a committee to evaluate the impact of the ongoing pandemic on various sectors and identify the future growth sectors. The committee identified the following sunrise sectors – medical devices manufacturing, pharmaceuticals, and biotechnology – as key to economic recovery.<sup>145</sup> In other words, these sectors offer high growth potential and opportunities, driven by renewed focus from the state government.

Tamil Nadu has over 400 companies across bulk drugs, API, formulations and medical devices,<sup>146</sup> and is working on developing an ecosystem and infrastructure that could drive growth. With an established healthcare ecosystem and talent not being a constraint, the state

now has several strategic and organised plans for these sectors with: (a) policies, (b) pharma, medical devices and biotech parks, (c) academia-industry partnership promotions, (d) R&D centres (for instance, upgrading a government hospital's Stem Cell Research Centre as an Institute of Regenerative Medicine); (e) tax and other incentives (recently the state government has offered a 30 per cent capital subsidy, 100 per cent stamp-duty waiver, buying of 50 per cent of the products manufactured by Tamil Nadu Medical Services Corporation), (f) arrangement of angel funds to boost the start-ups and (g) a demand from the Central government to establish an anchor central institution in the state.<sup>147,148</sup>

## Opportunities ahead

The pharma and life sciences sector in Tamil Nadu recorded a double-digit growth during the pandemic, with the state's exports in this sector growing by more than 20 percent year-on-year.<sup>149</sup> Further, the COVID-19 crisis is likely to present immense growth opportunities for India's and Tamil Nadu's pharma industry including ramping up exports and becoming a preferred medical tourist destination for affordable treatment.

The industry will, however, need further export incentives and policies to tap its full growth potential. A dedicated pharma policy will help promote the industry in a organized manner.<sup>150</sup>

The state is developing a medical devices park in Chengalapattu district, with industrial plots and common scientific facilities, which will propel the State to be at the forefront of medical device technology development. The State is already a frontrunner in healthcare and a hub for medical tourism, which will help position the park as a global investment destination, attractive to both investors and end-users of healthcare services.

The emerging areas for investment opportunities within these sectors – especially with India focussing on increasing its self-reliance across sectors and industries – are as follows:

- Medical Disposables & Consumables; Medical

Electronic, Hospital Equipment & Surgical instruments; Implants and other Medical devices segment

- Bio-similar and diagnostics within the biotech sector; and
- Bulk drugs within the pharma sector.

Further, opportunities would arise in infrastructure development domain, especially for specific parks (pharma, medical devices and biotech) and R&D centres.

The increased popularity of IoT-enabled devices in healthcare, such as smartwatches, fitness bands, monitoring patches, heart rhythm detectors can be used by Pharma companies focusing on supply chain visibility.



# Services



**Tamil Nadu is one of the 15 states in India where services sector accounts for more than 50 per cent of Gross Value Added (GVA).<sup>151</sup> Services sector comprise of IT, healthcare, tourism, real estate, and telecommunication.**



# IT and IT-enabled services (ITeS)

Tamil Nadu accounts for 11 per cent<sup>152</sup> of total IT investments in India. It is among the preferred IT destination in the country, with Chennai emerging as the software as a service (SaaS) capital and leading outsourcing hub.

## Major IT parks and supporting infrastructure<sup>153,154</sup>



- **Robust and extensive IT communication infrastructure:** Three submarine cables of 14.8 TBps that connect Chennai to the world

- **Integrated IT infrastructure:** It comprises state data centre, state-wide area network, cloud computing, and disaster data recovery centre

The Tamil Nadu IT Policy, 2018<sup>155</sup> offers multiple incentives to IT companies setting up base in the state, such as capital subsidy and electricity tax exemption, subsidy on land lease rentals for start-ups and MSMEs, up to 100 per cent floor space index relaxation and 50 per cent reimbursement to MSMEs for certifications

and patents. The policy has been a vital growth driver for Tamil Nadu's software exports, which increased eight per cent in FY20 to reach INR440 billion.<sup>156</sup> Despite pandemic-related challenges, Tamil Nadu recorded INR250 billion<sup>157</sup> in software exports in first two quarters of FY21.

