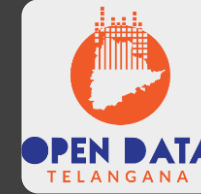


# Telangana

Forts  
Palaces  
Wildlife  
Temples  
Churches  
Mosques  
Water Sports  
Tiger Sanctuaries  
Charminar  
Kakatiya  
Golkonda  
Handicrafts  
Waterfalls

It's all in it



&



Presents  
Resume Project Challenge #7

## Telangana Growth Analysis

# Agenda

- ✓ About Telangana
- ✓ Objectives
- ✓ Analysis
- ✓ Insights & Recommendations

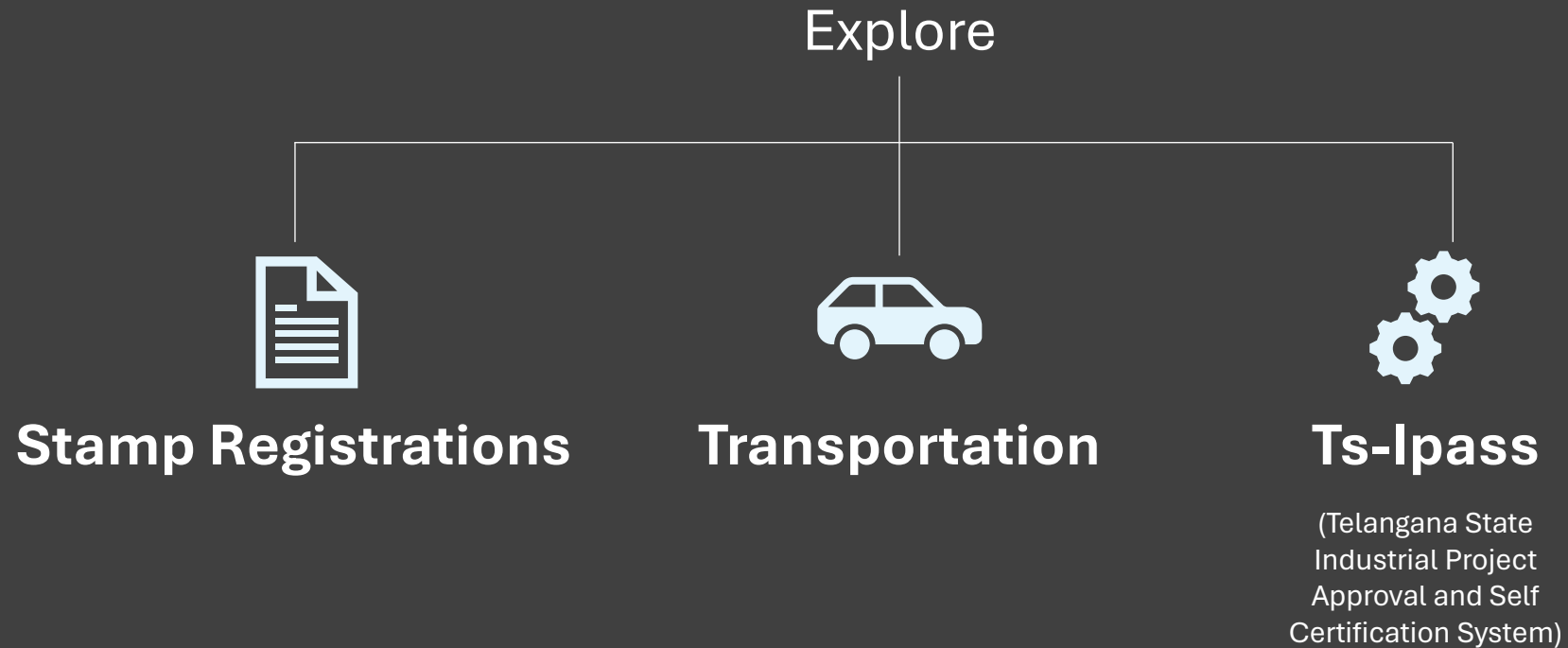


# About Telangana

- Youngest State of India, Telangana came into being on the 2nd of June, 2014.
- One of the fastest growing states with significant economic development.
- Focuses on infrastructure, IT, agriculture, education, healthcare and pharmaceuticals.
- One of the Indian states with an Open Data Policy.

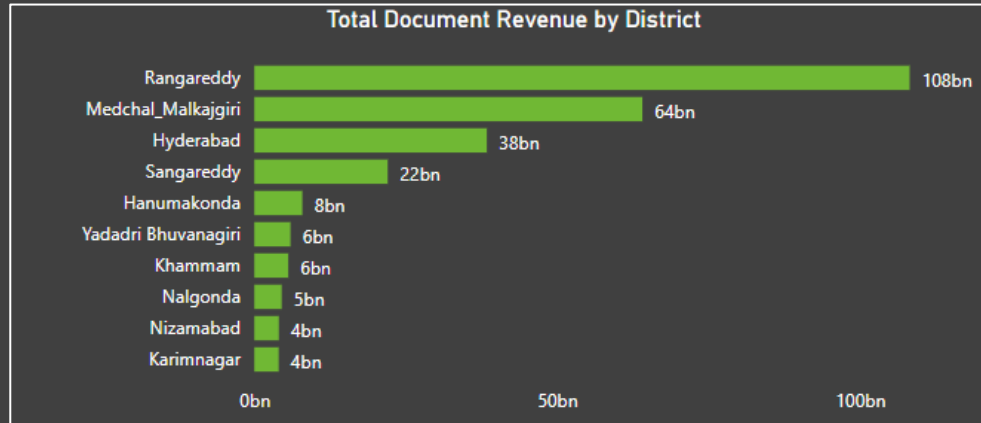
# Objectives

Analyse Telangana's growth among different sectors quantitatively and provide useful insights to the government that would help them to make data-informed decisions.



