सत्यमेव जयते

उद्योग संवर्धन और आंतरिक व्य
DEPARTMENT FOR
PROMOTION OF INDUSTRY AND INTERNAL TRADE

INDUSTRIAL PARK RATING SYSTEM (IPRS) 2.0

Enhancing competitiveness and promoting sustainability

पीयूष गोयल
PIYUSH GOYAL

सत्यमेव जयते

वाणिज्य एवं उद्योग,
उपभोक्ता मामले, खाद्य और सार्वजनिक
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FOREWORD

India is firmly positioned on a rapid and sustainable growth trajectory due to numerous reforms undertaken by the Government of India under the leadership of Hon'ble Prime Minister Narendra Modi ji. The Government has introduced key programmes, such as 'Make in India' and the multi-pronged *'Aatmanirbhar Bharat Abhiyan'* to give a fillip to every sector and transform India into a self-reliant economy. The programme's objective is to establish India as the preferred investment destination globally and developing a high-quality industrial infrastructure to attract a sustained flow of investment.

A major step in this direction is the introduction of the Industrial Park Rating System (IPRS) to enhance industrial competitiveness. The pilot of IPRS was launched in 2018. The current exercise, IPRS 2.0, builds on the findings from the pilot and identifies measures to further enhance industrial competitiveness and attract investment.

I hope that this exercise will give investors insights into the status and quality of industrial infrastructure across India. These insights will not only empower investors to make conscious decisions regarding investment, but also provide policymakers guidance to focus on strengthening the existing ecosystem.

I would like to express my gratitude towards State Governments and Union Territories, for actively participating in IPRS 2.0 and facilitating inputs from industrial parks and Special Economic Zones. I would also like to thank all the teams involved for their support. I commend Asian Development Bank for lending its support for the IPRS study. I wish the initiative all the success in the years ahead.

Piyush Goyal

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Foreword

Shri Som Parkash
Minister of State for Commerce and Industry,
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आज़ादी का अमृत महोत्सव

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सत्यमेव जयते

राज्य मंत्री
वाणिज्य एवं उद्योग मंत्रालय
भारत सरकार
Minister of State
Commerce & Industry
Government of India

MESSAGE

India is one of the largest economies in the world and has emerged as a preferred destination for many industries globally, on the back of various government-initiated reforms. The country has recorded significant improvement in its ranking (from 142nd in 2015 to 63rd in 2020) in Ease of Doing Business Index and secured a robust increase (~65%) in FDI inflow over the same period.

One of the key pre-requisites for attracting investment is to ensure ease of access for industrial land and infrastructure. To this end, the government set up a national-level, GIS-enabled India Industrial Land Bank (erstwhile Industrial Information System). The land bank acts as a one-stop source of information on industrial infrastructure. Significant scaling up in coverage of industrial parks on this land bank has played a key role in facilitating the IPRS. The IPRS pilot exercise was launched in 2018, with an objective of enhancing industrial infrastructure competitiveness and supporting policy development for enabling industrialisation across the country.

Based on the learnings from the pilot stage, the government started 'IPRS 2.0' in 2020. IPRS 2.0 is a key enabler for identifying additional measures to enhance India's industrial competitiveness. Its objectives are to promote investment and recognise best practices in industrial infrastructure across India and enable states to structure interventions to address gaps and assist in policy formulation for effective industrialisation strategies. The exercise will help augment industrial infrastructure across the country and strengthen India's position as the foremost global investment destination.

I extend my best wishes for this noteworthy endeavour.

MAKE IN INDIA

Digital India
Power To Empower

(SOM PARKASH)
#startupindia

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अनुप्रिया पटेल
ANUPRIYA PATEL

वाणिज्य एवं उद्योग राज्य मंत्री
भारत सरकार
Minister of State for Commerce & Industry
Government of India

FOREWORD

India has embarked on a transformational journey to emerge as a preferred investment destination for manufacturing while ensuring requisite investment climate to receive investments. Government has launched various ambitious schemes and programmes that are geared towards improving India's manufacturing competitiveness and enhancing ease of doing business in India.

