Government of Karnataka

# HEAVY ENGINEERING & MACHINE TOOLS

## INVEST KARNATAKA 2016

*GLOBAL INVESTORS MEET*

February 3-5, 2016
Bangalore Palace, Bengaluru

# Foreword

**Shri. R.V. Deshpande**
**Hon'ble Minister for Large and Medium Industries and Tourism**

"Karnataka has an established track record of capability to produce high value engineering products. The State is the undisputed leader in Machine Tools manufacturing and has the potential to be the leader in heavy engineering sector. With large number of engineering colleges, ITIs and R&D institutes, there is abundant availability of industry ready workforce across the value chain of manufacturing. With advancements in IT and its integration into manufacturing process, I have no doubt that Karnataka can emerge as the Engineering Capital of India. I therefore, urge investors to look no further and invest in proven past of the State for a promising future."

# Foreword

**Smt. K. Ratna Prabha,** IAS
**Additional Chief Secretary to Government,**
**Commerce & Industries Department**

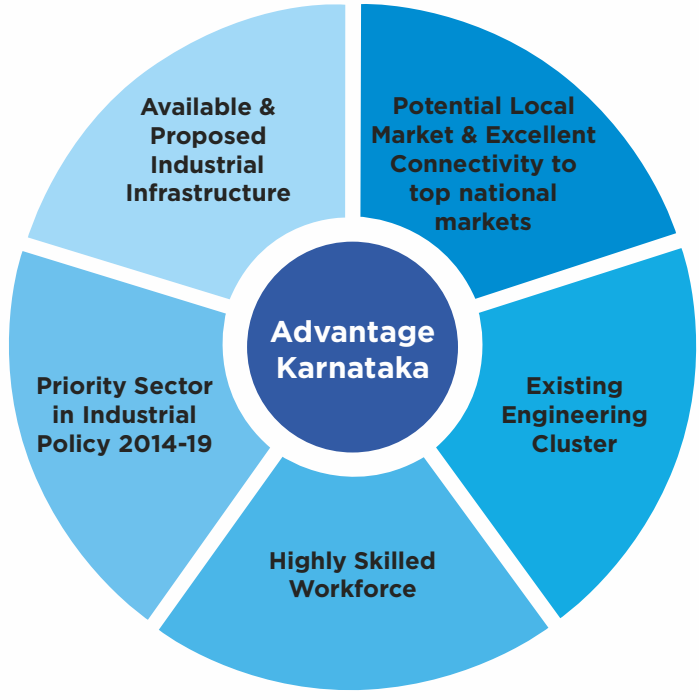
"Karnataka's strength lies in skill driven sectors owing to the ample availability of skilled workforce. Additionally, a large base of end users of heavy engineering sector and connectivity to national and international markets make the State a very attractive destination. The State single handedly contributes 50% to the country's machine tools manufacturing business. Machine tools has been identified as one of the focus sectors in the Industrial Policy 2014-19, which offers investors an extra set of incentives, and also focuses on the vision to emerge as a global hub in the sector."

# CONTENTS

# Highlights

1

# Karnataka is the preferred destination for Engineering Sector




**50%**
**of India's machine tools production happens in Karnataka**

**3rd**
**highest contributing state to heavy engineering industry in India**

Karnataka has a congenial ecosystem for heavy engineering manufacturing including PSUs, MNCs and MSMEs

Karnataka specializes in producing high value engineering products. The State ranks 2nd in Special Purpose and Heavy Electrical Machinery output

The state has highly skilled workforce across the value chain of manufacturing owing to 1400+ ITIs, 200+ engineering colleges and 400+ R&D institutes

Karnataka is home to one of the five identified foundry clusters in the country

Further potential for heavy electrical machinery manufacturing due to capacity addition plans of the State Government

Good connectivity to the biggest national and global markets

# Government Initiatives and Policy Support

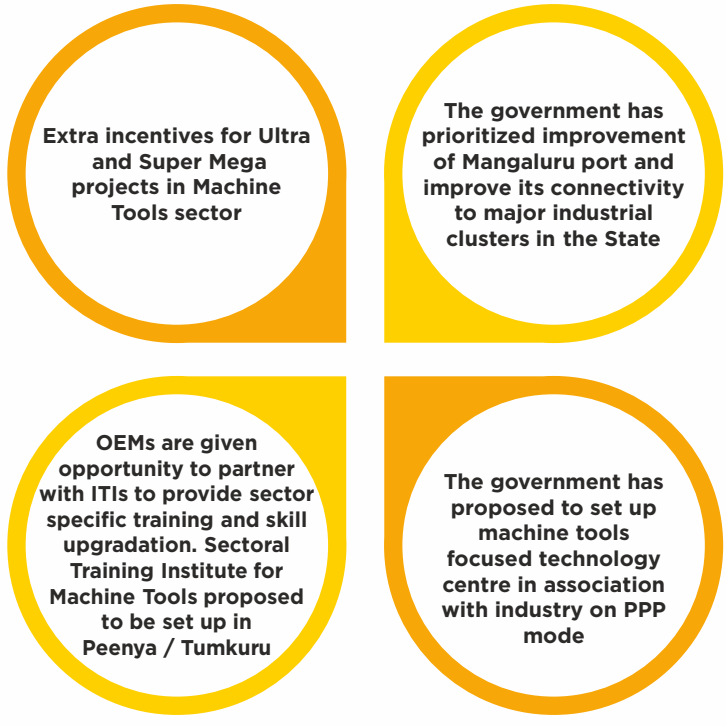
Government of Karnataka has identified Machine Tools as one of the focus sectors in the Industrial Policy 2014 - 2019

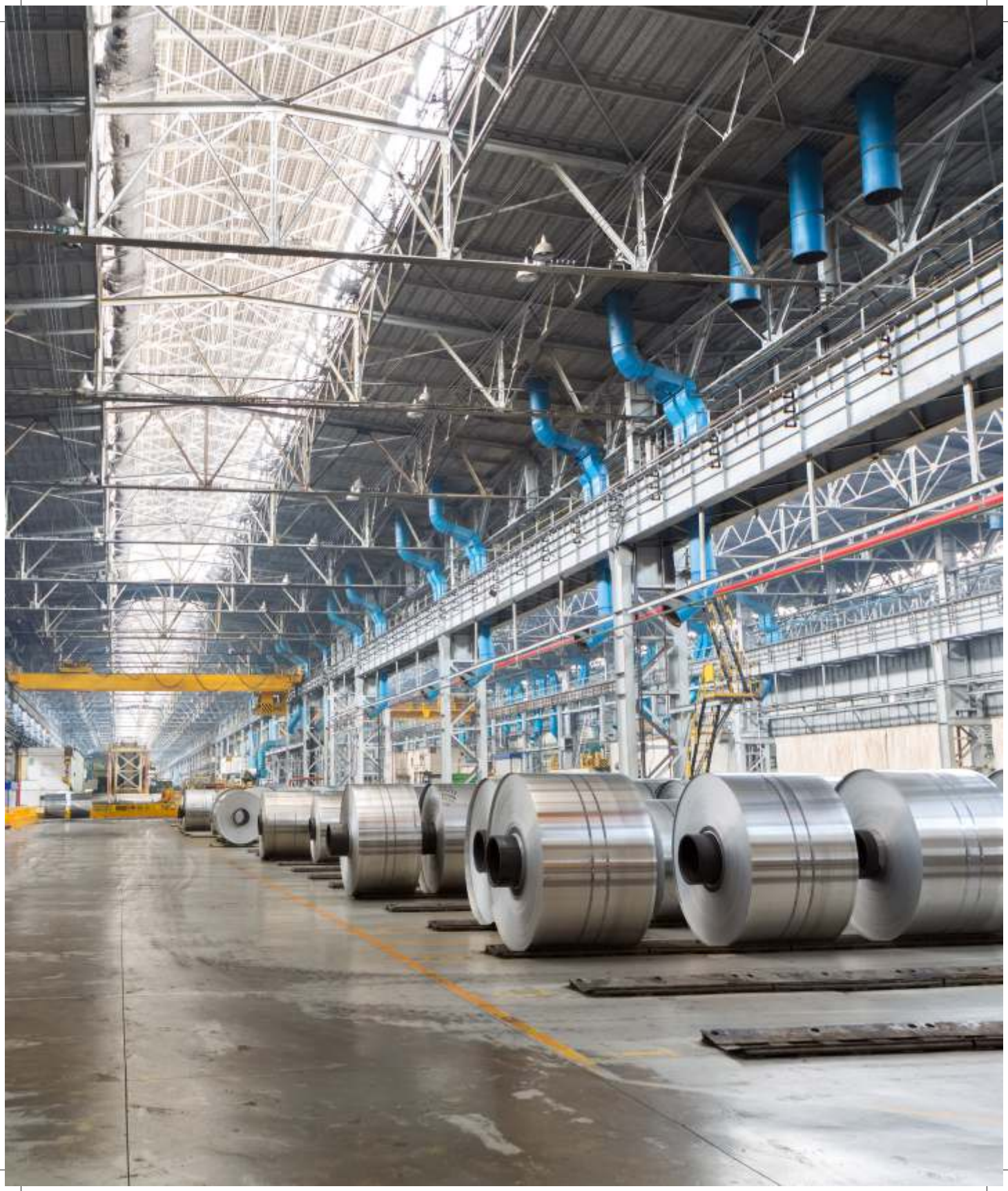
## Single Window Clearance Mechanism

To facilitate new investments by helping obtain in principle approvals and other approvals from other departments & organizations, through e-Udyami portal

