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# Engineering Sector Profile

# Sector Segmentation



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## Engineering

### Heavy Engineering

#### Heavy Electrical

- Textile machinery industry
- Cement machinery industry
- Sugar machinery industry
- Rubber machinery industry
- Material handling equipment industry
- Oil field equipment industry
- Metallurgical industry
- Mining machinery industry
- Dairy machinery industry
- Machine tool industry

#### Heavy Engineering and Machine tools

#### Automotive

### Light Engineering

#### Low Technology

- Rolling Bearing Industry
- Medical and surgical instruments
- Process control instruments
- Industrial fasteners
- Ferrous castings
- Steel forgings
- Seamless steel pipes and tubes
- Electrical resistance welded (ERW) steel pipes and tubes
- Submerged-arc welded (SAW) pipes
- Bicycle industry

#### High Technology

# Sector Overview



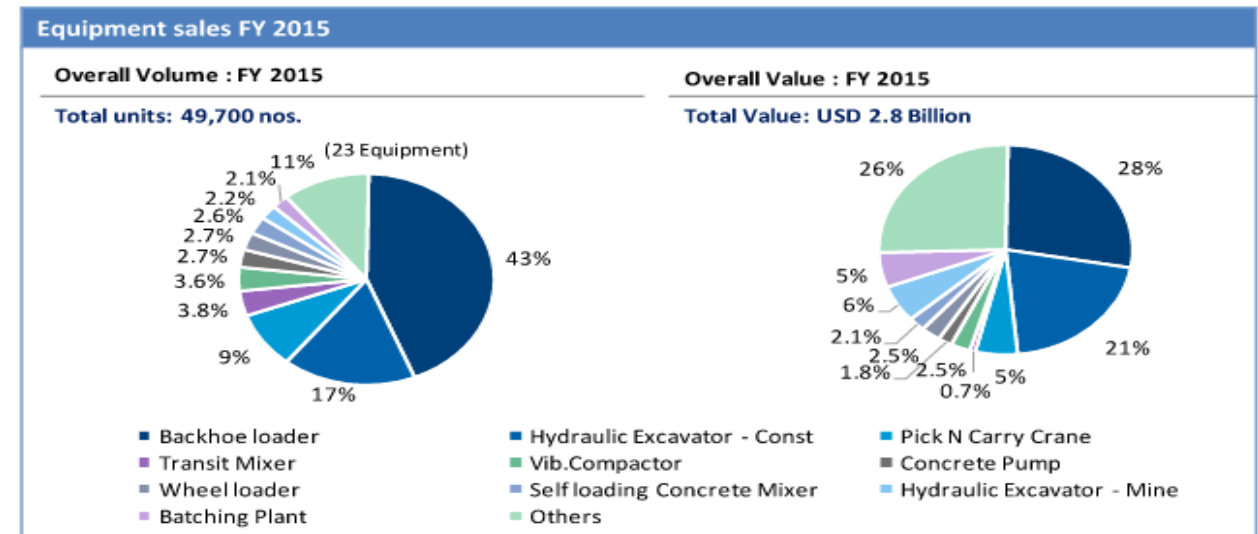
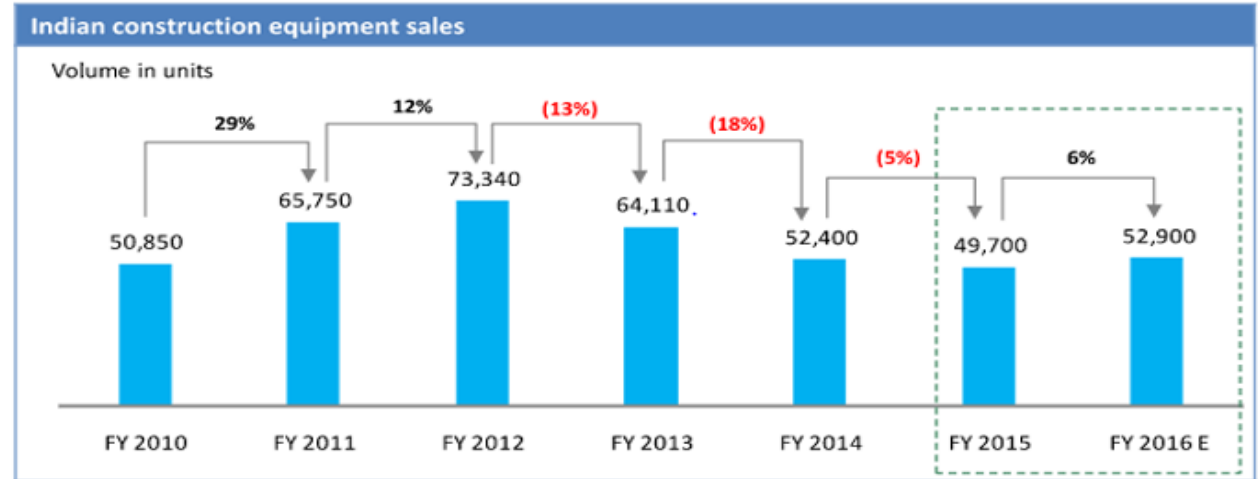
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- **Heavy Engineering Equipment and Machine Tools Industry contributes** 12% to the manufacturing sector
- The annual production of the **Indian capital goods sector is approx. US\$ 30.77 billion.** (Rs. 2 lakh crore) (including heavy electrical equipment)
- India has a **strong production base** capable of manufacturing diverse range of machinery and equipment to serve industry segments ranging from defence, oil and gas, refinery, nuclear, chemical and petro chemicals, machine tools, to consumer durables, fertilizers, automobiles, textiles, steel, cement, paper, construction, mining, etc.
- The bulk of domestic product in the engineering sector can be attributed to a few key industries, namely: **Construction equipment, Textile equipment, Machine tools, Railways and Telecom equipment.**
- **Engineering R&D** is a crucial sub-sector that supports the overall growth of the Indian Engineering Industry