DPIIT has been in the forefront to bring about transformative changes in India's industrial landscape. Since 2014 the Department has introduced a host of policy initiatives to promote investment and support various sectors. To ensure investment readiness, the DPIIT aspires to provide investors with best-in-class industrial infrastructure to enhance industrial competitiveness in the global arena. Development of India Industrial Land Bank (IILB) and launch of IPRS 2.0 are among the major steps taken in this direction. It aims to provide 'decision support system' for various stakeholders, including potential investors and governments, to provide a holistic picture of land availability and concentration across sectors or regions.

DPIIT is also in the forefront of supporting the states to implement the reform agenda of the Government of India. This report has provided key insights into factors which drive industrial competitiveness in the states. This will help guide the investors in making investment decisions and the policy makers both at the centre and the states to take up effective spatial planning for development of improved industrial infrastructure in the future.

(ANUPRIYA PATEL)

New Delhi
28th September 2021

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Foreword

Shri Anurag Jain
Secretary, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry, Government of India

The Department for Promotion of Industry and Internal Trade (DPIIT) plays a key role in promoting industrial development by facilitating investment in new and upcoming technology and foreign direct investment, and supporting balanced development of industries.

The IPRS 2.0 initiative strengthens the DPIIT's commitment to foster organised industrialisation and investment facilitation. The second edition of this ranking mechanism aims at recognising best practices adopted by States/Union Territories, identifying infrastructure gaps to be addressed through future interventions, and promoting industrial competitiveness.

The IPRS mechanism revolves around four key pillars – (i) external infrastructure, (ii) internal infrastructure, (iii) business support services, and (iv) environment and safety. Spread across 45 parameters, scoring was done on the basis of feedback obtained from both developers and tenants of industrial parks. A steering committee comprising government stakeholders, chambers of commerce and industry, international organizations and subject experts anchored this evaluation process.

This report outlines the overall structure, framework, evaluation process, and key findings of IPRS 2.0, along with the best practices and parameter-specific performance assessment of industrial parks.

During the IPRS 2.0 study, we witnessed that each State and UT effectively engaged with the DPIIT team to participate in this initiative. IPRS 2.0 recorded response from 449 industrial parks spread over the entire country. This highlights the framework's acceptance and key stakeholders' effort at the Central and State levels in enhancing the industrial competitiveness in the country.

We in DPIIT strongly believe that IPRS 2.0 will go a long way in encouraging stakeholders to improve the industrial infrastructure in the country, thereby accelerating industrial growth.

Special thanks

Late Dr. Guruprasad Mohapatra
Former Secretary, DPIIT

DPIIT acknowledges the contribution and guidance of its former secretary – Late Dr Guruprasad Mohapatra – in the IPRS 2.0 initiative. His constant support and mentoring helped DPIIT and the programme team to take forward IPRS 2.0. His keen interest in the initiative and motivation helped in building a diverse team that took forward the initiative. With a vision to make it an annual programme and develop it as a tool to enhance India's attractiveness in terms of ease of doing business and competitiveness in terms of cost of doing business, IPRS 2.0 has gained traction across the country. The DPIIT team is deeply grateful for his contribution to this programme.