## Inclusive & Balanced Growth

The incentives provided in the policy are based on location of the proposed investment. Higher quantum of incentives for investment in the backward districts to promote growth across the State

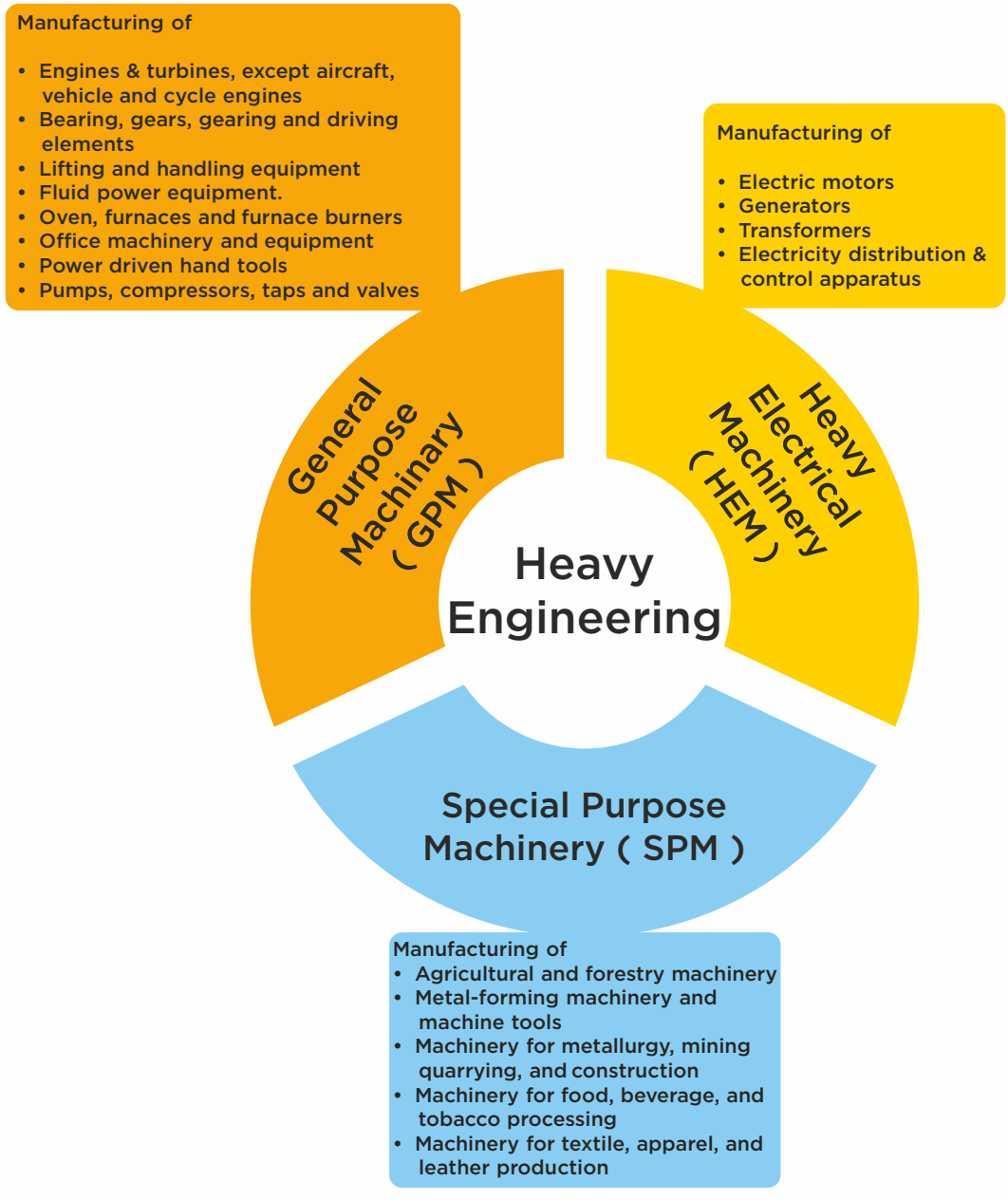




# Sector Snapshot

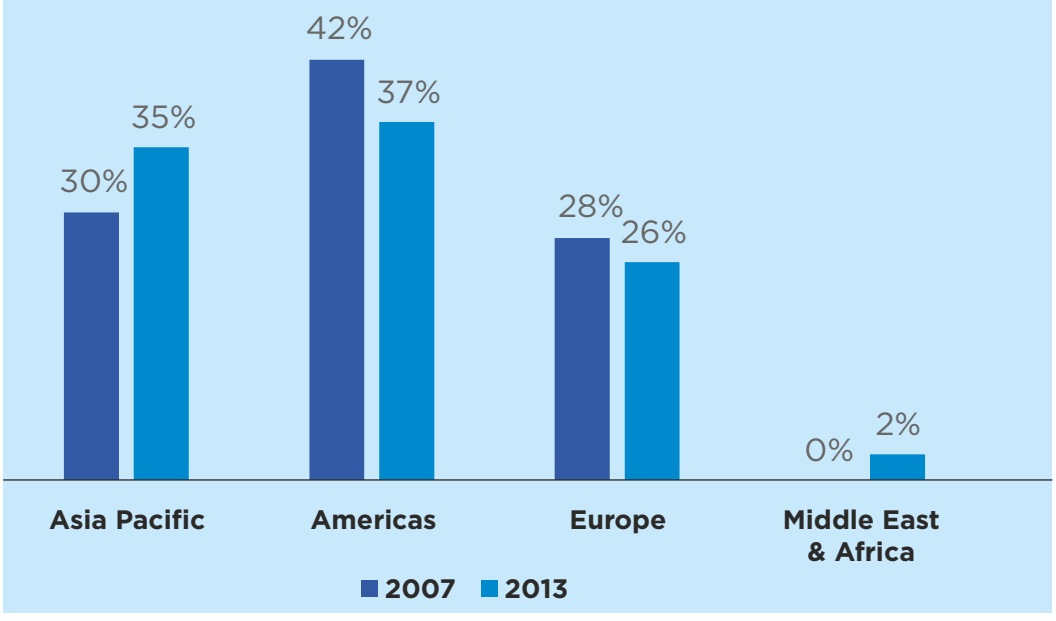
2

# Karnataka offers potential for investments in all sectors of Heavy Engineering & Machine Tools Industry



# Machinery manufacturing sector is experiencing strong demand from emerging economies of Asia Pacific

**Machinery Sector region wise contribution**



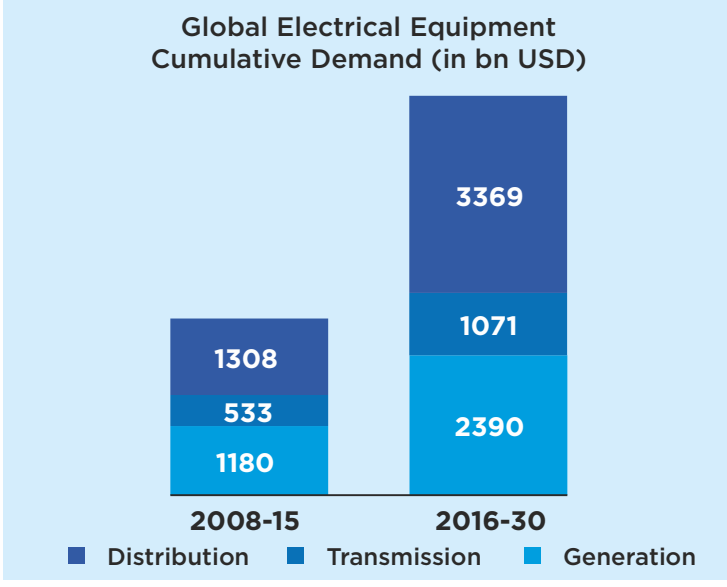

Asia Pacific countries are expanding their share in machinery manufacturing, driven by growing industrialization in the developing countries

India and China are lucrative countries for outsourcing too, due to labour cost advantage and skilled workforce