# Stamp Registrations

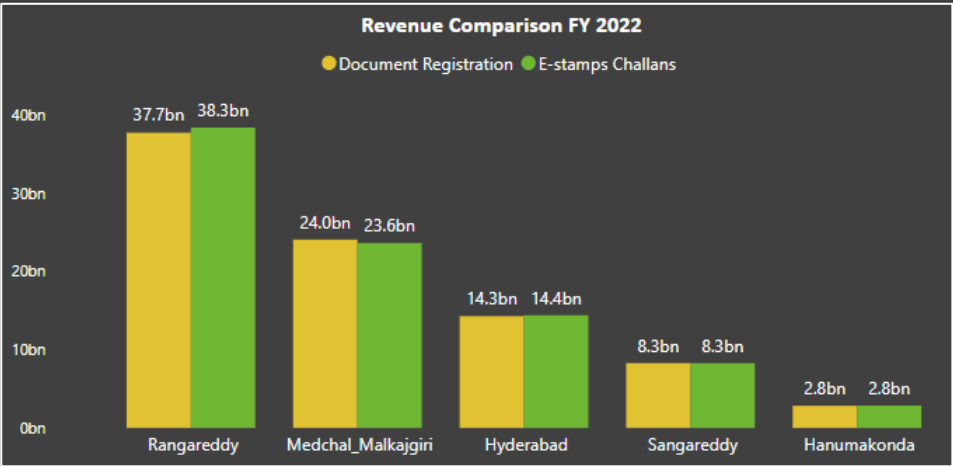
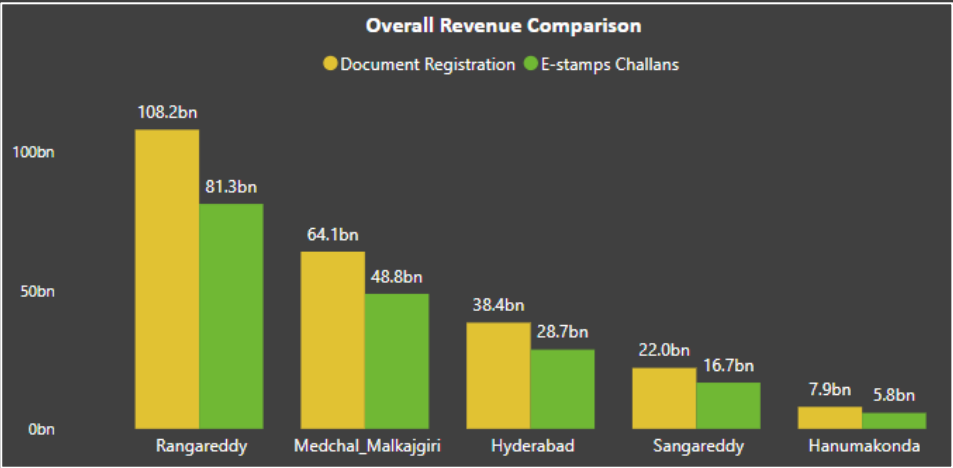
Q1. How does the revenue generated from document registration vary across districts in Telangana?  
List down the top 5 districts that showed the highest document registration revenue growth between FY 2019 and 2022.



- Districts like Rangareddy, Medchal Malkajgiri, Hyderabad and Sangareddy has generated the **highest document registration revenue** from FY 2019 to 2022.
- These 4 districts contributes around **78%** to the revenue out of all the 33 districts.
- Top 5 districts of the document registration **revenue growth** between FY2019 and 2022 are Mulugu, Adilabad, Karimnagar, Mancheria and Medchal Malkajgiri.

| District           | Registration Revenue Growth |
|--------------------|-----------------------------|
| Mulugu             | 39.41%                      |
| Adilabad           | 30.62%                      |
| Karimnagar         | 24.45%                      |
| Mancheria          | 24.24%                      |
| Medchal_Malkajgiri | 24.22%                      |

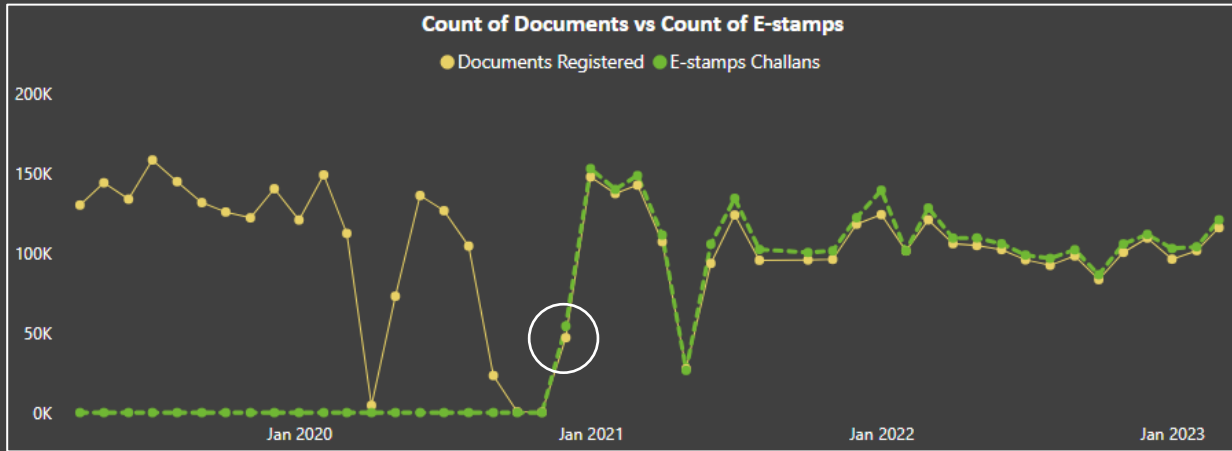
Q2. How does the revenue generated from document registration compare to the revenue generated from e-stamp challans across districts?  
List down the top 5 districts where e-stamps revenue contributes significantly more to the revenue than the documents in FY 2022?



- E-stamps were implemented from December 2020.
- For FY2022 revenue from e-stamp challans is more compared to document registration, this indicates that people have adopted to the e-stamps positively.
- **Top 5 districts** whose **e-stamps revenue** contribution in FY2022 is more are Rangareddy, Hyderabad, Khammam, Hanumakonda and Yadadri Bhuvanagiri.