## Opportunities ahead

Given that it offers a large pool of technically qualified professionals in the country,<sup>158</sup> Tamil Nadu is expected to play a crucial role in steering India's vision of creating economic value of USD1 trillion in the digital economy by 2025. The focus would be on upskilling young professionals in digital technologies and creating sustainable jobs in Tier 2 and 3 cities and rural areas. The government is actively engaging with the industry to strengthen and develop the IT sector across the State, particularly in these cities.

The state also expects more opportunities through commissioning, operation and maintenance of data centres, establishment of business/knowledge/legal process outsourcing (BPO/KPO/LPO) centres, and establishment of centres of excellence and R&D centres for digital technologies (Internet of Things, AI, robotics, blockchain, cloud computing, and automation).

For the investors to capitalize on these opportunities, the state government is also investing around INR5 billion under the TamilNet project to set up high speed internet facilities across the state. Further, the state is working towards creating an ecosystem to attain 25 per cent share in the domestic ICT industry.<sup>159</sup>

Further with COVID-19 resulting in accelerated digital transformation across sectors and business functions, demand for IT sector and new technologies has been accelerating. Spending on software and hardware related to digital technologies such as IoT, blockchain, machine

learning and AI, cloud infrastructure, Big data/ analytics, human machine interaction and cybersecurity is set to rise exponentially. Factors such as cost reduction, revenue growth, security and safety and quality control will drive use of these technologies – particularly in industries such as healthcare, pharma, power and agriculture.

There is a renewed focus on 5G & AI, wherein the current skill gap will need to be addressed jointly by the government, industry and the academia. In addition to the skill gap, such collaboration will be required to create a robust cyber and data security policy framework.

Post COVID-19, there will be fundamental shift in the way of doing business and companies will need to adjust to a new normal. Work from home applications, cloud solutions, e-commerce, network security and AI applications will continue to be priority investment areas.





# Healthcare

Tamil Nadu ranks third among the Indian states in the NITI Aayog Health Index. The state has made considerable improvements in its healthcare systems, largely driven by investments made by the state government, including allocating a INR158.6 billion budget,<sup>160</sup> INR110 billion investment under ealth Sector Vision 2023<sup>161</sup> to add new and upgrade existing medical facilities and colleges. The state currently has over 350 hospitals, 1,800 primary health centres (PHCs), 8,700 health sub centres (HSCs).<sup>162</sup> Further, across 11 districts, construction of government medical college hospitals is underway which will provide 1,650 more medical seats, taking the total seats to 7,200.<sup>163</sup>

In March 2020, the government launched the Tamil Nadu Health System Reform Programme (TNHSRP) which aims at improving quality of care to bring it on par with developed nations. Of the total programme

cost of INR28.6 billion, about INR20 billion will be funded by the World Bank via loan.<sup>164</sup>

The government has also been able to attract global investors in the healthcare space. In August 2019, the government signed three key partnership agreements, focusing on developing the skills of the healthcare staff and improving methods for containing communicable diseases.<sup>165</sup>

In April 2020, Tamil Nadu announced special incentives such as capital subsidy, duty waivers etc for manufacturing of COVID-19 related medical equipment and drugs such as ventilators, PPE kits, N-95 masks, multipara monitors, anti-malarial and anti-viral drugs. The move has already been favourably received by multiple medical equipment manufacturers who have expressed interest to set up shop in the state.<sup>168</sup>





# Opportunities ahead

The state offers multiple growth opportunities in medical devices manufacturing, which has also been identified as one of the emerging sectors in Tamil Nadu by the Rangarajan committee. It has recommended the government to set up an "angel fund" for promoting investments in the sector. The committee also urged the state to roll out better incentives than a general package for medical devices production, recommending the government to build a medipark near Chengalpattu to focus on diagnostic imaging and IV Diagnostics.

Going forward, the government plans to strengthen the primary, secondary and tertiary health care delivery systems further to achieve global quality standards, augment medical manpower resources and drive health outreach activities. These steps are expected to boost growth prospects for investors, with the state facilitating establishment of more medical colleges and hospitals and driving manufacturing of medical devices, ambulatory and diagnostic services.

Further, telemedicine and digital health have taken the centre stage amid the prolonged pandemic and uncertainties around vaccine development. This has provided HealthTech manufacturers and service providers across India a window of opportunity to capture local markets and tap the demand for effective remote patient care and long-term monitoring. Tamil Nadu being the top state in utilising e-Sanjeevani, an online platform enabling telemedicine services with 56,346 consultations as of August 2020,<sup>167</sup> is likely to attract such investors in the coming years.