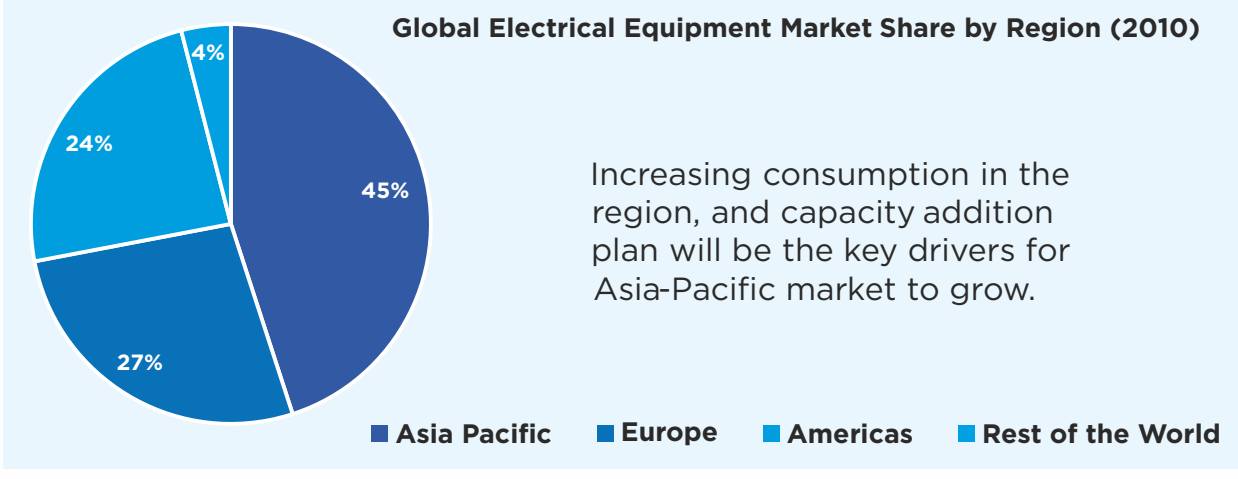
**Global machinery market was valued at USD 2 trillion in 2014**

**Strong growth is forecasted for global machinery market with revenues expected to reach USD 3.8 trillion in 2018**

# Asia-Pacific will drive heavy electrical machinery market by contributing 50% to consumption by 2030




The world's installed power generation capacity is projected to rise from **4,957 GW in 2009 to about 9100 GW** in 2035. Over 80% of projected growth expected to be in non OECD countries



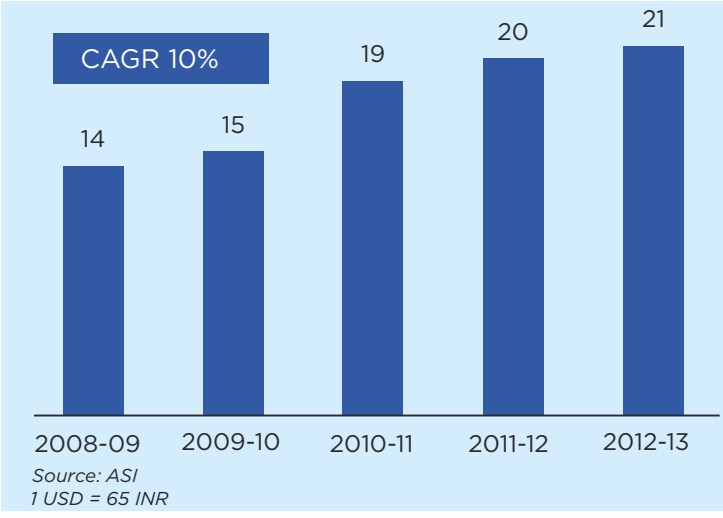

Increasing consumption in the region, and capacity addition plan will be the key drivers for Asia-Pacific market to grow.

*Robust economic growth in emerging countries such as India and China is expected to boost the demand for electrical equipment .*

Source: Indian Electrical Equipment Industry Mission Plan 2012-22

# General Purpose Machinery is the largest segment in heavy engineering sector with cumulative output (USD 88.24bn between FY09 and FY13)

**General Purpose Machinery Output (in USD billion)**




*Source: ASI*
*1 USD = 65 INR*

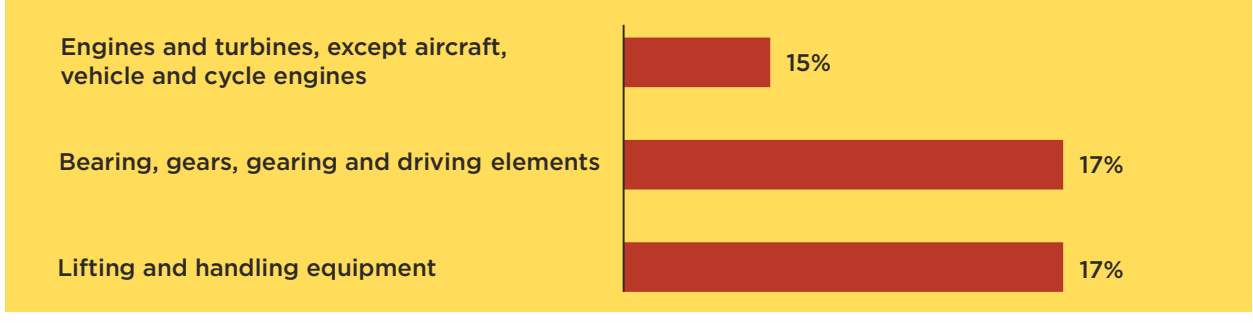
More than 6,000 registered units

Gross Value Addition of more than USD 5.7 bn in 2012-13

More than 3,50,000 direct employment generated

General Purpose Machinery accounts for around 75% machinery exports from country

**General purpose machinery subsectors output growth forecast, CAGR (2012-17)**

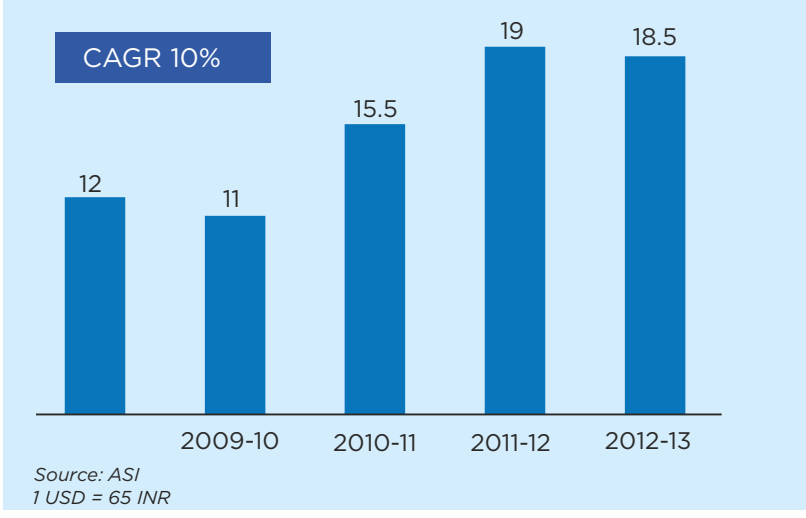



***Growth Enabler:***
Synergistic effect of growth in other manufacturing industry brought on by focus of the Government on industrialization

**General Purpose Machinery sector has witnessed healthy growth rate which is projected to continue**

# Special Purpose Machinery sector is expected to grow led by domestic market growth

**Special Purpose Machinery Output (in bn USD)**




More than 6000 registered units

Gross Value Addition of more than USD 4.5 bn in 2012-13

More than 331,000 direct employment generated

Cumulative output of USD 76.3 bn between FY09-FY13

Explosive growth rate of **29% CAGR** expected for mining, quarrying and construction equipment subsector

***Growth Enablers:***

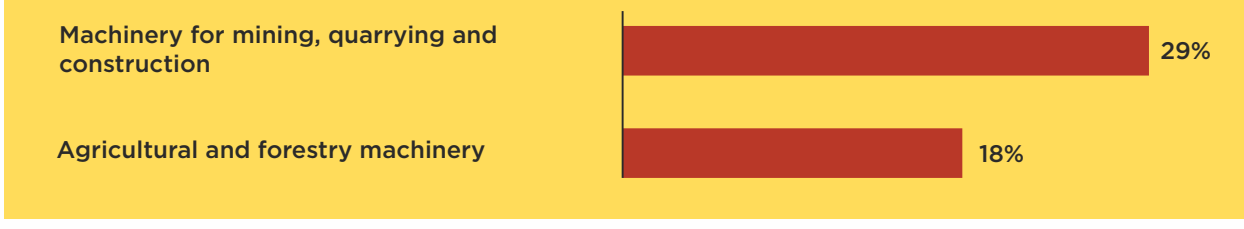
1. Capital expenditure in infrastructure is driving construction industry related manufacturing.
2. Strong growth momentum in thermal electricity installed capacities

Healthy growth rate of **18% CAGR** expected for Agriculture and forestry machinery subsector