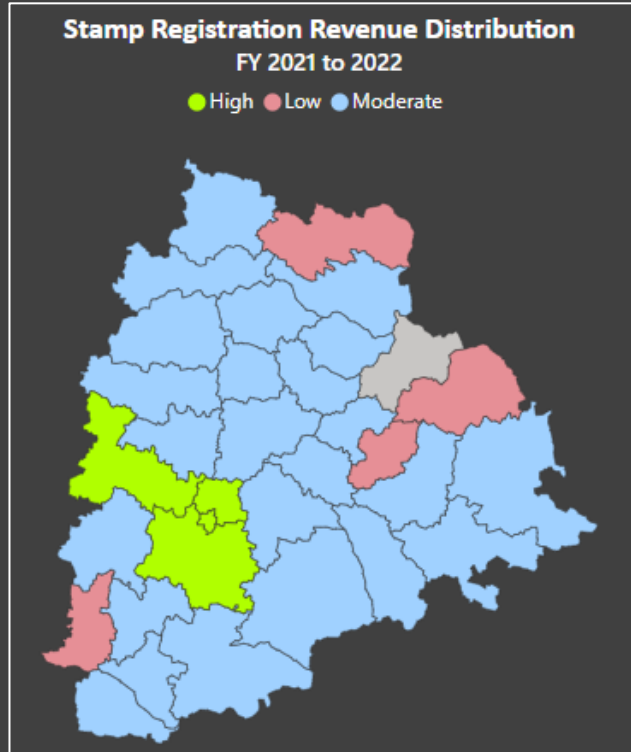
| District            | Doc Revenue | E-stamps Revenue | E-stamps > Doc |
|---------------------|-------------|------------------|----------------|
| Rangareddy          | 37.7bn      | 38.3bn           | 652M           |
| Hyderabad           | 14.3bn      | 14.4bn           | 108M           |
| Khammam             | 2.0bn       | 2.0bn            | 31M            |
| Hanumakonda         | 2.8bn       | 2.8bn            | 30M            |
| Yadadri Bhuvanagiri | 2.2bn       | 2.2bn            | 18M            |

Q3. Is there any alteration of e-Stamp challan count and document registration count pattern since the implementation of e-Stamp challan?  
If so, what suggestions would you propose to the government?



- E-stamps count has shown continuous improvement in comparison with document registered.
- Improve the resources, infrastructure and technology in sub-registrar offices.
- Train the staff to carry out the process quickly and efficiently.
- Encourage people to register on time by creating awareness of the benefits of document registration.
- Provide subsidies to those who register before a given timeline.
- Reduce stamp registration cost as it can be a barrier for some people.
- Partner with agents.

Q4. Categorize districts into three segments based on their stamp registration revenue generation during the fiscal year 2021 to 2022.



Between 1Bn and 10Bn = Moderate Revenue

| District            | Total Stamp Registration Revenue |
|---------------------|----------------------------------|
| Hanumakonda         | 9.85bn                           |
| Yadadri Bhuvanagiri | 7.59bn                           |
| Khammam             | 7.26bn                           |
| Karimnagar          | 5.25bn                           |
| Nizamabad           | 5.21bn                           |
| Nalgonda            | 5.19bn                           |
| Mahabubnagar        | 3.94bn                           |
| Suryapet            | 3.62bn                           |
| Siddipet            | 3.50bn                           |
| Medak               | 2.27bn                           |
| Peddapalli          | 2.24bn                           |
| Mancheri            | 2.19bn                           |
| Jagtial             | 2.15bn                           |
| Vikarabad           | 1.79bn                           |
| Nagarkurnool        | 1.76bn                           |
| Kamareddy           | 1.71bn                           |
| Rajanna Sircilla    | 1.49bn                           |
| Wanaparthy          | 1.49bn                           |
| Jangoan             | 1.48bn                           |
| Adilabad            | 1.44bn                           |
| Mahabubabad         | 1.33bn                           |
| Nirmal              | 1.27bn                           |
| Jogulamba Gadwal    | 1.21bn                           |
| Bhadrachalam        | 1.07bn                           |

Revenue > 10Bn = High Revenue

| District           | Total Stamp Registration Revenue |
|--------------------|----------------------------------|
| Rangareddy         | 140.25bn                         |
| Medchal_Malkajgiri | 84.59bn                          |
| Hyderabad          | 50.25bn                          |
| Sangareddy         | 29.40bn                          |

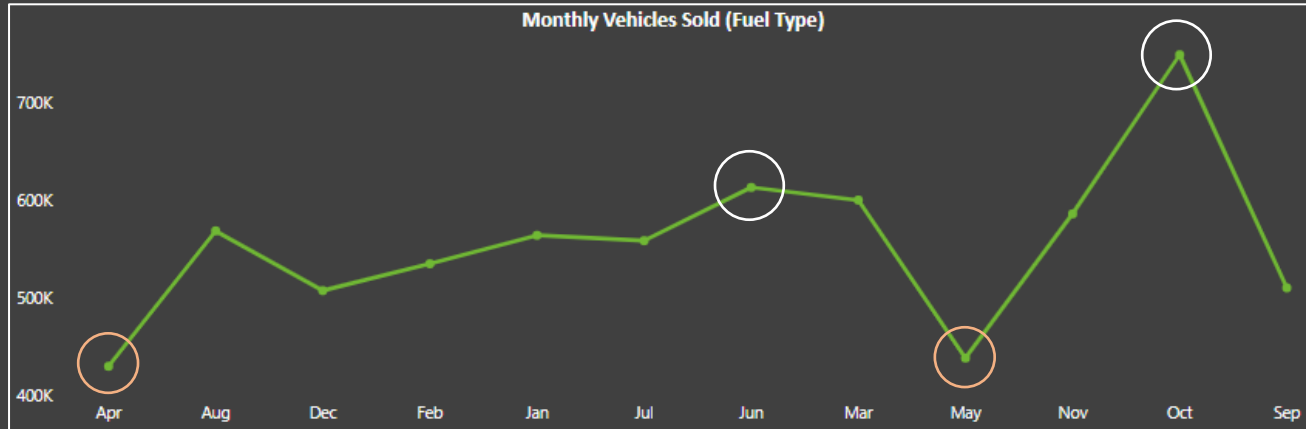
Revenue < 1Bn = Low Revenue

| District              | Total Stamp Registration Revenue |
|-----------------------|----------------------------------|
| Kumurambheem Asifabad | 0.27bn                           |
| Mulugu                | 0.73bn                           |
| Warangal              | 0.85bn                           |
| Narayanpet            | 0.93bn                           |