Smt. Shruti Singh
Joint Secretary, DPIIT

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List of abbreviations

- **ADB:** Asian Development Bank
- **AGNIi:** Accelerating Growth of New India's Innovations
- **AKIC:** Amritsar-Kolkata Industrial Corridor
- **APIIC:** Andhra Pradesh Industrial Infrastructure Corporation
- **ASSOCHAM:** Associated Chambers of Commerce and Industry of India
- **BISAG-N:** Bhaskaracharya National Institute for Space Applications and Geo-informatics
- **BOA:** Board of approval
- **BOT:** Build-operate-transfer
- **BRAP:** Business Reform Action Plan
- **CBIC:** Chennai Bengaluru Industrial Corridor
- **CCTV:** Closed-Circuit Television
- **CDP:** Cluster Development Programme
- **CEO:** Chief Executive Officer
- **CETP:** Common Effluent Treatment Plants
- **CEU:** Coastal Employment Unit
- **CEZ:** Coastal Economic Zones
- **CFC:** Common Facilitation Centre
- **CHC:** Community Health Centre
- **CII:** Confederation of Indian Industry
- **CIPET:** Central Institute of Petrochemicals Engineering & Technology
- **CONCOR:** Container Corporation of India Limited
- **CRM:** Customer Relationship Management
- **CWCNSL:** Continental Warehousing Corporation (Nhava Seva) Limited
- **DC:** Development Commissioner
- **DCS:** Distributed Control System
- **DFI:** Development Financing Institution
- **DMIC:** Delhi–Mumbai Industrial Corridor
- **DPIIT:** Department for Promotion of Industrial and Internal Trade
- **DSIIDC:** Delhi State Industrial and Infrastructure Development Corporation
- **DTA:** Domestic Tariff Area
- **ECEC:** East Coast Economic Corridor
- **EIP:** Eco-Industrial Park
- **EMC:** Electronics Manufacturing Clusters
- **EoDB:** Ease of Doing Business
- **ESG funds:** Environmental, Social, and Governance funds
- **ESI:** Employee State Insurance
- **FDI:** Foreign Direct Investment
- **FIEO:** Federation of Indian Export Organisations
- **FISME:** Federation of Indian Micro and Small and Medium Enterprises
- **FTZ:** Free trade zone
- **GDP:** Gross Domestic Product
- **GIFTCL:** Gujarat International Finance Tec-City Company Ltd
- **GIS:** Geographic Information System
- **GIZ:** Deutsche Gesellschaft für Internationale Zusammenarbeit
- **GOs:** Government Orders
- **GUDC:** Gujarat Urban Development Company
- **Ha:** Hectare
- **IALA:** Industrial Area Local Authority

List of abbreviations

- **IAS:** Indian Administrative Services
- **ICRIER:** Indian Council for Research on International Economic Relations
- **ICT:** Information and Communication Technology
- **IDFs:** Infrastructure Debt Funds
- **IDS:** Industrial development scheme
- **IEG:** Institute of Economic Growth
- **IGIP:** International Guidelines for Industrial Park
- **IIG:** India Investment Grid
- **IILB:** India Industrial Land Bank
- **IIS:** Industrial Information System
- **IL&FS:** Infrastructure Leasing & Finance Services
- **IMC:** Integrated Manufacturing Cluster
- **InvITs:** Infrastructure Investment Trusts
- **IP:** Industrial Park
- **IPDS:** Integrated Power Development Scheme
- **IPRS:** Industrial Park Rating System
- **ISID:** Institute for Studies in Industrial Development
- **ISO:** International Organisation for Standardisation
- **IT & ITeS:** Information Technology & Information Technology & Enabled Services
- **ITI:** Industrial Training Institutes
- **JV:** Joint Venture
- **KFW:** Kreditanstalt Fuer Wiederaufbau
- **KICOX:** Korea Industrial Complex Corporation
- **MeitY:** Ministry of Electronics & Information Technology
- **MIDC:** Maharashtra Industrial Development Corporation
- **MIRA:** Macquarie Infrastructure and Real Assets
- **MITRA:** Mega Investment Textiles Parks
- **MLD:** Millions of litres per day
- **MSME:** Micro, Small, and Medium Enterprises
- **NABARD:** National Bank of Agriculture and Rural Development
- **NaBFID:** National Bank for Financing Infrastructure and Development
- **NCAER:** National Council of Applied Economic Research
- **NeGD:** National e-Governance Division
- **NEIDS:** North East Industrial Development Scheme
- **NER:** North-Eastern Region
- **NICDC:** National Industrial Corridor Development Corporation
- **NIIF:** National Infrastructure Investment Fund
- **NIMZs:** National Investment and Manufacturing Zones
- **NIPER:** National Institute of Pharmaceutical Education and Research
- **NSBP:** Nhava Sheva Business Park
- **O&M:** Operations and Maintenance
- **OFC:** Optical Fiber Cable
- **OTP:** One Time Password
- **PCPIR:** Petroleum Chemicals and Petro-chemicals Investment Region
- **PHC:** Primary Healthcare Centres
- **PLI:** Production Linked Incentives
- **PPP:** Public-Private Partnerships
- **PWD:** Public Works Department