***Growth Enablers:***

1. Continued shortage of labour in rural areas
2. Increased focus of the Government on the agriculture mechanization

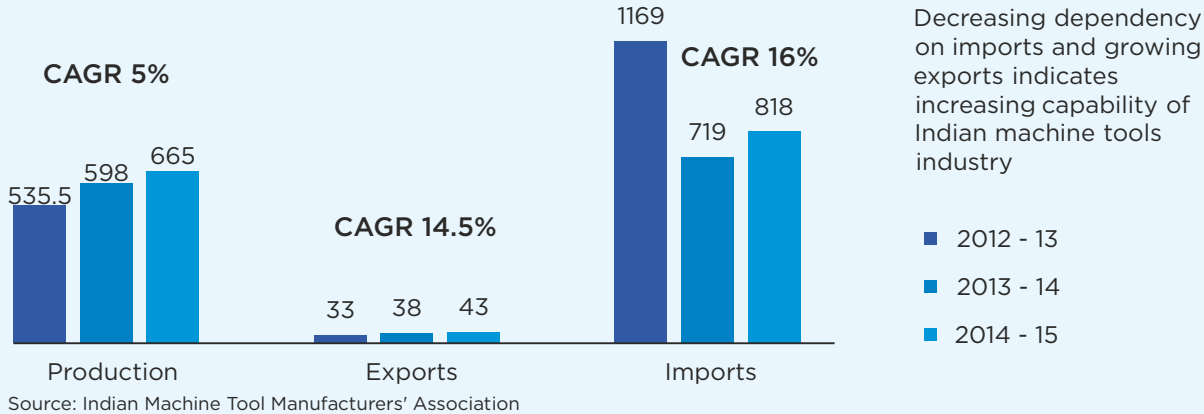
**Special purpose machinery output growth forecast, CAGR (2012-17)**



# India is one of the top gainers in Machine Tools market, growing at 12%

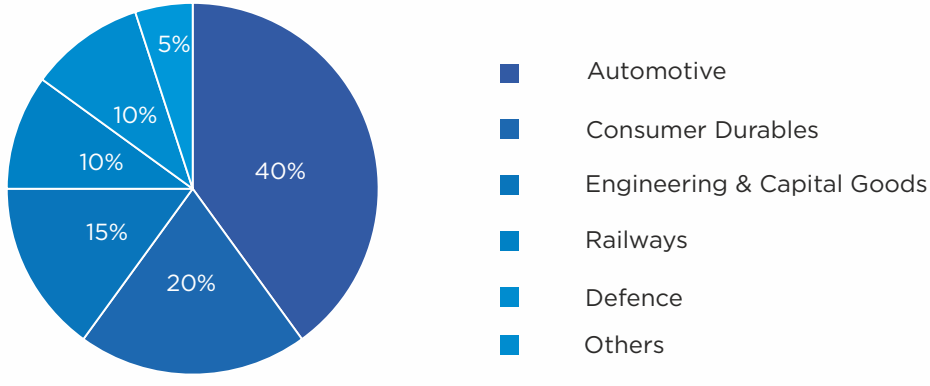
- The Indian Machine Tool Industry has around 1,000 units in the production of machine tools, accessories/attachments, subsystems and parts
- 25 manufacturers in large scale sector account for 70% of the turnover and SME sector accounts for 30%
- 75% of the Indian machine tool products are ISO certified
- The current gap between demand and supply shows investment opportunities in Machine Tool Industry

**Machine Tools Subsector Trend (mn USD)**




Source: Indian Machine Tool Manufacturers' Association

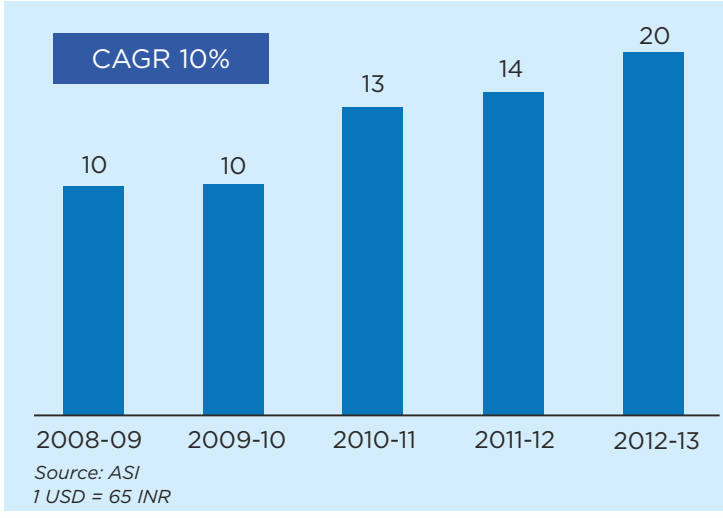
Contribution of user industry segments to the machine tool industry



# Heavy Electrical Machinery demand driven by capacity addition plans across the country

The Government plans to increase power generation capacity from 276 GW in 2015 to about 400 GW by 2022, which shall drive the demand for heavy electrical machinery

**Heavy Electrical Machinery Output (in USD billion)**




*Source: ASI*
*1 USD = 65 INR*

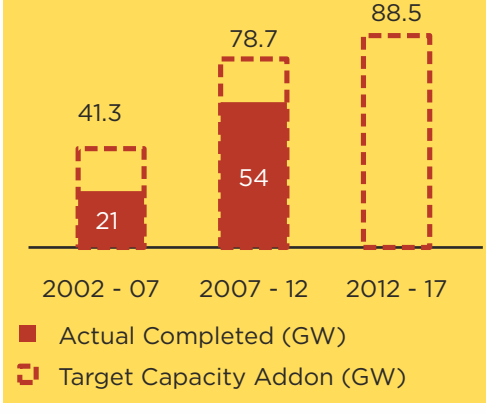
**Market expansion at the rate of 10% between 2007-12**

**Gross Value Addition of more than USD 3.2 bn in 2012-13**

**More than 2,19,000 direct employment generated**

**More than 3,000 registered units**

**Capacity Addition Envisaged & Realisation**




**Electrical Equipment Demand**

| Equipment | 2012-2017 (in USD billion) | 2017- 2022 (in USD billion) |
|---|---|---|
| Generation Equipment | 46 –54 | 77 – 92 |
| T&D Equipment | 108 – 115 | 154 - 177 |

*Source: Indian Electrical Equipment Industry Mission Plan 2012-22*
*1 USD = 65 INR*

**Capacity additions plan realization percentage has been increasing and is expected to increase further from 69% in 2007 – 2012**

***40%*** Contribution of HEM to cumulative FDI (Jan 2000 – Jul 2015) in heavy engineering sector

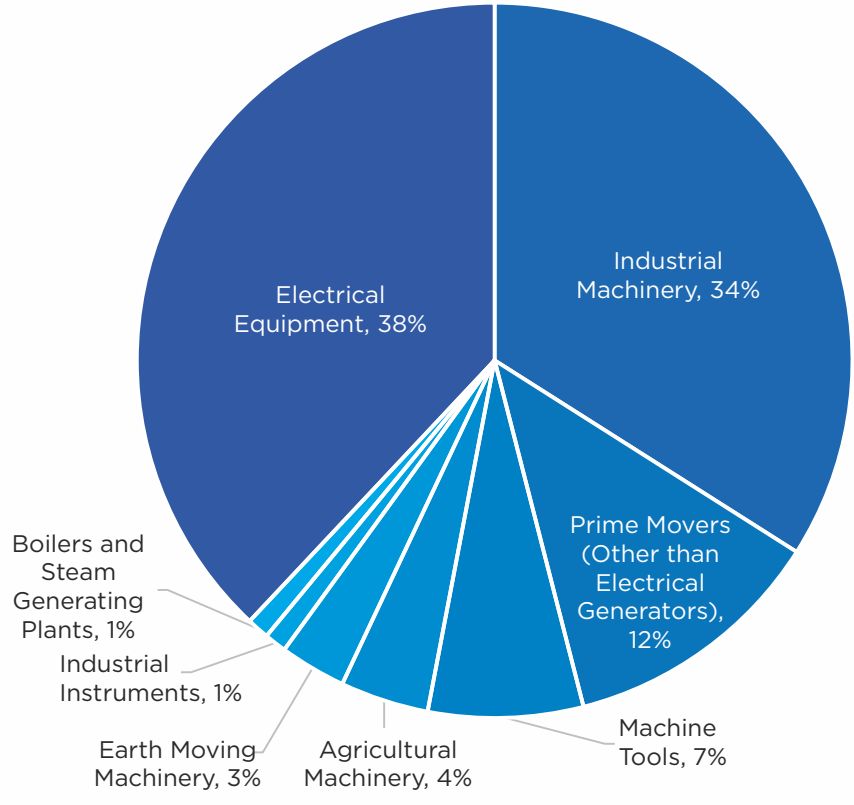
*Source: DIPP, DHI*

***14%*** *Projected growth rate (CAGR) of HEM sector till 2022*

# Attractive FDI destination for global manufacturers

- Cumulative FDI in Heavy Engineering sector as on July 2015 was worth USD 10.5 bn, accounting for 4% of total FDI
- Electrical equipment (USD 4 bn) and industrial machinery (USD 3.6 bn) received largest amount of FDI
- With the increasing focus by Government to attract foreign investors in manufacturing and infrastructure, the sector is set to rise