COVID-19 has caused health care systems and organizations around the world to rapidly adopt digital healthcare solutions. In many countries, the 'digital front door' has become the 'only front door' for patients to access clinical services.

Hospital out-patient and general practitioner appointments across the world have been transformed with as much as three-quarters of all consultations now taking place virtually. The spotlight will be on remote consultations, remote monitoring, scaling up of primary and specialized care facilities.

With elderly populations particularly vulnerable to COVID-19, long-term care facilities will be in demand. With southern states in India ageing more rapidly than the northern states and Tamil Nadu becoming the oldest state in India by 2036,<sup>168</sup> with a median age of over 40, long-term care/adult care/senior care facilities will be a focus area of healthcare companies.

Overall, India is set to witness more healthcare-oriented investment from private and public sectors as the country enhances its healthcare infrastructure in the wake of the ongoing pandemic. The primary focus will be to make essential healthcare services more accessible and affordable for the mass consumer.

From a technology standpoint, areas that will see major investments include next-gen adjudication systems, AI and remote monitoring.





# Financial services

Tamil Nadu has placed itself firmly in the Financial services map of India. It houses over 10 Banks,<sup>169</sup> and 30+ Mid – Large NBFCs,<sup>170</sup> HFCs and MFIs. Over 10 Fintech companies focusing in Lending and Wealth management are based out of Tamil Nadu. 4 General Insurance companies<sup>171</sup> are also based out of Tamil Nadu. Over 15 Global banks have Captives or Back offices based out of Tamil Nadu.

In March 2019, Gross Bank Credit of SCBs in Tamil Nadu was INR8.91 trillion. It accounts to 10% of Gross Bank credit across India. Tamil Nadu ranks next to Maharashtra and Delhi in terms of Gross Bank Credit.<sup>172</sup>

On the Credit Side, Fresh credit of INR89 billion<sup>173</sup> was disbursed to Micro Enterprises in Tamil Nadu in 2019. It accounts for 10% of all Fresh credit disbursement to Micro Enterprises across India. As on September 2020, MSMEs from Tamil Nadu had availed the second highest volume of loans disbursed under ECLGS Scheme. Over INR124 billion<sup>174</sup>

were disbursed to Tamil Nadu MSMEs under ECLGS Scheme. Tamil Nadu Government initiatives like exemption of Stamp duty for deposit of Title deeds for securing loans under Atmanirbhar Bharat Scheme and reduction of Registration charges is expected to provide temporary relief to MSMEs impacted by the pandemic. Recent changes in MSME classification is also expected to bring more enterprises under MSME classification thus allowing them to make use of facilities available to MSMEs.

Government incentive packages for MSME players, access to easy credit and skill development is expected to help MSME ecosystem in Tamil Nadu

## **Microfinance sector in Tamil Nadu**

Microfinance industry plays a major role in achieving financial inclusion in India. Tamil Nadu is one of the largest contributors of Microfinance portfolio in India. It contributes to 15% of overall Microfinance portfolio of India.