List of abbreviations

- **R&D:** Research and Development
- **RBF:** Ready Built Factory
- **REITs:** Real Estate Investment Trusts
- **RIICO:** Rajasthan State Industrial Development and Investment Corporation
- **ROK:** Republic of Korea
- **SCADA:** Supervisory Control and Data Acquisition
- **SEBI:** Securities and Exchange Board of India
- **SEZ:** Special Economic Zones
- **SIPCOT:** State Industries Promotion Corporation of Tamil Nadu
- **SIR:** Special Investment Region
- **SIDC:** State Industrial Development Corporations
- **SIA:** Sustainable Industrial Areas
- **SME:** Small and Medium Enterprises
- **SPV:** Special Purpose Vehicle
- **STP:** Sewage Treatment Plants
- **SWIFT:** Single Window Interface for Facilitating Trade
- **TIDCO:** Tamil Nadu Industrial Development Corporation
- **TSIIC:** Telangana State Industrial Infrastructure Corporation
- **TWIC:** Tamil Nadu Water Investment Company Limited
- **UAC:** Unit Approval Committee
- **UAE:** United Arab Emirates
- **ULB:** Urban Local Body
- **UNIDO:** United Nations Industrial Development Organisation
- **UPSIDC:** Uttar Pradesh State Industrial Development Corporation
- **UTs:** Union Territories
- **VPT:** Visakhapatnam Port Trust
- **ZLD:** Zero Liquid Discharge

Executive summary

India is one of the largest economies in the world and has emerged as a preferred destination for many industries globally on the back of various government-initiated reforms. The Government of India has laid down aspirations to put the national economy on a high-growth trajectory to reach the US$ 5 trillion mark by 2025. To achieve this vision, the government launched several enabling programmes, such as “Make in India”, “Start-up India”, and “Digital India,” to promote accelerated growth across the manufacturing and service sectors.

The Department for Promotion of Industry and Internal Trade (DPIIT) has played a key role in promoting industrial development by facilitating investment in new and upcoming technologies and foreign direct investment. The DPIIT also supports balanced development of industries. One of the key pre-requisites for attracting investment is to ensure ease of access for industrial land and infrastructure.

Industrial Park Rating System (IPRS) 2.0 builds on the learnings from the pilot phase initiated in 2018 and evolved international guidelines for industrial parks. IPRS 2.0 is a key enabler for identifying additional measures to enhance India’s industrial competitiveness. Its objectives are to promote investment and recognise best practices in industrial infrastructure across India and enable states to structure interventions to address gaps and assist in policy formulation for effective industrialisation strategies. India Industrial Land Bank (erstwhile Industrial Information System), a national-level, GIS-enabled industrial land bank, was established to support IPRS. IILB acts as a one-stop and most updated source of information related to industrial infrastructure. It ensures availability of 104 plot-level data points. IILB is being continuously upgraded to provide new features in a user-friendly manner, including availability as a mobile application.

The IPRS 2.0 report consists of three thematic areas. The part one (chapter 1) details the importance of industrial infrastructure to overall economic development. It discusses the reasons for an increasing focus on industrial competitiveness through the IPRS framework, and its importance and need. It also elaborates the IPRS 2.0 framework based on four key pillars – external infrastructure, internal infrastructure, business support services, and environment and safety. This section details the consultative process adopted with participation of states/union territories/central government departments, think tanks, and industry associations in finalising the IPRS 2.0 evaluation framework. The section details 45 parameters developed for the assessment of industrial parks and 40 parameters separately for special economic zones under the four pillars for IPRS 2.0, highlighting the evolving requirements of investors and a greater focus on sustainable development.