# Indian Construction Equipment Industry: Overview

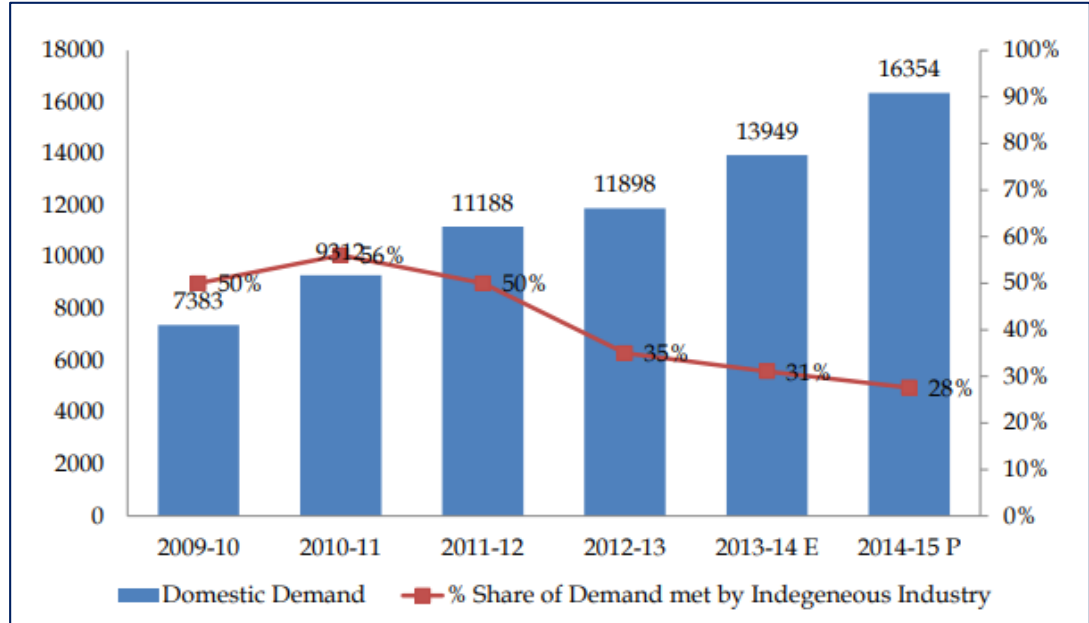
- The Indian construction equipment industry continues to be **dominated by Backhoe Loaders and Hydraulic Excavators** which form close to 60% of the overall Equipment sales
- **Backhoe Loader** alone contributes to 43% of the overall sales by volume
- **Earth Moving equipment** is the dominant category which accounted over 65% in volumes and 54% in revenue terms in FY 2015
- India remains an **attractive investment destination** with huge potential given the government’s policies to provide a fillip to construction and infrastructure activities.





# Indian Textile Machinery Industry: Overview

- India has the **2<sup>nd</sup> largest textile manufacturing infrastructure** in world after China and accounts for **14% of industrial production** - 4% of India's GDP
- The Indian textiles industry accounts for about **24% of the world's spindle capacity and 8% of global rotor capacity**. Highest loom capacity with 61% of the world's market share
- The textile machinery manufacturing is one of the largest segments of the machinery manufacturing industry in India with about 1000 machinery and component manufacturing units with total **investment of around US\$ 307 million ( INR 2000 crores)**



**17.5% CAGR**

**Growth of domestic demand of textile industry over the year**

**US\$ 223 billion**

**Expected size of Indian textiles and apparel industry by 2021.**



# Indian Machine Tool Industry: Overview

- India stands **12<sup>th</sup> in production and 8<sup>th</sup> in the consumption** of machine tools in the world\*
- Indian Machine tool Industry has ~ **1000 units in the production of machine tools**, accessories/attachments, subsystems and parts. Of these, around **25 in the large scale sector account for about 70% of the turnover** and the rest are in the MSME sector
- Large organized players cater to India's heavy and medium industries, the small-scale sector meets the demand of ancillary and other units

Indian Machine Tool Industry 2015-16 & 2016-17 (INR Crores)			
	2015-16	2016-17	Growth Rate
Production	4727	5803	23%
Exports	296	360	22%
Imports	5945	6173	4%
Consumption	10376	11616	12%

- Given the current gap between demand and supply, there is a clear need for adding capacities in the Indian machine tools sector . The industry is moving towards increasingly **sophisticated CNC machines, driven by demand from key user segments**, such as, automobiles and consumer durables, Aerospace etc.
- India is set to become a **key player in the global machine tools industry** and is likely to see substantial high-end machine tool manufacturing with emphasis on Make in India



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# Indian Engineering Industry

# Engineering industry market size and projections



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## Capital Goods and Engineering

*Capital goods and engineering turnover is estimated to have reached US\$ 125.4 billion in 2016 - 17 from US\$ 46.18 billion in 2014-15*



## Electrical Equipment

*Electrical equipment market size is forecasted to reach US\$ 100 billion by 2021 - 22 from US\$ 21 billion in 2016 - 17*



## Engineering Research & Design

*ER&D revenues projected to reach US\$ 45 billion in 2019 - 20 from US\$ 24 billion in 2016 - 17*



## Construction Equipment

*Construction equipment market projected to reach US\$ 7 billion by 2019 - 20 from US\$ 4.2 billion in 2016 - 17*



## Telecom Equipment

*Telecom equipment market to reach US\$ 30 billion by 2019 - 20 from US\$ 20 billion in 2015 - 16*