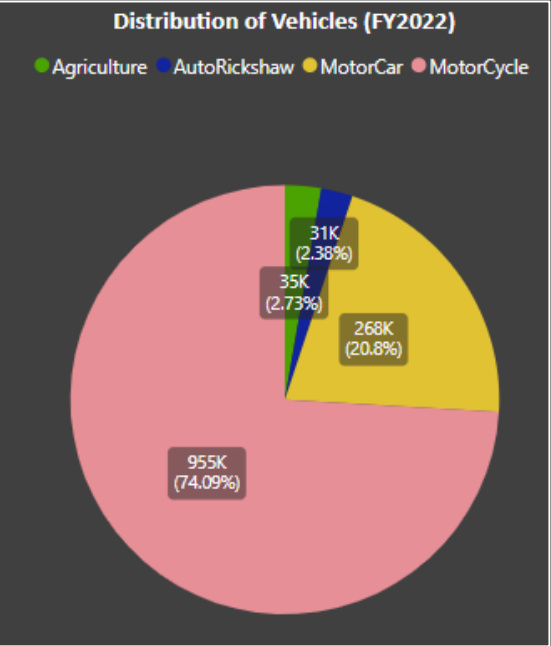
# Transportation

Q5. Investigate whether there is any correlation between vehicle sales and specific months or seasons in different districts. Are there any months or seasons that consistently show higher or lower sales rate, and if yes, what could be the driving factors? (Consider Fuel-Type category only)



- Total **vehicles sold** are above **6.6Mn** from FY2019 to 2022.
- **October** and **June** are the months with **higher** sales.
- **April** and **May** are the months with **lowest** sales.
- High sales can be due to monsoon and festive sales and launch of new models during these months.
- Low sales in April and May can be due to weather conditions, holiday season as well as looking forward for the monsoon offers.

Q6. How does the distribution of vehicles vary by vehicle class (MotorCycle, MotorCar, AutoRickshaw, Agriculture) across different districts?  
Are there any districts with a predominant preference for a specific vehicle class?  
Consider FY 2022 for analysis.



| District                | MotorCycle | MotorCar | AutoRickshaw | Agriculture |
|-------------------------|------------|----------|--------------|-------------|
| Adilabad                | 10410      | 1416     | 368          | 467         |
| Bhadradi Kothagudem     | 17022      | 3157     | 1388         | 2013        |
| Hyderabad               | 206819     | 51447    | 8397         | 20          |
| Jagtial                 | 13639      | 2055     | 272          | 858         |
| Jangoan                 | 8617       | 1177     | 397          | 1225        |
| Jayashankar Bhupalpally | 9225       | 1343     | 218          | 1928        |
| Jogulamba Gadwal        | 10300      | 899      | 116          | 868         |
| Kamareddy               | 15184      | 2153     | 379          | 748         |
| Karimnagar              | 19411      | 4818     | 1042         | 999         |
| Khammam                 | 27385      | 5880     | 2690         | 2121        |
| Kumurambheem Asifabad   | 6433       | 479      | 286          | 160         |
| Mahabubabad             | 11046      | 1155     | 680          | 906         |
| Mahabubnagar            | 17977      | 3300     | 1130         | 937         |
| Mancheri                | 11603      | 2218     | 550          | 400         |
| Medak                   | 11663      | 2347     | 610          | 1579        |
| Medchal_Malkajgiri      | 164626     | 61071    | 83           | 261         |
| Nagarkurnool            | 12229      | 2066     | 366          | 1556        |
| Nalgonda                | 27942      | 4927     | 964          | 2599        |
| Nirmal                  | 10984      | 1581     | 295          | 989         |
| Nizamabad               | 28105      | 5824     | 1011         | 1181        |
| Peddapalli              | 10818      | 2205     | 382          | 705         |
| Rajanna Sircilla        | 8007       | 1376     | 148          | 675         |
| Rangareddy              | 154186     | 71832    | 69           | 449         |
| Sangareddy              | 40784      | 14565    | 3381         | 1570        |
| Siddipet                | 17401      | 3254     | 524          | 2437        |
| Suryapet                | 19165      | 3038     | 739          | 2188        |
| Vikarabad               | 23116      | 5211     | 2046         | 1814        |
| Wanaparthy              | 8771       | 1194     | 372          | 985         |
| Warangal                | 17770      | 2937     | 1331         | 681         |
| Yadadri Bhuvanagiri     | 14471      | 3216     | 465          | 1853        |

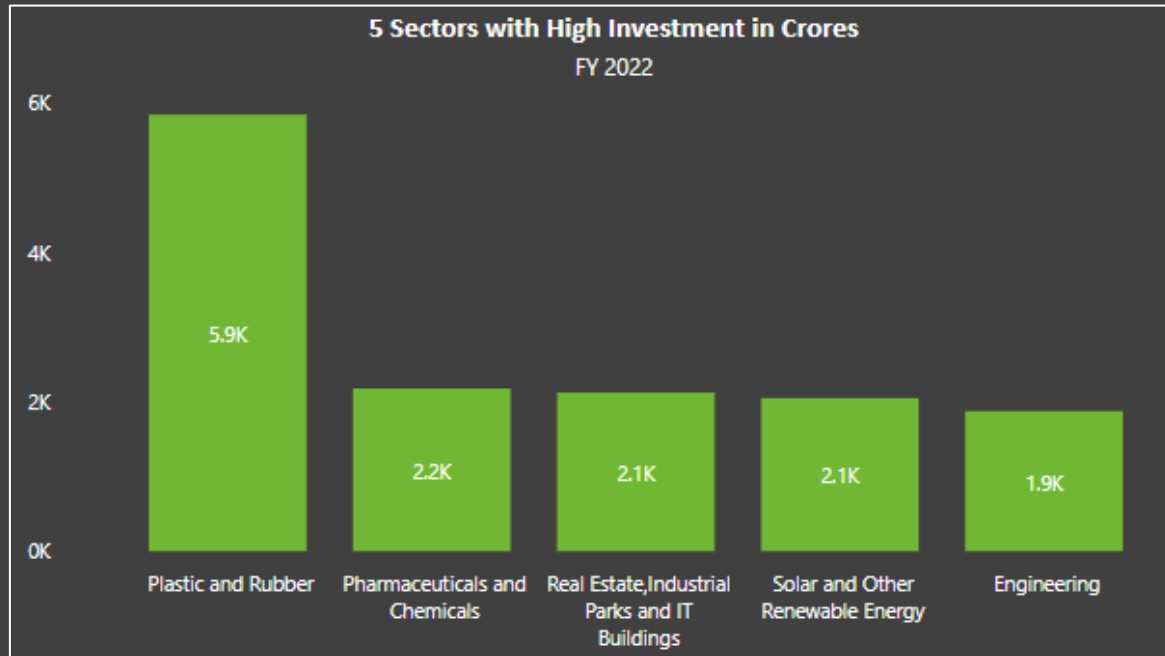
- Highly preferred vehicles are MotorCycles (74%) followed by MotorCars (21%), Autorickshaw and Agriculture together (5%).
- Hyderabad, Rangareddy and Medchal Malkajgiri have dominating preference for MotorCycles and MotorCars.
- Hyderabad, Sangareddy and Khammam have dominating preference for Autorickshaws.
- Nalgonda, Siddipet, Suryapet and Khammam have dominating preference for Agricultural vehicles.