The second part (chapters 2-3) lays out the methodology employed to implement the IPRS 2.0 framework, followed by key findings at the state level and a further analysis of each pillar. It details how the evaluation process was anchored by a high-level, steering committee comprising government stakeholders, chambers of commerce and industry, international organisations, and subject experts to ensure objectivity and transparency. Apart from this, the focus on participatory approach in evaluation as part of the IPRS 2.0 framework has been elaborated and scoring was done on the basis of feedback obtained from both developers and tenants of industrial parks. IPRS 2.0 recorded responses from 449 industrial parks (spread over 1.3 lakh hectares) for the purpose of rating and 1,614 industrial parks (spread over 1.34 lakh hectares) for the purpose of self-assessment. This highlights the framework’s acceptance and key stakeholders’ effort at the central and state levels in enhancing the industrial competitiveness in the country. About 55 percent of the parks and zones nominated for rating were from either the Western or Southern regions, with 73 percent of the nominated parks were for mixed

end-use. For the nominations received for self-assessment, a similar trend was observed with Western and Southern regions contributing a majority 72% of nominations and 78% of the nominated mixed end-use parks.

The last section (chapter 4) provides learnings and recommendations at the national and state levels for policymakers. The results of the rating show that India's efforts in improving ease of doing business and cost of doing business have yielded high dividends. Only a handful of parks are rated low on factors such as the last mile connectivity (road quality), paved roads for internal circulation, availability of industrial use water, and availability of storm water drainage infrastructure. Parameters relating to pillars of environment and safety, and business support services need further strengthening on enablers that contribute to sustainable manufacturing. Funding and financing these enablers will be critical to ensure that parks are able to achieve the desired uprating in competitiveness.

The findings from the report are expected to provide i) policy directions for the central and state governments in terms of interventions to strengthen existing ecosystem and spatial planning for new industrial infrastructure to meet investors' demand, and ii) investors with visibility on quality of industrial infrastructure across the country to aid the prioritisation of potential locations for investment grounding.

Further, deliberations during IPRS 2.0 have highlighted scope for further improvement in terms of inclusion of aspects associated with external factors of industrial ecosystem, such as logistics and transport infrastructure, urban development aspects (that affect industrialisation), and demand-side assessment (that evaluates industrial performance of a park/zone). The development of a framework for IPRS 3.0 has been initiated and will lay a greater emphasis on aspects of productivity, sustainability, resilience, ease of doing business, and cost of doing business.

Industrial infrastructure: A key enabler for economic development

1.1. Enabling recovery post COVID-19

The Government of India has laid down aspirations to put the national economy on a high-growth trajectory to **reach the USD 5 trillion mark by 2024-25.**[1] To achieve this vision, the government conceived a number of enabling programmes, **such as "Make in India", "Start-up India", and "Digital India,"** to promote accelerated growth across the manufacturing and service sectors. These sectors are deemed as the key drivers of future economic growth. The following figure highlights key interventions in the form of policy, programmes, and schemes; process reforms with a focus on enhanced digitisation; institutional mechanisms; and information dissemination-related interventions introduced by the government to spur economic development.