**FDI in Heavy Engineering within Jan 2000 - Jul 2015**




*Source: DIPP*

# Karnataka specializes in manufacturing high value machinery

**SPM growing at 38% CAGR, much higher than national average of 10%**

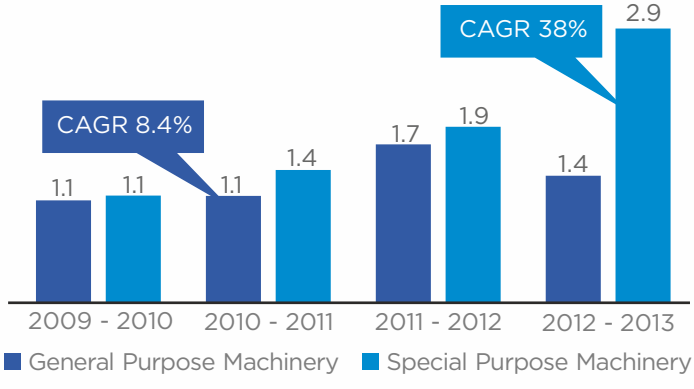
**GPM growing at 8.4% CAGR,** on par with national average in the subsector

**SPM is the largest contributor (49%)** to total heavy engineering output in Karnataka, in contrast to the scenario at **national level (35%)**

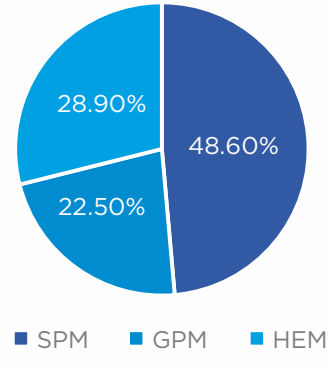
Karnataka is the **only state among the top five** capital goods manufacturing states to exhibit the unique trend of higher SPM output than GPM

Karnataka's output of Special Purpose Machinery is **2nd** highest in the country with **16% share**

General & Special Purpose Engineering Output of Karnataka (in billion USD)



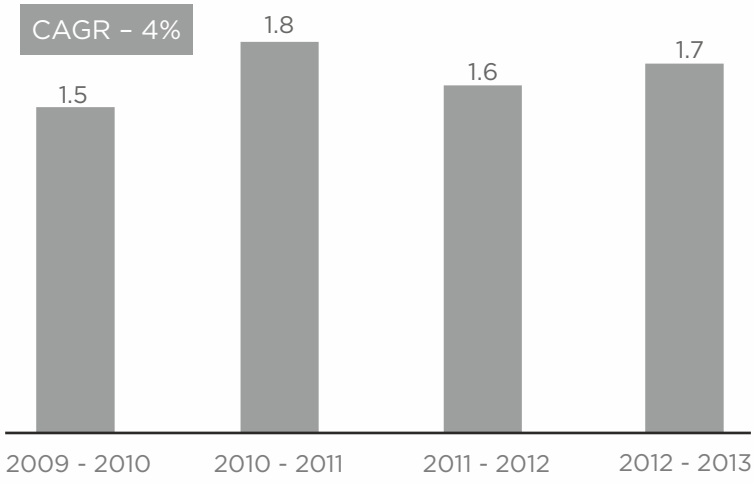

Subsector wise contribution to state's Heavy Engineering output (2012 –2013)




*Source: ASI, PwC Analysis*

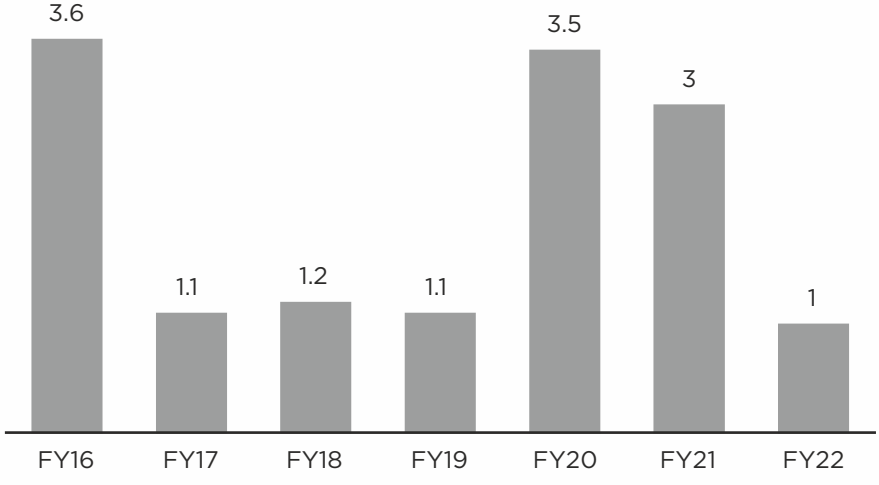
Higher output of SPM than GPM clearly showcases the state's strength in producing high value heavy engineering products

**Heavy Electrical Machinery Output of Karnataka (in USD billion)**




**2nd** highest Heavy Electrical Machinery producing state in the country with 12.5% share

**Capacity addition plan of 14.5 GW by 2022** *(Excluding renewable energy)*




Karnataka has been identified to have potential to generate more than 38 GW of renewable energy (solar & wind) as compared to current capacity of 2.8 GW. Potential realization will create opportunities for the market to grow

*Source: PCKL, GoK*

Capacity addition plans in Karnataka provide an opportunity for the growth of heavy electrical machinery market

# Karnataka is the leading state in Machine Tools industry

- Machine tools industry in Karnataka contributes 50% to the country's output
- **Advanced Machine Tool Testing Facility (AMTTF)**, a state-of-the-art equipment facility at the Central Manufacturing Technology Institute (CMTI), was jointly established by machine tool industry and DIPP, GoI
- Annual turnover of Machine Tool Industry is INR 4,500 Crore in 2014-15 which is expected to reach INR 13,000 Crore by 2019-20. Karnataka being the hub for Machine Tool Industry offers enormous potential in the sector.
- India's first Integrated Machine Tool Park is proposed to come up in Karnataka

# Karnataka's Unique Advantage

3

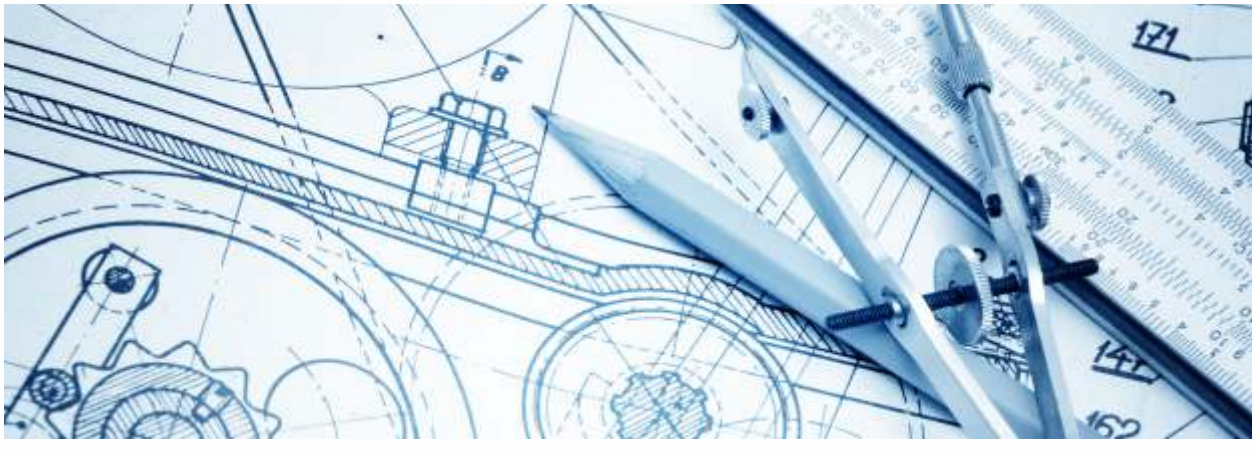
# Karnataka has a conducive ecosystem for the Heavy Engineering industry to thrive

## State's ecosystem & synergistic effect with other industries

- Several precision tool units are housed in Belagavi, Peenya Industrial Estate, Bommasandra Industrial Estate in Bengaluru
- General Engineering SEZ established at Mangaluru
- Dharwad and Tumakuru identified as nodes in Bengaluru-Mumbai Economic Corridor and Chennai-Bengaluru Industrial Corridor respectively
- The growth of prominent sectors in Karnataka; automobile, aerospace, food processing and textile sector stimulate the demand of heavy engineering

## Availability of Skilled Workforce

- Highly skilled workforce available in the State owing to more that 1400 ITIs
- More than 400 R&D centres and 200 engineering colleges driving innovation in the state



- BEML Limited was established in 1964. BEML manufactures a wide range of earth moving and other heavy industrial equipment for mining, civil engineering industries, defence and railways
- BEML has a registered office in Bengaluru and manufacturing units in Kolar, Mysuru and Bengaluru. The company generated revenue of USD 609.6 million in 2014-15.