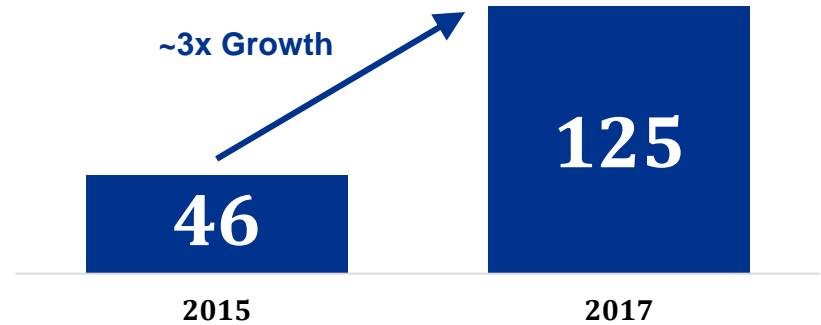
# Overview of Indian engineering industry



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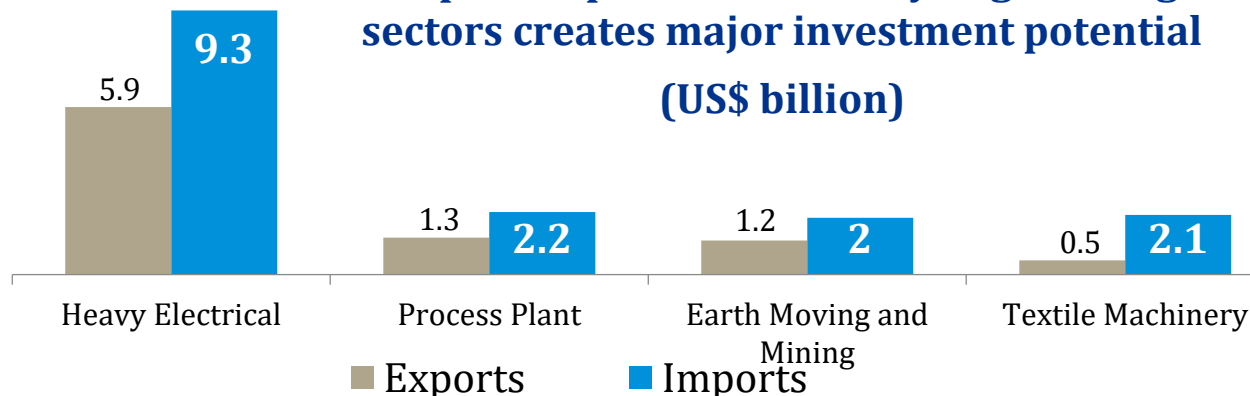
- Engineering goods turnover estimated to have grown from US\$ 46 billion in 2014-15 to US\$125 billion in 2016-17
- Electrical equipment market size is forecasted to reach US\$ 100 billion by 2022 from US\$ 21 billion in 2016-17
- Cumulative FDI inflows into engineering industry increased to US\$ 3.39 billion in 2017-18 from US\$ 0.89 billion in 2009-10
- Strong focus towards attracting foreign investment in manufacturing and infrastructure expected to boost FDI inflows in the future
- Increasing industrialization continues to drive overall growth in engineering goods market

## Engineering turnover (US\$ billion)

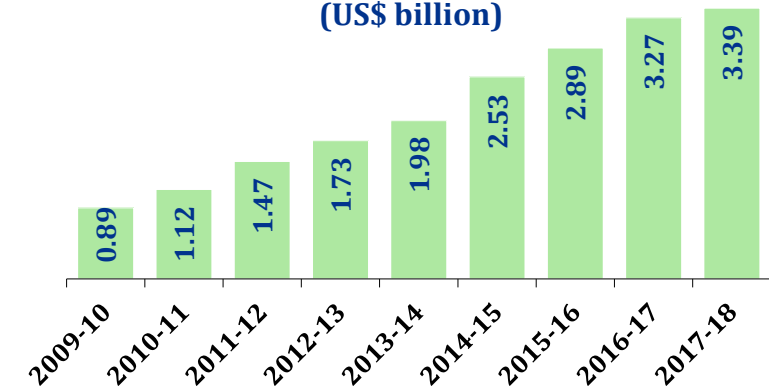


## Import-Export deficit in key engineering sectors creates major investment potential

(US\$ billion)