Q7. List down the top 3 and bottom 3 districts that have shown the highest and lowest vehicle sales growth during FY 2022 compared to FY 2021?  
(Consider and compare categories: Petrol, Diesel and Electric)

| District   | YoY Sales Growth |        |
|------------|------------------|--------|
|            | ▼                |        |
| Rangareddy | ↑                | 13.83% |
| Karimnagar | ↑                | 6.60%  |
| Hyderabad  | ↑                | 5.82%  |

| District | YoY Sales Growth |         |
|----------|------------------|---------|
|          | ▲                |         |
| Warangal | ↓                | -42.04% |
| Jagtial  | ↓                | -36.83% |
| Nirmal   | ↓                | -34.33% |

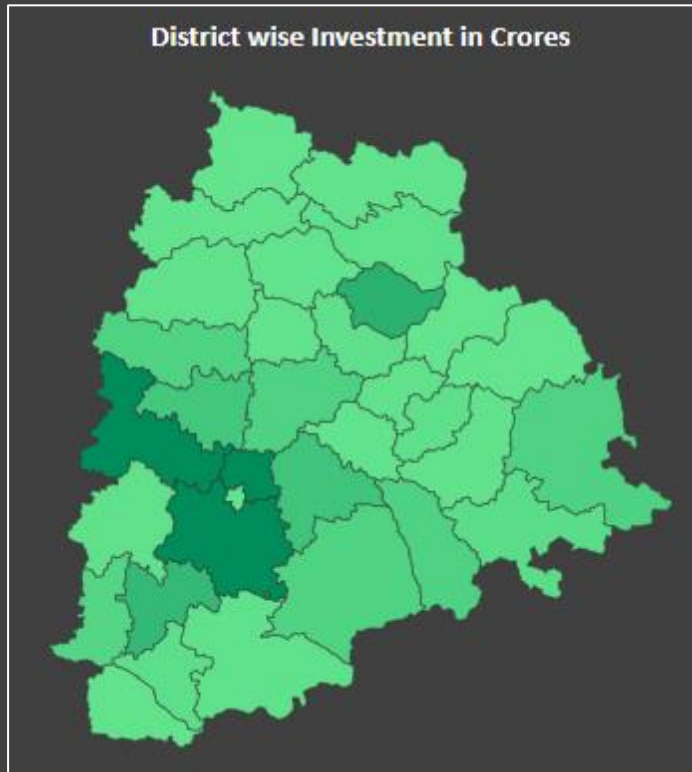
Q8. List down the top 5 sectors that have witnessed the most significant investments in FY 2022.



- In FY2022, the investments were made in 19 sectors out of which the **top 5** sectors were Plastic and Rubber, Pharmaceuticals and Chemicals, Real Estate, Industrial Parks and IT buildings, Solar and Other Renewable Energy and Engineering.
- Out of the total investments, **55%** were made in these sectors.



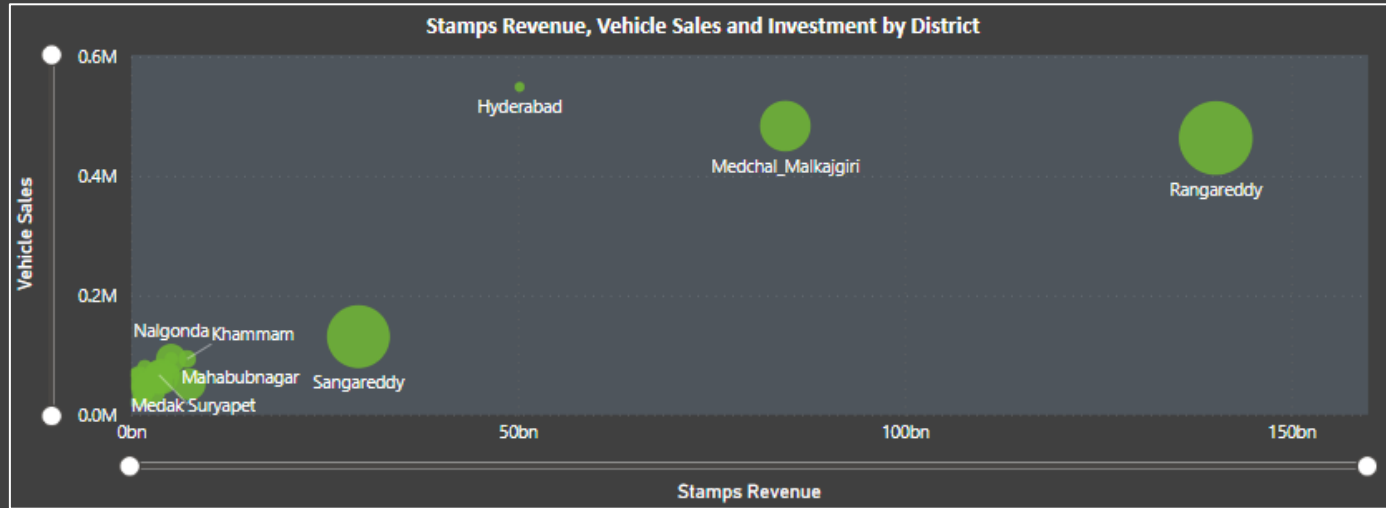
Q9. List down the top 3 districts that have attracted the most significant sector investments during FY 2019 to 2022?  
What factors could have led to the substantial investments in these particular districts?



| District           | Investment in Crores |
|--------------------|----------------------|
| Rangareddy         | 42,706.33            |
| Sangareddy         | 12,366.76            |
| Medchal_Malkajgiri | 10,394.56            |

- Top 3 districts have about 66% of the total investments.
- Factors that could have led to these investments are:
  - Proximity to the capital of the state i.e. Hyderabad which is a major center for technology industry.
  - Majority of the investments in Rangareddy district are for the Real Estate and IT parks sector which showcases the district's demand for infrastructure development to serve the Public and Private sector's working population.
  - Investments in Sangareddy and Medchal Malkajgiri districts are majorly in the Pharmaceuticals, Chemicals, Plastic and Rubber sectors which promotes the commercial development for establishing manufacturing units of these industries.
  - Also, the credit goes to the Ts-lpass system by the government which has helped for the speedy processing and hassle-free environment for businesses.