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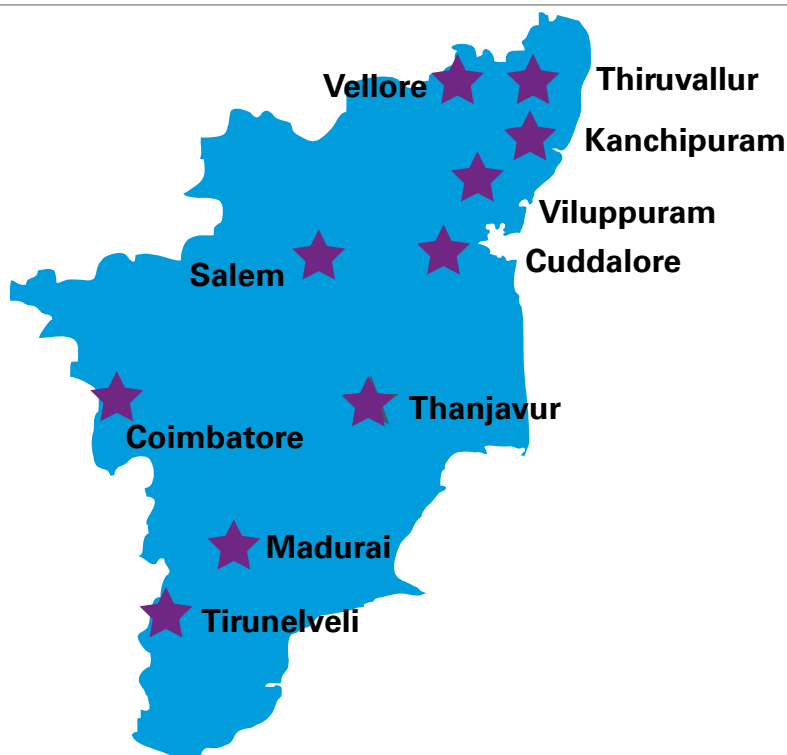
**Tamil Nadu has been a financial services hub for the Southern region with a long and impressive list of Banks, Insurance companies and NBFCs, some of them over a century old. These institutions have also played a key role in fostering financial inclusion particularly in MSME finance and Microfinance. Our skillsets, both financial and technological, work ethic and innate prudence, place Tamil Nadu at the forefront of the ongoing fintech and digital revolution. Enabling infrastructure and support for developing the financial city can help position TN as a regional hub for finance and further fintech collaboration to drive adoption of digital in financial services, which has become an imperative in the post COVID environment**

**T T Srinivasaraghavan,**  
Managing Director,  
Sundaram Finance Ltd.

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## Microfinance Portfolio in Tamil Nadu – Top 10 districts (Dec 2019)



Tamil Nadu's portfolio outstanding in March 2020 stood at INR324 billion. This is growth of 32% as compared to March 2019 portfolio outstanding.<sup>175</sup>

NBFC-MFIs hold highest market share of 33% by Outstanding balances in Tamil Nadu followed by SFBs at 28%9. Top 10 Districts of Tamil Nadu contribute more than 50% to the state portfolio outstanding in December 2019.<sup>176</sup>

Average ticket size of Microfinance loans was INR33,262. 30+ Delinquency was at 1.38% while 90+ Delinquency was at 0.59% in Dec 2019.<sup>177</sup> Microfinance industry had been resilient during the pandemic and the collection efficiency across India had reached 85% at end of Sept 2020.<sup>178</sup>



## Opportunities ahead

Existing Allied Ecosystem (Banks, NBFCs, Back offices and GICs), well connected physical infrastructure and availability of skilled quality manpower built through multiple educational institutions would help in positioning Chennai as a Global Financial center.

FinBlue which will function as a Centre of Excellence for Fintech firms had been launched in Chennai. This will service as an Incubator for Fintech start-ups specializing in Banking, Insurance, Wealth Advisory and Trading. These start-ups will be provided access to FinBlue sandbox including Core Banking software.<sup>180</sup>

MSME establishments account for 22% of all establishments in Tamil Nadu. According to NSS 73th Round censuses, Tamil Nadu houses over 5 million MSMEs, 8% of all MSMEs in India. Fresh credit of INR89 billion was disbursed to Micro Enterprises in Tamil Nadu. This accounts for over

10% of all Fresh credit disbursement to Micro Enterprises across India. As of September 2020, MSMEs from Tamil Nadu had availed the second highest volume of loans disbursed under ECLGS Scheme. Over INR124 billion were disbursed to Tamil Nadu MSMEs.<sup>181</sup>

Tamil Nadu government has signed MOU with SIDBI to develop small businesses in the state by deploying a project management unit for training.<sup>182</sup> Growth in MSME Sector is expected to result in higher demand for MSME Credit Ecosystem.

Further, recent trends like UPI based payment, alternative credit models, business models like loan co-origination and shift of customer preference towards organised lending, are expected to channel the growth of Microfinance in a positive direction.