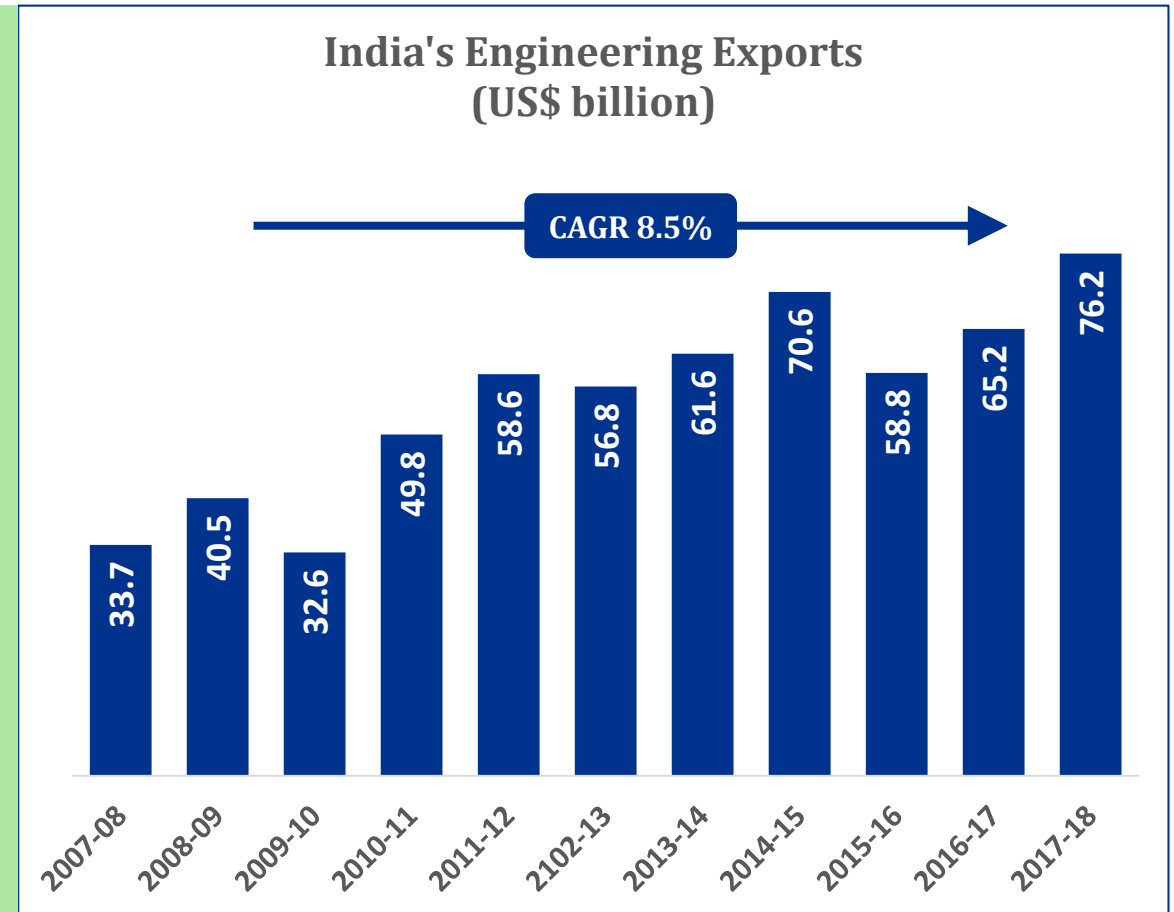
## Cumulative FDI Inflow in Engineering Sector (US\$ billion)





# India's engineering exports

- Engineering exports from India grew 16.81% to US\$ 76.2 billion in FY18 from US\$ 65.2 billion in FY17
- From 2007 to 2017, engineering exports from India registered growth at a CAGR of 8.50 %
- Engineering exports include transport equipment, capital goods, other machinery/equipment and light engineering products such as castings, forgings and fasteners
- Electrical equipment was highest performing sector with an output of US\$ 23.64 billion





# National level policy support

## National Manufacturing Policy 2011

- The National Manufacturing Policy is a significant policy formulated by the government to facilitate the growth of the manufacturing sector in India.
- Under the policy, the government has planned to set up **National Investment and Manufacturing Zones (NIMZ)** to bolster the growth of manufacturing activities in India. These zones are expected to be 5,000 hectares in size with at least 30 per cent area earmarked for processing.
- With an aim of accentuating growth in the manufacturing sector, the government would provide **15 % exemption** on tax to manufacturing companies that invest more than US\$ 18.4 million in plant and machinery over FY15
- The government **has eliminated tariff protection** on capital goods and has also **reduced custom duties** on various engineering equipment
- The government has approved a number of **SEZs** across India for bolstering growth in the sector
- National Manufacturing Policy has been launched by the government with an aim of enhancing the sector's share in GDP to 25 per cent within a decade and creating **100 million jobs** by 2022.

# National level policy support



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## National Capital Goods Policy 2016

- The National Capital Goods Policy is formulated with the vision to **increase the share of capital goods contribution** from present 12% to 20% of total manufacturing activity by 2025
- **Increase total production:** To create an ecosystem for a globally competitive capital goods sector to achieve total production in excess of ~Rs. 750,000 Cr by 2025 from the current ~Rs. 230,000 Cr
- **Increase employment:** To increase direct domestic employment from the current 1.4 million to at least 5 million and indirect employment from the current 7 million to 25 million by 2025, thus providing additional employment to over 21 million people.
- **Increase domestic market share:** To increase the share of domestic production in India's capital goods demand from 60% to 80% by 2025 and in the process improve domestic capacity utilization to 80-90%
- **Increase exports:** To increase exports to 40% of total production (from Rs 61,000 Cr to ~Rs 300,000 Cr) by 2025
- Further the policy includes details on **Improving Skill Availability, Improving Technology Depth, Promoting Standards and promoting SMEs**

# National level policy support



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## Make in India Incentives

- **5% interest reimbursement & 10% capital subsidy** for production of equipment/machines/devices for controlling pollution, reducing energy consumption and water conservation
- A **grant of 25% to SMEs** for expenditure incurred on audit subject to a maximum of INR 1,00,000
- A 10% one-time **capital subsidy** for units practicing zero water discharge
- A **rebate** on water cess for setting up wastewater recycling facilities
- An **incentive of INR 2,00,000** for all buildings which obtain a green rating under the IGBC/LEED or GRIHA systems
- A weighted **tax deduction of 200%** under the Income Tax Act for both capital and revenue expenditure incurred on scientific research and development.
- **Reimbursement of 50% of technology transfer fee** or Rs. 20 lakh (whichever lower)
- **Financial support for acquiring of technology/patent** – subsidy of 50% or Rs. 20 lakh (whichever lower)
- **Subsidy of up to 10% of capital expenditure** incurred on new plant and machinery or Rs. 50 lakh

# Skillset Development Initiatives



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**An initiative by Government of India to train over 40 crore people in India in different skills by 2022**

## National Skill Development Mission

- The Mission has been developed to create convergence across sectors and States in terms of skill training activities
- Coordinated efforts from NSDC, NSDA and DGT as a part of National Skill Development Mission

## National Policy for Skill Development and Entrepreneurship 2015

- The objective is to meet the challenge of skilling at scale with speed and standard
- An umbrella framework to align all skilling activities across the country to common standards and link the skilling with demand centres

## Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

- The objective is to enable and mobilize a large number of Indian youth to take up outcome based skill training and become employable and earn their livelihood