- Bharat Heavy Electricals Ltd (BHEL) is the largest engineering and manufacturing enterprise in India in the energy - related / infrastructure sector. The company has 16 manufacturing divisions, two repair units, four regional offices, eight service centres, eight overseas offices and 15 regional centres.
- BHEL has an electronics division at Bengaluru. The company generated revenue of USD 6.7 billion in 2014-15.

- Saint-Gobain India was established in India in 1996. The group comprises eight manufacturing companies in India for various products ranging from glass to engineering products.
- The company has a manufacturing plant in Bengaluru.

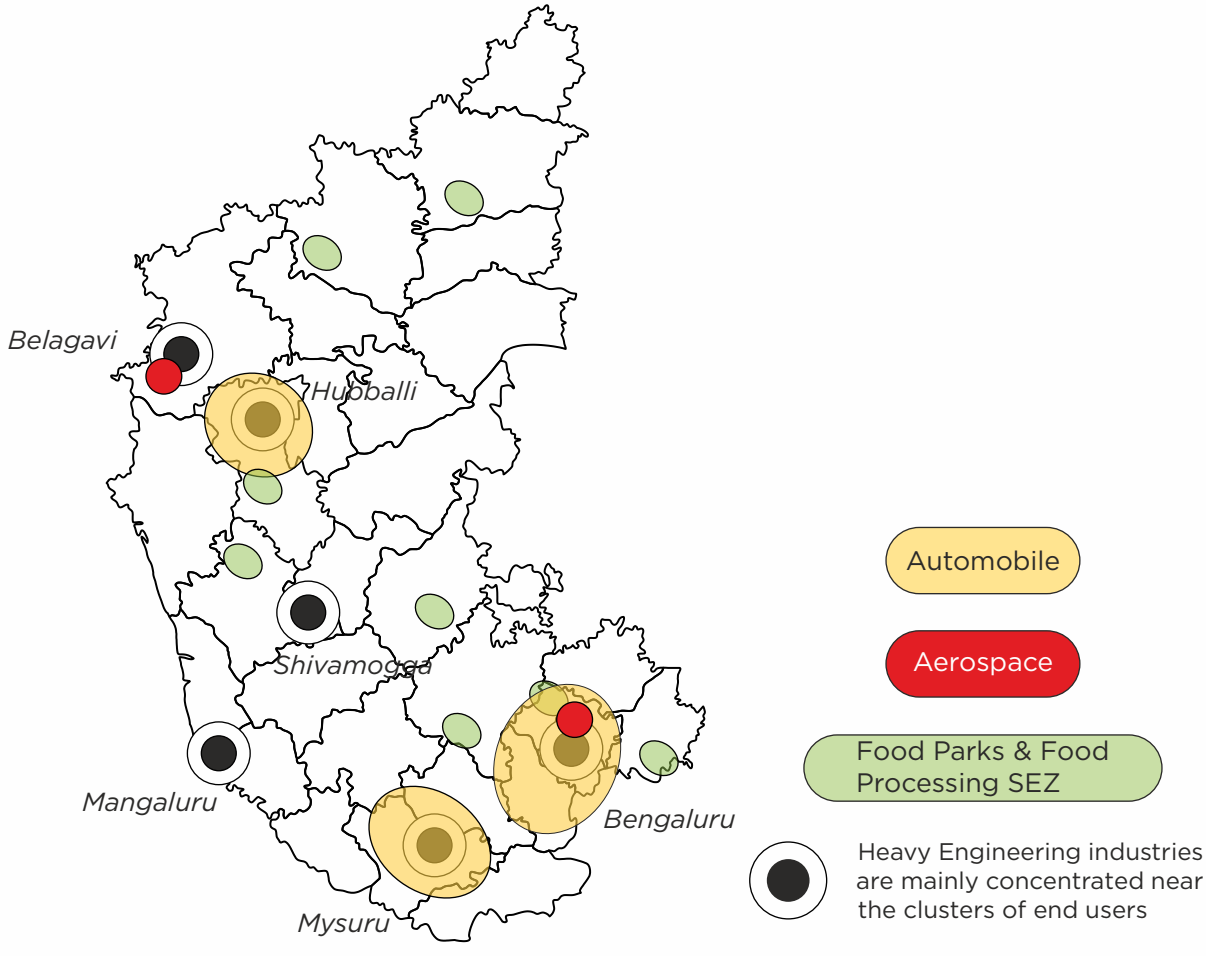
Source: IBEF

**90k** Direct employment generated by heavy engineering sector in Karnataka

**1** of 5 Belagavi is one of the 5 identified foundry clusters in India

**10.4 bn** Valuation of foundry industry in Karnataka

**(in USD)**

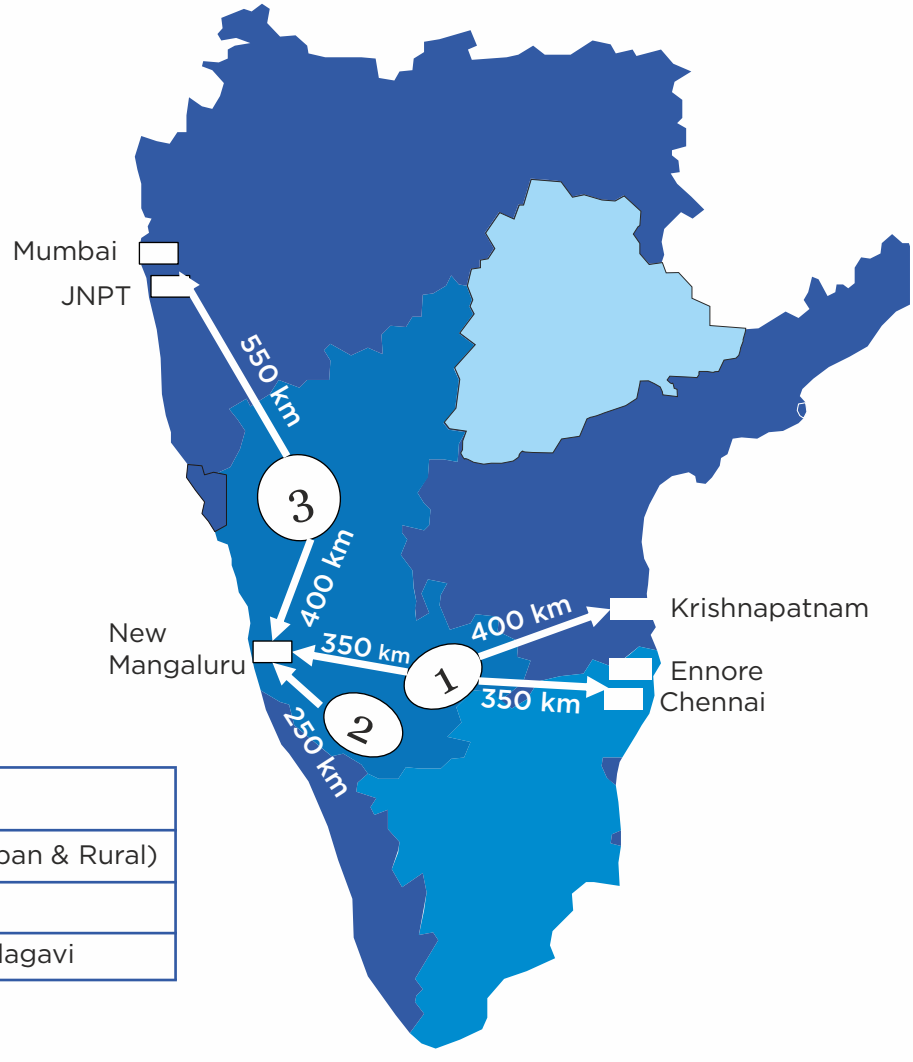


# Karnataka's Location Advantage

Karnataka has 2 international airports, 1 major port & 10 minor ports

Proposed Dedicated Freight Corridor between Bengaluru and Chennai will improve connectivity to the Chennai and Ennore ports

Improvement of Mangaluru port and it's connectivity to industrial clusters in the state has been identified as a high priority task in the Industrial Policy




| Legend | |
|---|---|
| 1 | Bengaluru (Urban & Rural) |
| 2 | Mysuru |
| 3 | Dharwad & Belagavi |

Approximate distance between major industrial clusters in Karnataka and major ports nearby