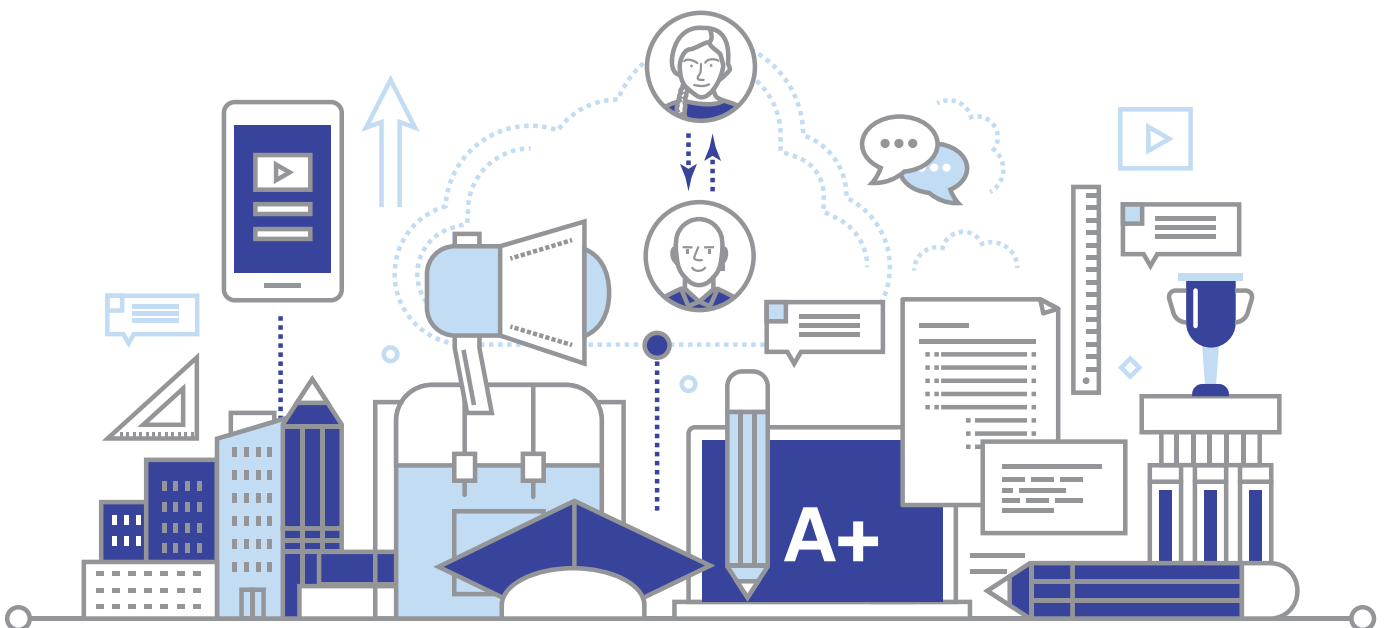
## Education and skilling<sup>183</sup>

Tamil Nadu stands first in terms of providing access to school as per the Performance Grading Index published by the Ministry of Human Resource Development, Government of India. The net enrolment ratio at the primary education level is high at 99.88 per cent.<sup>184</sup> Tamil Nadu is among the leading states in the country in terms of transition rates to secondary and higher secondary education and one among the best performers in terms of Pupil Teacher Ratio as per the norms prescribed under the Right of Children to Free and Compulsory Education Act, 2009.