## Skill Loan Scheme

- The objective is to provide a loan facility to individuals who intend to take up skill development courses as per the Skilling Loan Eligibility Criteria

# India Opportunities



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## Electrical Equipment & Machinery



Railways



Power



Construction Equipment

- By 2022, domestic demand for generation equipment and transmission & distribution sector is expected to be in the range of US\$ 25-30 billion and US\$ 70-75 billion respectively owing to initiatives such as 'Power for All'.
- In order to develop three new arms of Dedicated Freight Corridor (DFC) in the various regions of the country, Indian government is planning to invest US\$ 50.98 billion (INR 3,30,000 crores ) in projects such as High-Speed Rail, Metro and Railway Station upgradation
- The Indian power sector has an investment potential of US\$ 250 billion in the next 4-5 years, providing immense opportunities in power generation, distribution, transmission and equipment
- Construction equipment sector in India is expected to grow to US\$ 5 billion by FY2019-20 from current size of US\$ 2.8 billion. The sector will remain buoyant due to increased demand from real estate and spend by government on large infrastructure projects like Bharatmala, Smart Cities, Freight Corridors etc. to tune of around US\$ 454.83 billion



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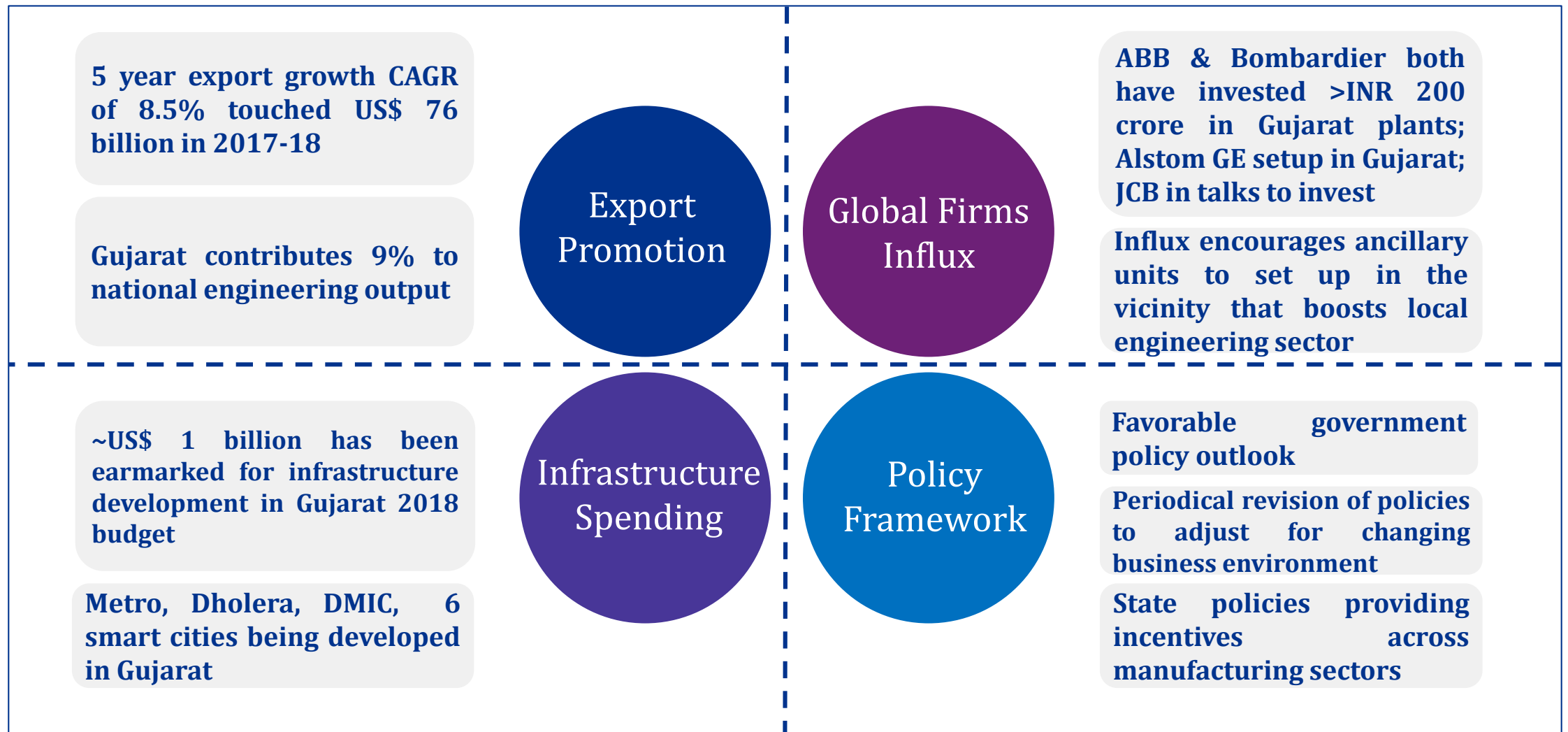
# Gujarat Engineering Industry



# Growth drivers for Gujarat's engineering industry



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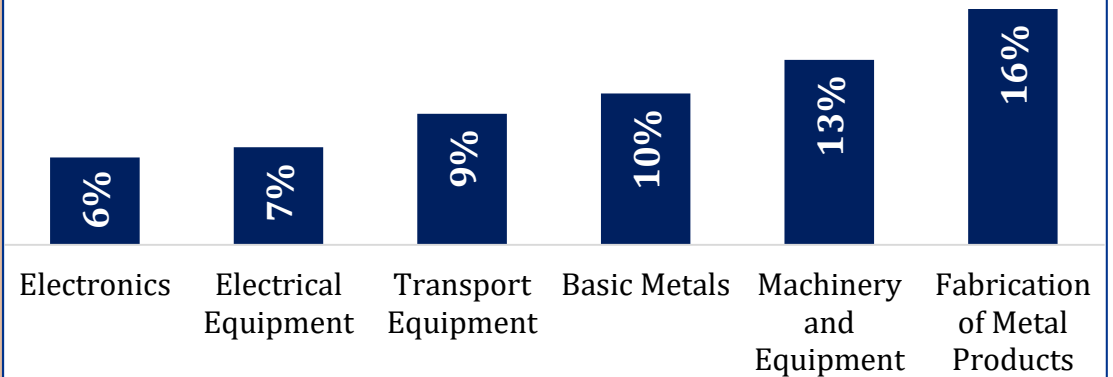
# Gujarat – A leader in Engineering