Q10. Is there any relationship between district investments, vehicles sales and stamps revenue within the same district between FY 2021 and 2022?



Size of the circle = Investments

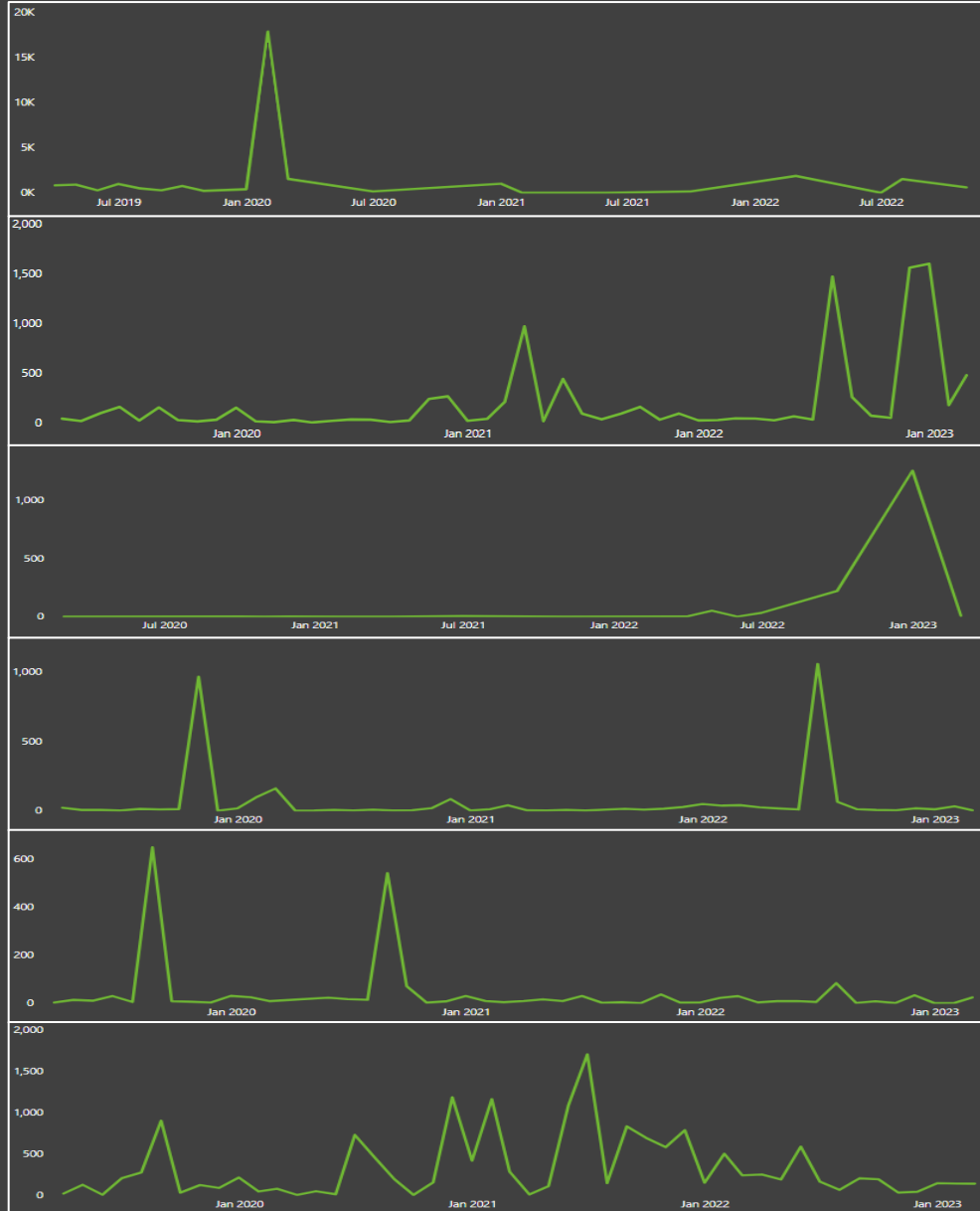
- There is a positive correlation between Stamps Revenue and Vehicle Sales for FY 2021 and 2022.
- Hyderabad is the only district where the investment is less compared to other districts but stamp revenue and vehicles sales are high.
- Rangareddy, Medchal\_Malkajgiri and Sangareddy comes under the top districts with high investments, stamp revenue and vehicle sales.

Q11. Are there any particular sectors that have shown substantial investment in multiple districts between FY 2021 and 2022?

| Sector   | Investment in Crores | Number of Districts |
|--|----------------------|---------------------|
| Pharmaceuticals and Chemicals  | 9,042.57             | 25                  |
| Plastic and Rubber   | 7,915.23             | 25                  |
| Real Estate,Industrial Parks and IT Buildings                                | 4,142.56             | 4                   |
| Engineering  | 2,844.97             | 31                  |
| Food Processing  | 2,455.31             | 33                  |
| R&D  | 2,361.62             | 8                   |
| Beverages  | 2,320.42             | 26                  |
| Solar and Other Renewable Energy   | 2,217.01             | 13                  |
| Others   | 1,687.98             | 32                  |
| Agro based incl Cold Storages  | 1,588.78             | 31                  |
| Automobile   | 1,572.43             | 4                   |
| Paper and Printing   | 1,457.28             | 21                  |
| Granite and Stone Crushing   | 1,347.47             | 28                  |
| Cement, Cement & Concrete Products, Fly Ash Bricks                           | 1,263.65             | 32                  |
| Electrical and Electronic Products   | 660.92               | 12                  |
| Textiles   | 338.52               | 22                  |
| Industrial Parks and IT Buildings  | 280.41               | 1                   |
| Wood and Leather   | 98.01                | 23                  |
| Fertilizers Organic and Inorganic,Pesticides,Insecticides, and Other Related | 57.68                | 13                  |

- **Pharmaceuticals**, Chemicals, Plastic and **Rubber** are the sectors with substantial investments of around **8-9 Thousand Crores** in 25 districts.
- Real Estate, Industrial Parks and IT buildings sector ranks 3rd in investments with only 4 districts.
- Sectors like Engineering and Food Processing have investments in almost all the 33 districts.