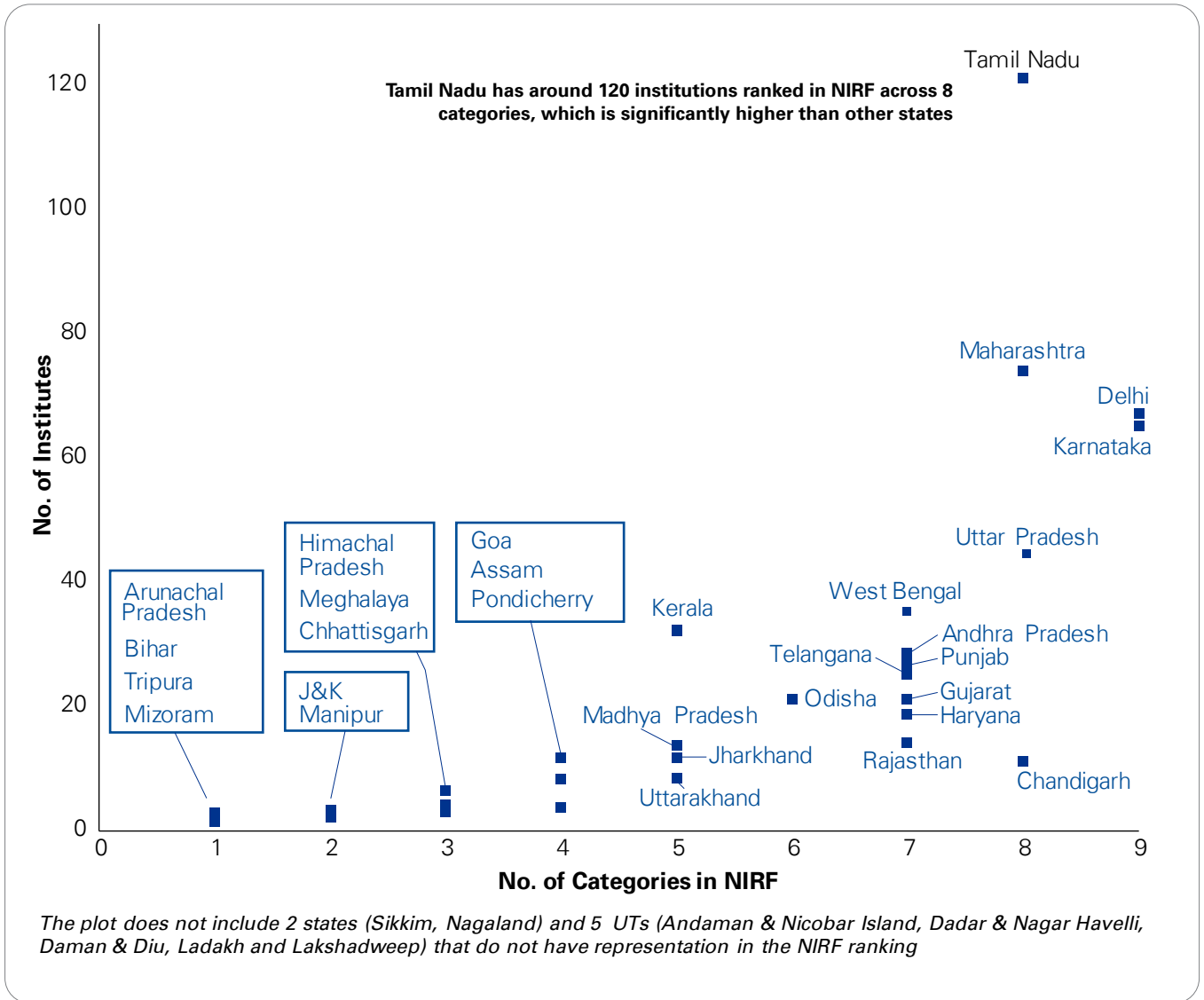
In higher education, with an overall GER of 49 per cent, Tamil Nadu ranks third among states and union territories in India and is much higher than the national average at 26.3 per cent.<sup>185</sup> With respect to rankings, the state has the highest representation in the country in NIRF rankings with 18 universities and 32 colleges featuring in top 100 in the respective categories in the 2020 rankings .

However, the state needs increased focus with regard to learning outcome achievement in school education, integration of vocational education in schools, improving institutional capacity around teacher and school leader recruitment and teacher training. In higher education, the state needs greater focus in improving equity and inclusion, improving the employability of its graduates and increasing the extent of its institutions in global rankings.

With respect to skill development, Tamil Nadu intends to invest INR15 trillion across six broad groups with a significant focus on developing Industrial & Commercial infrastructure (~11%). The total investment allocated to the aforementioned area is around INR1.6 trillion, which aims to build various industrial corridors, three large industry townships, aerospace and logistics park, a Petroleum, Chemical and Petrochemical Investment Region (PCPIR), and an Information Technology Investment Region (ITIR). Additionally, the Tamil Nadu vision 2023 clearly states its focus on skill development activities in order to make Tamil Nadu a hub for knowledge.



**No. of institutes vis-à-vis no. of categories represented in NIRF 2020 by various states**



The State also plans to invest INR140 billion for skill development and setting up Centres of Excellence (COE) across 11 identified areas.<sup>187</sup> The COEs shall promote innovative initiatives including research & development, faculty development, curriculum development, etc., in addition to imparting specialized skills training for the sectors concerned.

Against the above, some of the key challenges the State is facing with respect to skill development are

lack of convergence of skill development initiatives across various departments, low interface between local industries and training institutes, limited efforts and investments in backward districts for skilling and upskilling of workforce, declining participation of women in economic activities and lack of awareness amongst youth on opportunities outside public sector employment.