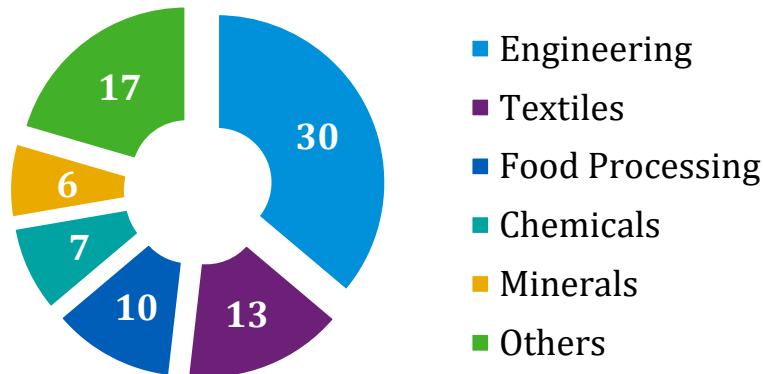
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- Engineering sector of Gujarat contributes around 18% to state's total industrial production and around 9% to the national engineering output.
- Engineering sector in Gujarat comprises more than 300 units in large sector and 7,500 units in small and medium (SMEs) enterprises.

Gujarat's share in national engineering goods production



Industrial Clusters In Gujarat



- The small-scale industry is a significant contributor to the production of **brass parts, foundry, forging and machine tools, oil engines and electric motors, submersible pumps and industrial valves and bearings.**
- Gujarat **houses 83 product clusters**; out of which 30 are engineering product clusters.
- The brass parts cluster at Jamnagar has over 5,000 small units and meets almost **70% of the entire requirement for brass parts in India.**

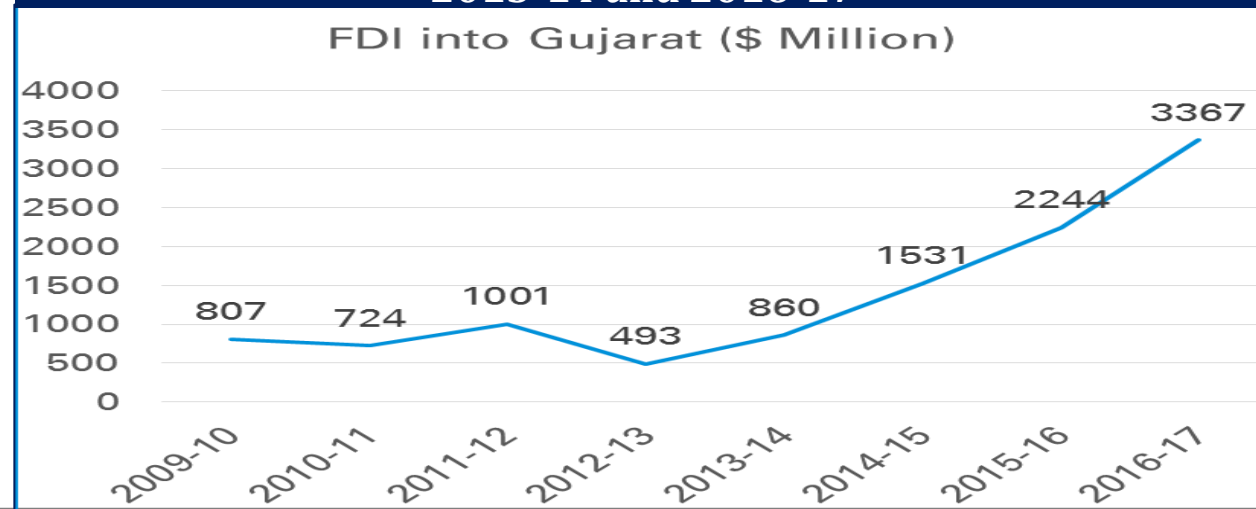
# Leading FDI destination for Engineering and Automotive industry