Q12. Can we identify any seasonal patterns or cyclicity in the investment trends for specific sectors?  
Do certain sectors experience higher investments during particular months?



Real Estate,  
Industrial  
Parks and IT  
Buildings

- There is **no seasonal patterns** or cyclicity in investment trends.
- All sectors had high investments in a particular month(s) of a fiscal year.
- Real Estate sector, 18K Crores in Feb 2020.

Plastic and  
Rubber

- Plastic and Rubber sector, high investments in Aug, Dec and Jan of FY2022.
- Automobile sector, 13K Crores in Jan 2023.

Automobile

- Paper and Printing sector, high investments in Nov 2019 and July 2022.
- Textiles sector, 650 and 550 Crores in Sept 2019 and 2020.
- Pharmaceuticals and Chemicals sector, high investments during the months of Feb, July, Sept and Dec.

Paper and  
Printing

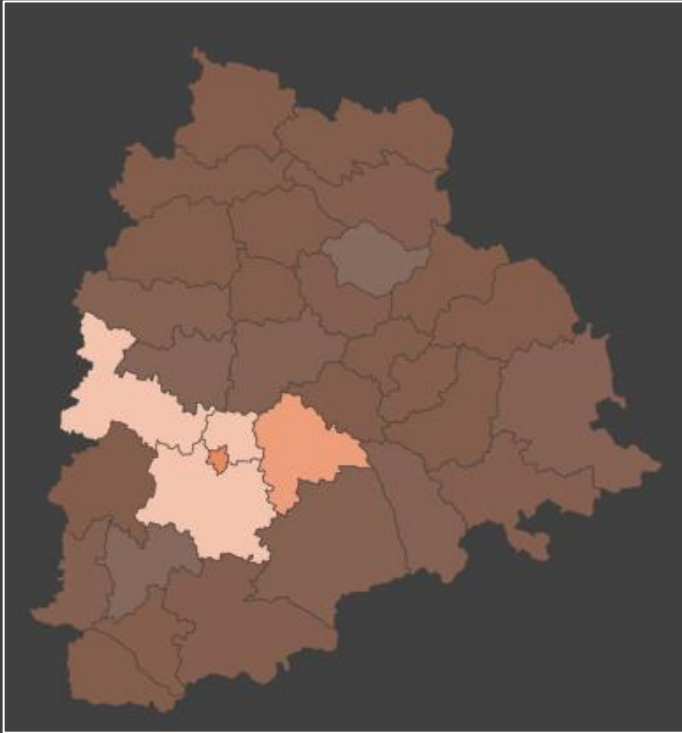
Textiles

Pharmaceuticals  
and Chemicals



# Secondary Research

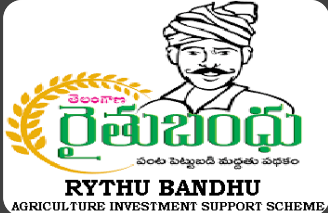
Q13. What are the top 5 districts to buy commercial properties in Telangana?  
Justify your answer.



- Investing in a commercial property completely depends on the needs of the investor. Our focus is on the industrial development of districts.
- **Hyderabad**, capital city of Telangana has a **robust economy**, vibrant business environment, **developed infrastructure** and presence of **IT and tech hubs**. One of the districts with high vehicle sales and registrations revenue.
- **Rangareddy** and **Medchal Malkajgiri** due to their close proximity to Hyderabad, received high investments in Real Estate, Industrial parks and Pharma Chemicals sector. Top districts with stamp registrations revenue and vehicles sales growth. **Land availability** has contributed to meet the requirements of **growing economic development** and industries in and around Hyderabad.
- **Sangareddy** and **Yadadri Bhuvanagiri** also have major investments in Pharmaceutical and Chemicals sector along with being **major contributors in employment** and stamp registrations revenue which confirms the industrial and commercial development of these districts.

Q14. What significant policies or initiatives were put into effect to enhance economic growth, investments, and employment in Telangana by the current government?  
Can we quantify the impact of these policies using available data?

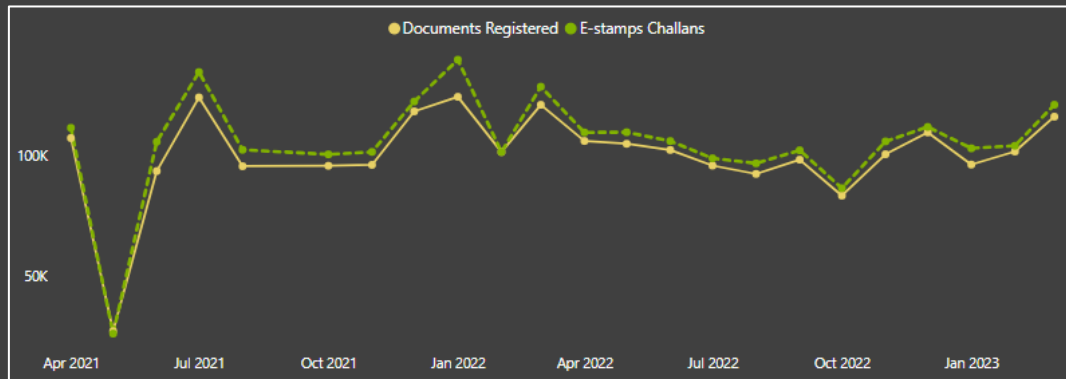
- Telangana Electric Vehicles and Energy Storage Policy (2020-2030)
  - After the launch of this policy in 2020, the sales of EV has shown **10x growth** till FY2022 and brought high investments in Renewable energy sector in FY 2020.
- Ts-Ipass (Telangana State Industrial Project Approval and Self-Certification System)
  - As per our data from FY2019 to 2022, Telangana has gained **over Rs. 1 Lakh Crore** in investments and has impacted significantly to the industrial growth, employment, business environment and economic development of the state.
- T-hub
  - Promoted entrepreneurship and innovation in the startup ecosystem and is making Hyderabad a new startup hub. Startups under T-hub have raised fundings over **Rs. 1800+ Crores**.
- Rythu Bandhu
  - This policy boosted the **agricultural productivity** and farmers' income by **10%** which ultimately contributed to the economic growth of the state.