# Opportunities ahead

The state presents several opportunities in school and higher education:

- Rollout of vocational subjects across all schools in Tamil Nadu, providing opportunities for enhanced private participation
- Targeted interventions to enhance learning outcomes such as through Personalised adaptive learning (PAL) and other large-scale technology interventions
- State-wide employability enhancement mission targeting higher education institutions, providing opportunities to industry participation in higher education
- Rise in enrolments through online and distance learning modes, providing opportunities for enhanced private participation
- Collaboration opportunity for technology providers in areas of blockchain, AI, predictive analytics with increased emphasis on monitoring and data-driven decision making, as well as system-wide ICT transformation.

In skill development, with a focus on training and skilling 20 million people by 2023,<sup>188</sup> the state presents several opportunities:

- Opportunities for industries to set up apex centres of excellences to impart sector-focused specialised training

- Bringing focus to previously underserved categories such as women, PWD, and marginalized communities to promote inclusivity as a key requirement
- Strengthening traditional industrial clusters – key drivers of GSDP
- Integrating skills with school and higher education as per the New Education Policy 2020
- Technology-led skill education incorporating aspects such as gamification, simulative learning, AR/VR, mixed reality.

The COVID-19 pandemic put a spotlight on the critical nature of schools and education and on the necessity to safeguard education systems for the future pandemic. It has severely impacted the education sector, accelerating the shift to digital-learning models as educational institutes remain closed in the wake of the virus outbreak.

The popularity of tech-enabled learning solutions in the Indian education system is only going to accelerate further as educational institutions, teachers, parents and governments become increasingly willing to adopt technology in this domain. This digital shift will entail investments in infrastructure, upskilling of teachers and realignment of content.





# 7. Windows of opportunity

Tamil Nadu continues to remain a preferred investment destination, attributed to its continuous and strategic enhancements to land and labour, infrastructure, economic climate, governance, and business facilitations.


To continue flourishing on the growth trajectory and remain a promising destination for global and domestic investors, policy stability, transparency and business reforms are imperative to improve its “ease of doing business” rankings.

Tamil Nadu can play a crucial role in national-level initiatives such as the Atmanirbhar Bharat Abhiyaan, supported by its long coastline, integrated infrastructure and skilled workforce. This will enable it to respond to changes and challenges, while leveraging opportunities arising from them. Traditional manufacturing sectors such as automobiles, textiles, pharmaceuticals, chemicals, along with new focus emerging sectors such as aerospace & defence, electrical vehicles, electronics with

newly released dedicated sector policies, could witness growth with focus on greater self-reliance.

Amongst its priorities, the state is also laying focus on strengthening its infrastructure with a strong project pipeline to build on the Infrastructure Vision 2025 and National Infrastructure Pipeline. The State is expected to witness initiatives on urban planning & development, coast-led industrial corridors and clusters, and strengthening of agro-based industries and rural infrastructure.

Tamil Nadu has also been witnessing a surge in services sector. Apart from being hub for large IT/ITeS companies, in recent times, there has been growth in establishment of Global Capability Centers (GCC) in the state. With a strong talent reservoir, innovation ecosystem, robust infrastructure and digital capabilities, Tamil Nadu is well-positioned to continue to attract GCC innovation centers, especially in the post COVID-19 era.

An aerial photograph of a city, likely Chennai, India, viewed from a high vantage point. The foreground is dominated by a dense, lush green forest of tall trees. In the middle ground, a residential or commercial area with several buildings is visible, partially obscured by the trees. The background shows a vast, hazy cityscape extending to the horizon under a soft, overcast sky. The overall tone is serene and natural, contrasting the urban environment with the surrounding greenery.

The state also needs to ensure ample employment opportunities, suited for its burgeoning, young, entrepreneurial and highly-skilled workforce. Alongside, as more workers are upskilled and re-skilled, it will have to ensure adequate supply of industrial workers.

As the world transitions towards green mobility and becomes increasingly automated, global trends such as Industry 4.0, electric vehicles and telemedicine/ digital health should offer new opportunities.

Finally, with the new normal settling in and the realignment of global supply chains continuing post-pandemic, Tamil Nadu will not only compete with other Indian states, but also with cost-efficient economies in Asia and Africa.