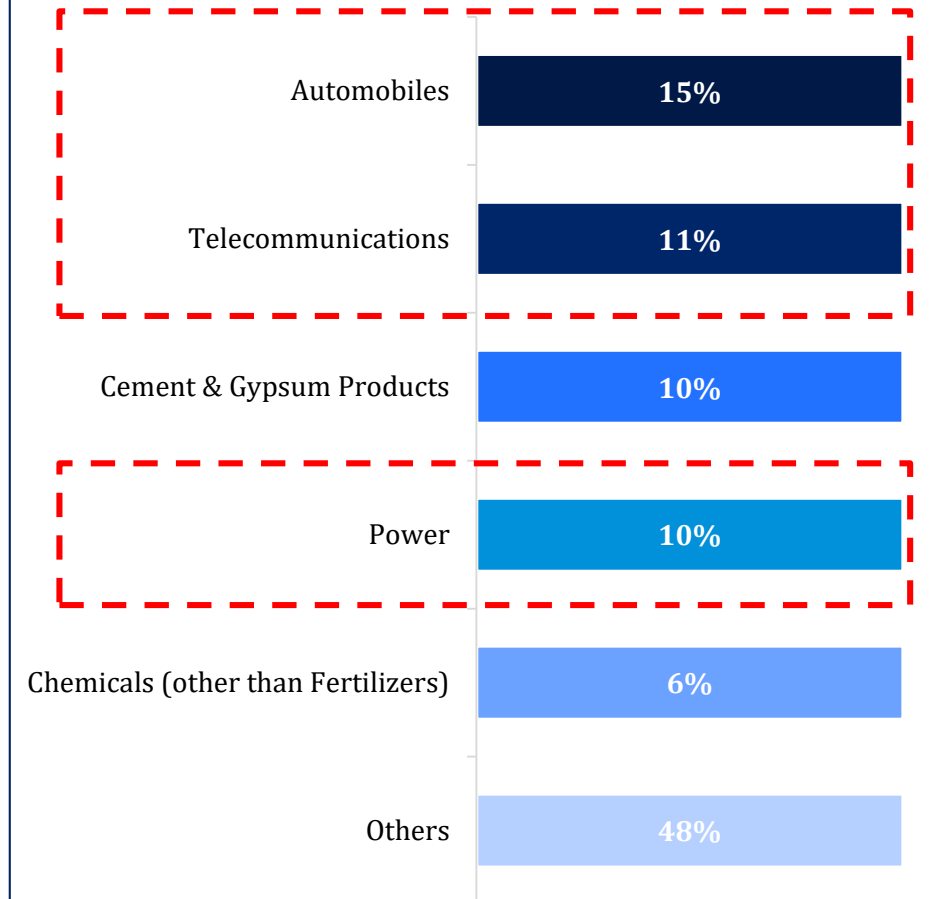
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- Gujarat was amongst the top three FDI attracting states in India in 2016-17
- Automobiles, Telecommunications and Power generation are key engineering sectors that attract 36% of the total FDI inflows in the state