# Insights & Recommendations

Q15. Provide top 5 Insights & 5 recommendations to Telangana government for sustained growth in the next 5 years based on your analysis.

## Insight #1 – E-stamps > Documents Registered



- As per the data, revenue generated from e-stamps and document registration has boosted the economic growth of the state.
- In FY2021 and 2022, e-stamp challans were more than document registrations.
- This means many people fail to complete the final registration even after paying the stamp duty online.
- **Recommendation** – Educate about the benefits, provide incentives for a given timeline and train the sub-registrar office staff.

## Insight #2 – Top Districts contributing in overall Revenue Growth

| District           | Stamp Registration Revenue |
|--------------------|----------------------------|
| Rangareddy         | 189.54bn                   |
| Medchal_Malkajgiri | 112.89bn                   |
| Hyderabad          | 67.05bn                    |
| Sangareddy         | 38.73bn                    |

| District           | YoY Sales Growth | Vehicles Sales |
|--------------------|------------------|----------------|
| Hyderabad          | ↑ 32.75%         | 11,43,479      |
| Medchal_Malkajgiri | ↑ 32.76%         | 9,92,377       |
| Rangareddy         | ↑ 36.26%         | 9,26,633       |
| Sangareddy         | ↑ 31.24%         | 2,75,327       |

| District           | Investment in Crores | No. of Employees |
|--------------------|----------------------|------------------|
| Rangareddy         | 42,706.33            | 3,87,758         |
| Sangareddy         | 12,366.76            | 74,292           |
| Medchal_Malkajgiri | 10,394.56            | 62,662           |

- Be it Stamp Registrations, Vehicle Sales, Investments or Employment; Rangareddy, Medchal Malkajgiri and Sangareddy are the top districts contributing significantly to the overall development of the state.
- One of the reasons for their development is the proximity to Hyderabad.
- **Recommendation** – Continue to develop the infrastructure of these districts, promote and invest more in Research & Development, continue to provide mentorship to startups and SMEs and keep improving public services.

### Insight #3 – Growth Potential in Developing Districts

| District           | Revenue Growth<br>▼ |
|--------------------|---------------------|
| Mulugu             | 39.41%              |
| Adilabad           | 30.62%              |
| Karimnagar         | 24.45%              |
| Mancherial         | 24.24%              |
| Medchal_Malkajgiri | 24.22%              |
| Wanaparthy         | 23.65%              |
| Mahabubabad        | 23.44%              |

- These districts have high YoY Document Registration growth % which showcases the scope of economic development and participation in the state's revenue.
- **Recommendation** – Develop infrastructure, encourage industrial investments, focus on skill development and education, identify the strong sectors in these districts and provide support for overall development.

## Insight #4 – Electric Vehicle Sales Growth

### Electric Vehicles Sold

62,532✓

Last Year: 31,004 (+101.69%)

### Diesel Vehicles Sold

196.10K!

Last Year: 199.35K (-1.63%)

### Petrol Vehicles Sold

1.12M!

Last Year: 1.30M (-13.98%)

### Other Fuel Vehicles Sold

36,200✓

Last Year: 19,232 (+88.23%)

- In FY2022, among various fuel type vehicles, EVs have shown a significant growth of over 100% in its sales compared to FY2021.
- One of the reasons for this growth is due to Telangana's Electric Vehicles and Energy Storage Policy.
- This has helped to promote development of EVs as well as creating awareness among consumers about its benefits and environmental impact.
- However, the sales of petrol and diesel vehicles are still more in number compared to electric and other fuel types, hence we need to promote EVs.
- **Recommendation** – Invest in R&D for improved EV technologies such as batteries and motors, Expand availability of EVs to wider range of consumer market, Keep improving charging infrastructure, and collaborate with businesses for marketing of EVs.

## Insight #5 – Booming Sectors

| Sector   | Investment in Crores | No. of Employees |
|--|----------------------|------------------|
| Real Estate,Industrial Parks and IT Buildings                                | 29,778.17            | 3,52,558         |
| Pharmaceuticals and Chemicals  | 15,858.06            | 73,841           |
| Engineering  | 5,024.61             | 43,093           |
| Food Processing  | 4,115.91             | 40,548           |
| Plastic and Rubber   | 9,649.78             | 23,301           |
| R&D  | 3,520.91             | 20,146           |
| Others   | 3,229.48             | 17,646           |
| Granite and Stone Crushing   | 1,922.38             | 16,748           |
| Automobile   | 1,575.21             | 15,574           |
| Cement, Cement & Concrete Products, Fly Ash Bricks                           | 2,238.63             | 13,438           |
| Agro based incl Cold Storages  | 2,100.47             | 12,730           |
| Textiles   | 1,844.27             | 10,182           |
| Electrical and Electronic Products   | 941.63               | 9,245            |
| Paper and Printing   | 2,946.24             | 8,675            |
| Beverages  | 2,809.80             | 7,468            |
| Solar and Other Renewable Energy   | 5,639.70             | 3,926            |
| Wood and Leather   | 152.40               | 3,594            |
| Fertilizers Organic and Inorganic,Pesticides,Insecticides, and Other Related | 5,418.40             | 2,325            |
| Industrial Parks and IT Buildings  | 280.41               | 34               |
| Thermal Power Plant  | 87.00                | 9                |

- After the top sectors like Real Estate, Industrial and IT parks, Pharma and Chemicals, Plastic and Rubber, etc. there are certain sectors booming in investments as well as employment viz. Engineering, Food Processing, R&D and few are a bit slow in employment viz. Solar and other renewable energy, Organic Fertilizers, Pesticides, etc.
- Investments in these sectors can be improved and required measures can be taken to improve employment in these sectors which will help to promote overall growth.
- Recommendation** – Invest in education and training programs to develop the skills needed, collaborate with businesses to develop apprenticeship programs and other on-the-job training opportunities, promote R&D centers with educational institutions or companies.

# THANK YOU!



**Mr. Jayesh Ranjan**  
Secretary, IT,  
Government of  
Telangana



**Mr. KTR**  
Minister for IT, Industries  
and Municipal  
Administration



**Mr. Dileep  
Konatham**  
Director at Government  
of Telangana



**Mr. Venu Panjarla**  
Open Data Consultant,  
Telangana



**Mr. Dhaval Patel**  
Founder, Codebasics



**Mr. Hemanand Vadivel**  
Co-founder, Codebasics