# Government Initiatives & Policy Support

4

# Karnataka Industrial Policy 2014 - 2019 provides competitive support to heavy engineering sector

***Wide range of incentives provided for large scale projects as well as MSMEs***

## MSME

- Infrastructure Support through earmarking of land for MSMEs in industrial areas
- Financial support for commercial lending through regional banks
- Technical Support for Technology Upgradation
- Marketing support for participation in local & international trade events
- Cluster Development approach for development of entire value chain
- Other incentives and concessions based on size & location

  *Investment promotion subsidy*

  *Exemption from stamp duty*

  *Reimbursement of Land Conversion Fee, etc.*

## Large, Mega, Ultra, & Super Mega Enterprises

The quantum of incentive based on location of proposed investment

- Exemption from Stamp Duty
- Concessional Registration Charges
- Reimbursement of Land Conversion Fee
- Exemption from Entry Tax
- Subsidy for setting up ETPs
- Interest free loans on Net VAT and CST

## Initiatives for Machine Tool sector proposed in Karnataka Industry Policy 2014 - 2019

- It is proposed to set up a machine tools focused technology incubation centre in the State in association with the industry on PPP mode
- Skill Development Corporation, Karnataka will offer special tailor made courses in consultation with the user industry to support creation of skilled employable workforce for the machine tools industry
- Upgration of existing tool rooms and creation of new tool rooms in PPP mode will also be explored
- Machine Tools sector industries declared as public utilities under Industrial Disputes Act 1947 during the policy period
- Establishment of R&D and testing facilities to be encouraged at Bengaluru, Mysuru, Hubballi, Dharwad and Belagavi

# Other Policy Initiatives by Government of India

## Enhancement of Competitiveness in the Indian Capital Goods Sector

*Scheme by Department of Heavy Industry*

### Objective

To encourage technology development through joint participation with academia, industry, R&D institute and Government and facilitate transfer/acquisition of critical technologies

To create common physical infrastructure enhancing the competitiveness of local industry, enabling it to withstand important penetration

### Scheme

Aims to provide financial assistance to eligible existing academia/institutions and SPVs as well as individual units

| Scope | Funding |
|---|---|
| **Advanced Center of Excellence** | One time grant-in-aid (not equity) not exceeding 80% of the project cost subject to maximum of INR 100 Crore for each Center of Excellence proposed to be set up at the institute. Balance will be released linked to milestone achieved as per the MoU. |
| **Integrated Industrial Facilities for Machine Tool Industry and Other Sub-Sectors of the Capital Goods Sector** | One time grant-in-aid (not equity) not exceeding 80% of the project cost subject to maximum of INR 125 Crore. Finances will be release linked to milestones achieved as per the MoU. |
| **Common Engineering Facility Centers (CFFC) for Sub-Sectors of Capital Goods Industry** | Central Assistance will be by way of one time grant-in-aid(not equity) not exceeding 80% of the project cost subject to maximum of INR 48.96 Crore for two Common Engineering Facility Center (INR 30 Crore maximum in one case). Balance will be required to be invested by the SPV. |
| **Test & Certification Center for Moving Machinery** | Central assistance will be INR 100 Crore from DHI during the Pilot phase. |
| **Technology Acquisition Fund Programme (TAFP)** | Central Assistance will be by way of one time grant up to 25% of the cost of Technology Acquisition of each technology. Maximum amount given shall not exceed INR 10 Crore. The funding support will be through a Government R&D institution. |

Source: Scheme brochure

## Delicensing

- The engineering industry has been delicensed; 100% FDI is allowed in the sector
- Foreign technology agreements are also permitted under the automatic route for this sector

## Reduction in Tariff & Customs

- Government has removed tariff protection on capital goods
- Government has lowered custom duties on a range of equipment

## Infrastructure & Power Generation Initiatives

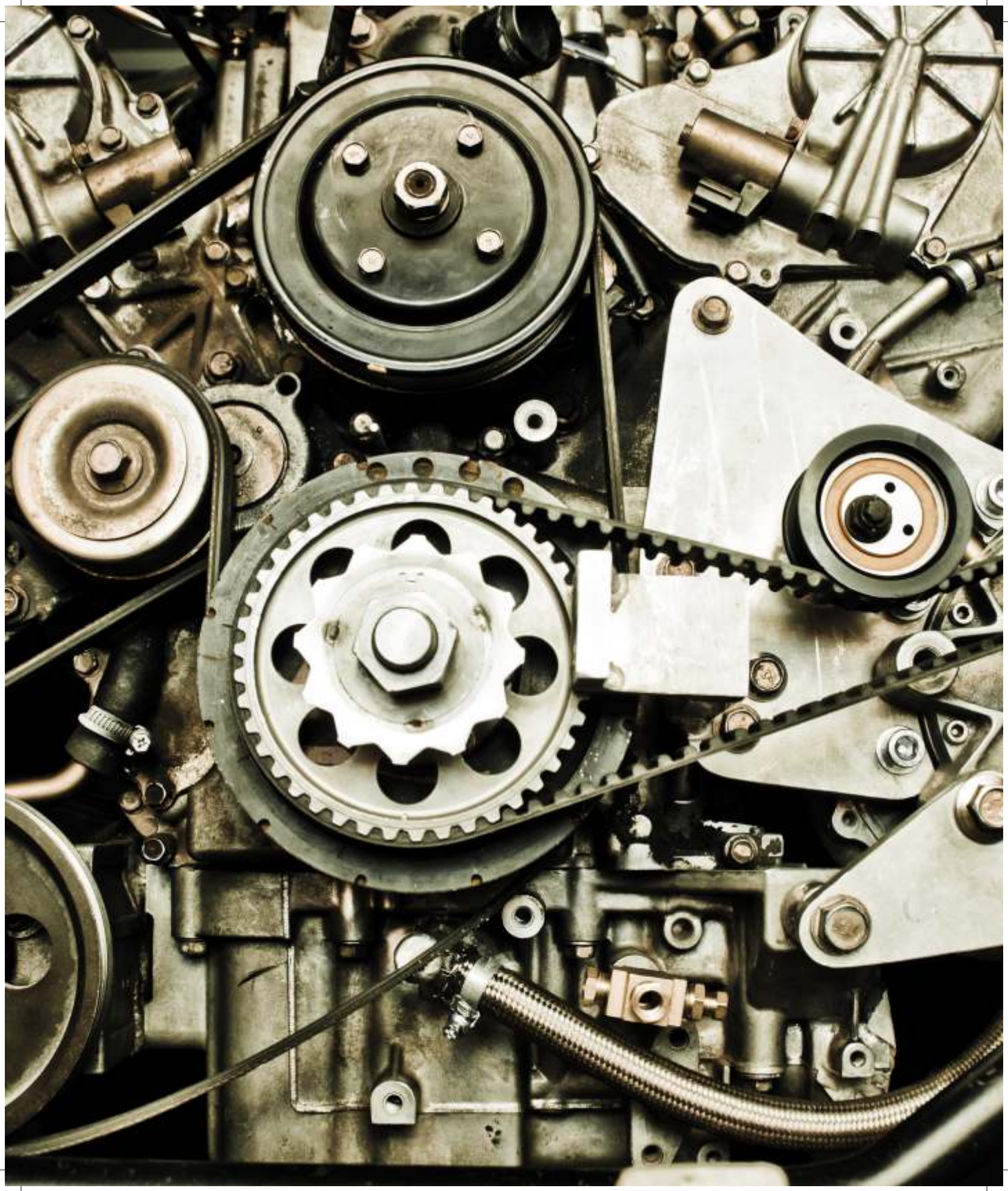
- The Government has planned capacity addition of 89 GW and 94 GW in the 12$^{th}$ and 13$^{th}$ Five-Year Plansrespectively
- Government infrastructure initiatives such as Golden Quadrilateral and the North-South and East-West corridors fuelled growth in the engineering sector

## Initiatives in Agriculture Mechanisation

Mission on Extension and Technology Management envisages coordinated thrust on farm mechanisation. It is planned to strengthen National Agriculture Research System with appropriate participation of commercial agricultural machinery manufacturers (12$^{th}$ Five Year Plan)

## Special Economic Zones (SEZs)

The Government has granted significant number of SEZs licences for the engineering sector across the country



# Investment Opportunities

5

# ‘Make in India’ initiative will create a demand for capital goods and machine tools industry

## Auto Components

- The auto component sector is expected to reach USD 115 bn by 2020 – 2021
- Market estimated to become 3rd largest in the world by 2016

## Automobile

- India is expected to account for more than 5% of global vehicles sales by 2016
- Turnover slated to be USD 145 bn by 2016

## Aviation

- The Indian aviation sector is likely to see investments totaling USD 12.1 bn during 2012 – 2017

## Infrastructure

- India real estate market expected to grow to USD 140 bn by 2017
- Urban share of GDP projected to reach about 75% by 2030

## Electrical Machinery

- Estimated output of USD 100 bn by 2022
- Capacity addition of 175 GW targeted by 2022

## Textiles

- The domestic textile and apparel market estimated to reach USD 100 bn by FY17
- Exports expected to reach USD 65 bn by 2016-2017

## Food Processing

- 42 Mega Food Parks being set up with investment potential of USD 98 bn

## Others

- Renewable energy capacity targeted at 175 GW in 2022 from 36.5 GW currently
- India slated to become 2nd largest steel producing country in the world

Indian Capital Goods industry contributes 12% to the total manufacturing activity, which is about 17-18% of the GDP on an average for 2011-13. The sector is closely linked with the other manufacturing and infrastructure sector.