**FDI grew at a CAGR of ~58% between 2013-14 and 2016-17**



**Top 5 sectors attracting maximum FDI inflows (Jan 2000 to Mar 2017)**

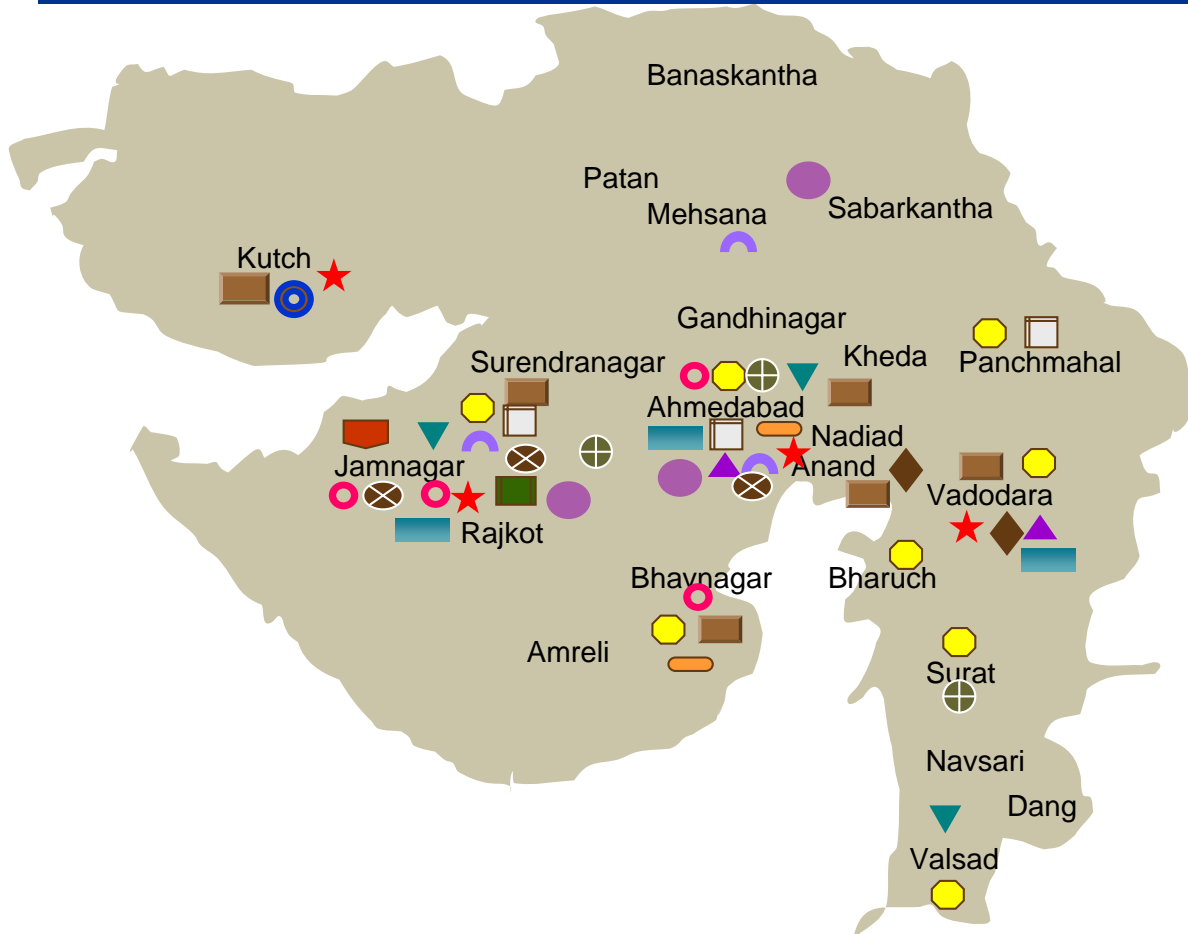


# Prominent industrial clusters servicing the engineering value chain

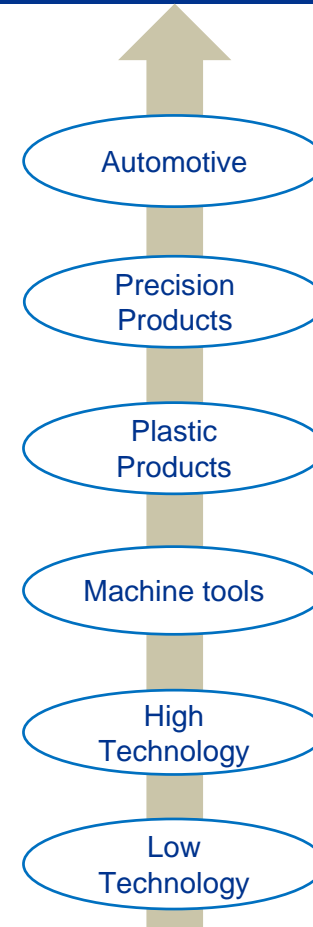


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The Engineering SME cluster of Gujarat is mainly concentrated at Ahmedabad, Anand, Rajkot, Vadodara, Surendranagar, Jamnagar, Mehsana, Panchmahal and Kutch



- ★ Automobile & auto parts
- Diesel engine & parts
- ◆ Electric motors
- ∩ Power driven pumps
- ⊕ Textile machinery parts
- ▲ Chemical machinery parts
- ▼ Food processing machinery
- Earth Moving Machinery
- ⬡ Fabricated metal products
- Pumps and Valves
- Machine tools
- Steel & Aluminium Furniture
- ☪ Brass parts
- Steel re-rolled products
- ⊙ Steel Pipes and tubes
- ⊗ Ball & Roller bearings
- ⊕ Foundry & Forgings



**Servicing  
the entire  
Engineering  
Value Chain**

# Presence of key players across the engineering spectrum



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## Heavy Engineering



## Light Engineering



# Assistance provided under Gujarat's Industrial Policy



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## Gujarat Industrial Policy, 2015

- Financial assistance for industrial infrastructure
- Incentives for developing Industrial Parks
- Assistance to set up Logistics Parks
- Assistance to labor intensive industries
- Assistance for environment management
- Special Incentives for Mega/ Innovative Projects

### Assistance schemes for MSMEs

- ✓ Capital Investment Subsidy
- ✓ Interest Subsidy
- ✓ Venture Capital assistance
- ✓ Assistance for quality certification and patent registration
- ✓ Assistance for raising capital through SME Exchange
- ✓ Market Development Assistance

## General Incentive Scheme, 2016

Tax reimbursement based on quantum of investment and location of the project\*

# Skillset development

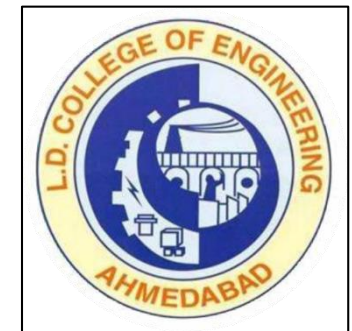
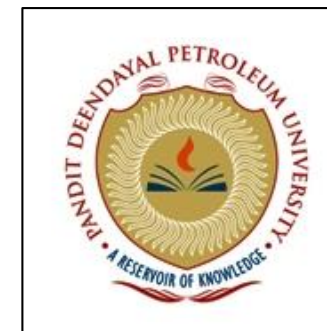
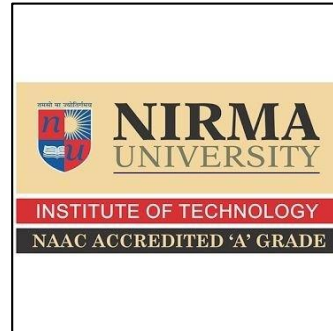
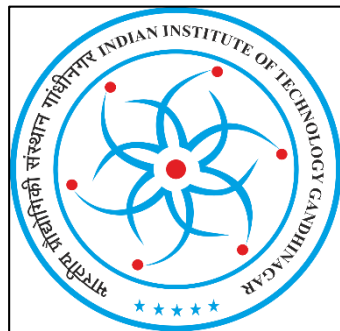


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- Intake capacity of 71,799 engineering students
- Over 7 lakh graduates added to the state talent pool every year
- More than 8 lakh candidates have been imparted computer & IT training through eMPOWER
- Annual capacity to train more than one million candidates
- 800 Industrial Training institutes (ITIs)
- Centres of Excellence (CoE) funded by World Bank under Vocational Training Improvement Project (VTIP) scheme

## Prominent Engineering Colleges of Gujarat



# Gujarat Opportunities



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## Automobiles and Auto components



- Gujarat government plans to increase the share of automotive industries in its overall engineering output to 10% by 2020, from the current 3.7%
- In addition, as many as 350 ancillary units are expected to come up in Sanand-Mandal Becharaji region over the next three years. This is expected to attract an investment of around US\$ 2 billion in the coming decade

## Construction Equipment



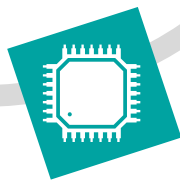
- As India's urban GDP is expected to reach US\$ 7.5 trillion by 2030, accruing 75% of India's total GDP, the country needs to develop over 170 million houses until 2030.
- Proposed expenditure of US\$ 18 billion in Dholera SIR by 2020

## Power Transmission



- US\$ 146 million expenditure forecasted to convert overhead power lines to underground lines in 47 estates of Gujarat
- GETCO will invest US\$ 1.6 billion to construct 400 new substations and add 10,000 circuit km of transmission lines by 2021-22

## Electrical Equipment



- India imported electrical equipment and machinery worth US\$ 8.31 billion compared to exports of US\$ 6.7 billion in 2017-18, creating a deficit that can be serviced by domestic manufacturing
- Sector is expected to grow to US\$ 25 billion by 2022.



# Thank you

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