*Source: DIPP*

# Investment opportunities in Heavy Engineering Sector led by increasing demand for urbanisation

## Accelerated infrastructure expansion and growing urbanization

- The Indian Planning Commission has estimated a total investment of more than USD 1 trillion for infrastructure projects during the period 2012 – 2017
- Planned investment in infrastructure and growing urbanization will drive the construction industry to grow at 16 – 17% CAGR over the next 10 years

## Growing Telecom Industry

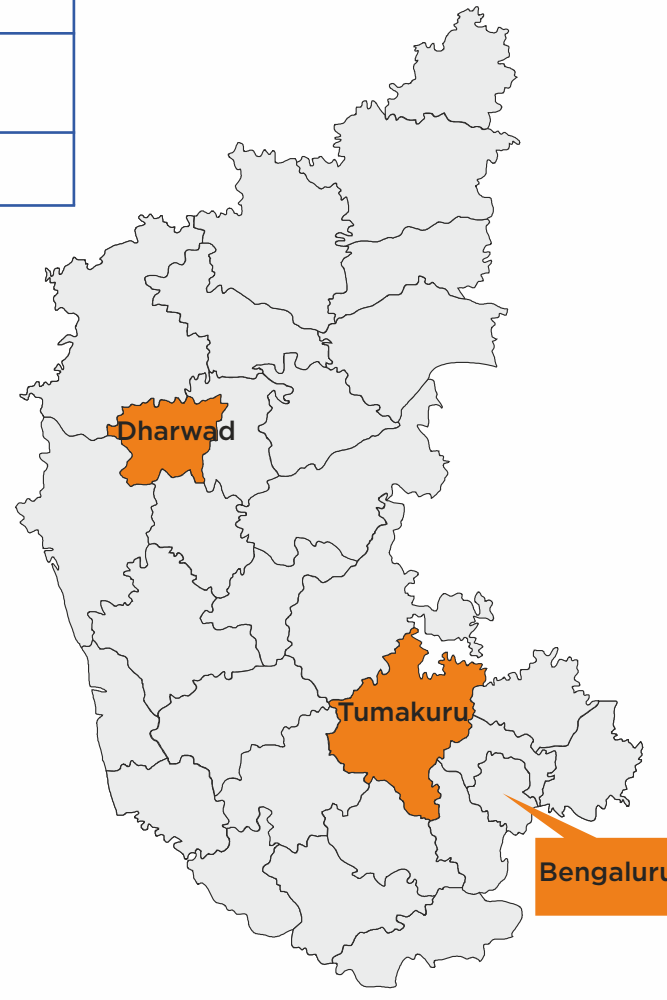
- India is the second largest telecommunications market in the world
- Telecom equipment market in India is expected to double by 2020, reaching USD 37 bn
- The increasing penetration of telecommunications technology in rural areas and the advent of 3G and 4G facility, has spurred the growth of the Telecom industry in India

# Karnataka is home to two Industrial Corridors with provision for state of art common facilities and enhanced connectivity infrastructure

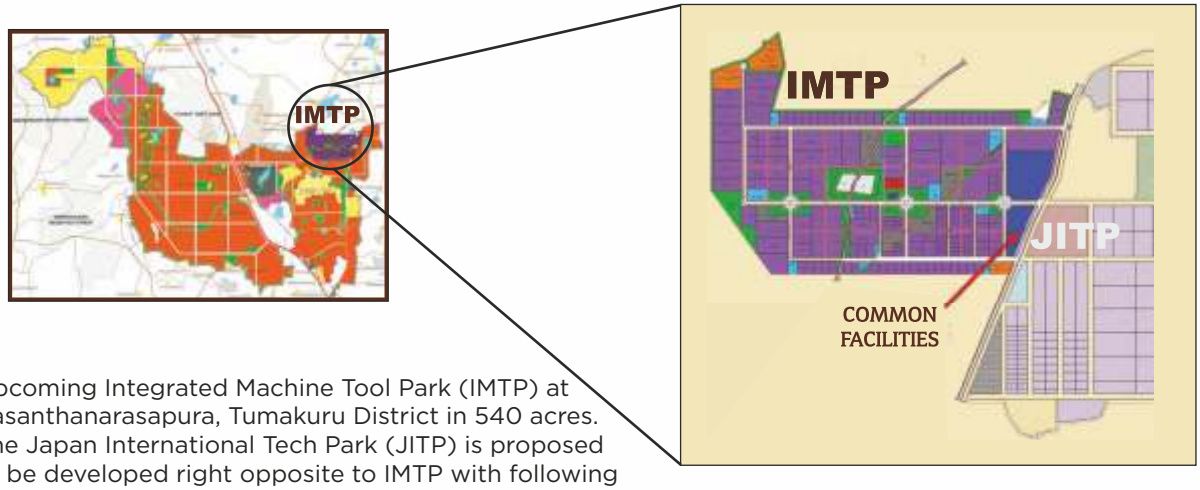
| Project | Chennai Bangalore Industrial Corridor |
|---|---|
| Location | Tumakuru* |
| Land Available | 10,000 acre |

| Project | Bangalore Mumbai Economic Corridor |
|---|---|
| Location | Chitradurga, Dharwad* & Tumakuru |
| Land Available | 5,000 acre |

** - Nodes taken up for first phase of development*



# Investment Opportunities in Machine Tools Park




Upcoming Integrated Machine Tool Park (IMTP) at Vasanthanarasapura, Tumakuru District in 540 acres. The Japan International Tech Park (JITP) is proposed to be developed right opposite to IMTP with following common facilities:

- Common Engineering Facility Centre
- Test & Certification Centre
- Offices of Government organizations, regulatory agencies, and Banks
- Technical centre for training, seminars/conferences
- Fire station, fuel station, police outpost, post office/courier service
- Commercial establishments

| Proposed Infrastructure | Details |
|---|---|
| Physical Infrastructure | • Roads with utility ducts<br>• Pedestrian walkway & bicycle tracks<br>• Storm water drainage system<br>• Water supply and sewerage system<br>• Power supply – distribution network with underground cables. Gas based power and supplementary solar power<br>• Power, water and sanitation points at each plot<br>• Rainwater harvesting<br>• Solid Waste Management<br>• Communication Facilities<br>• Vehicle parking |
| Technical Infrastructure | • Common Engineering Facilities Centre, Test and Certification Centre<br>• Green cover area – gardens, buffer zones, and water bodies<br>• Incubation centre for start-ups<br>• Technical centre for training, seminars/conferences |

# Investment Facitlitation

**Karnataka Udyog Mitra (KUM):** First contact point for all investors in Karnataka and nodal agency to facilitate investments. KUM executes initiatives to enable smooth transition from investment proposal stage to implementation stage

**State High Level Clearance Committee(SHLCC):** Chaired by Hon'ble Chief Minister of State of Karnataka to approve projects with investments above USD 10.42 million (INR 500 million)

**State Level Single Window Clearance Committee(SLSWCC):** Chaired by Hon'ble Minister for Large and Medium Industries meets every month to approve projects with investments between USD 0.63 million (INR 30 million) and USD 10.42 million (INR 500 million)

**District Level Single Window Clearance Committee (DLSWCC):** Chaired by Deputy Commissioner of the District , for approval of projects with investments up to USD 0.63 million (INR 30 million)

**Combined Application Form:** Available on KUM website for obtaining required statutory approvals

# NOTES

# NOTES

# NOTES

# NOTES

Government of Karnataka

# Contact Details


**Additional Chief Secretary to Government**
Commerce & Industries Department,
Government of Karnataka
106, 1st Floor, Vikasa Soudha,
Bengaluru - 560 001
Email : acscikar@gmail.com

**Commissioner for Industrial Development and Director of Industries & Commerce**
2nd Floor, Khanija Bhavan,
No.49, Race Course Road,
Bengaluru - 560 001
www.karnataka.industry.gov.in
Ph : 91-80-2238 6796
Fax : 91-80-2238 9909
Email : commissioner@karnatakaindustry.gov.in


INVEST KARNATAKA 2016
GLOBAL INVESTORS MEET

**Commissioner for Industrial Development,**
**Director of Industries and Commerce**
Email: commissioner@karnatakaindustry.gov.in
Phone: 91-80-22386796

pwc

For registrations log on to: **www.events.investkarnataka.gov.in**