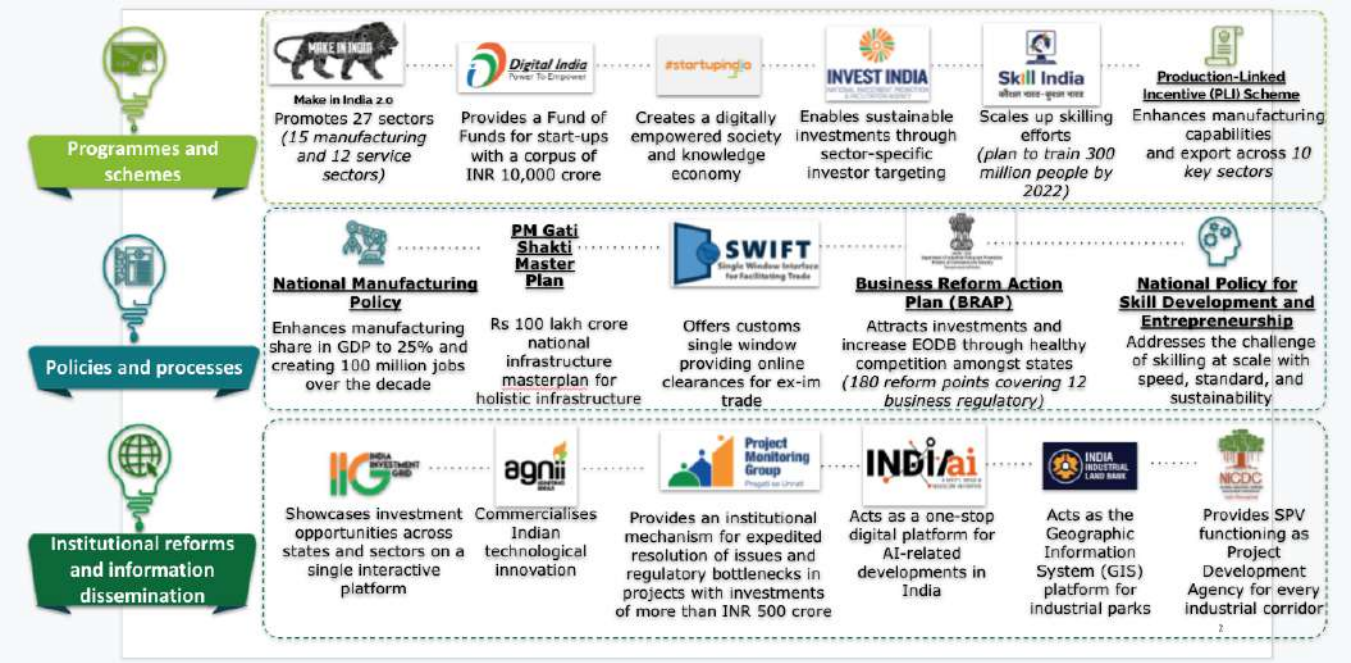


Figure 1: Snapshot of key government initiatives to promote growth of the manufacturing and service sectors[2]

In the aftermath of the pandemic, the government introduced the **"Aatma Nirbhar Bharat Abhiyan" to bring India back on an accelerated growth trajectory.** The programme envisaged policy reforms across sectors to transform India into a global hub of manufacturing and services, and meet demand from various sections of the economy (such as industries, MSMEs, cottage industries, labourers, and middle class). One of the thrust areas of the "Aatma Nirbhar Bharat Abhiyan" is to make local products more competitive through integration with global value chains. The scheme is designed around five key pillars (depicted in the following figure) with a special economic and comprehensive package of INR 20 lakh crore.

1. Ministry of Finance Press Release: https://pib.gov.in/PressReleseDetail.aspx?PRID=1577055; Re-Affirmed by Department of Economic Affairs and the Chief Economic Adviser in Feb 2021
2. Source: Various Government of India websites

The programme was announced in five parts, focused on measures addressing: businesses (including MSMEs), poor (including migrants and farmers), agriculture, new horizons of growth, and government reforms and enablers.

Key focus areas that need to be addressed as part of **"new horizons of growth"** include policy reforms aimed at fast-tracking investment, and industrial infrastructure upgrading to help India emerge as a preferred investment destination and achieve envisaged economic growth. The government has taken cognizance of the critical role played by the presence of **ready and well-connected industrial infrastructure, to attract a sustained inflow of investment.** It is committed to developing sufficient industrial infrastructure by:

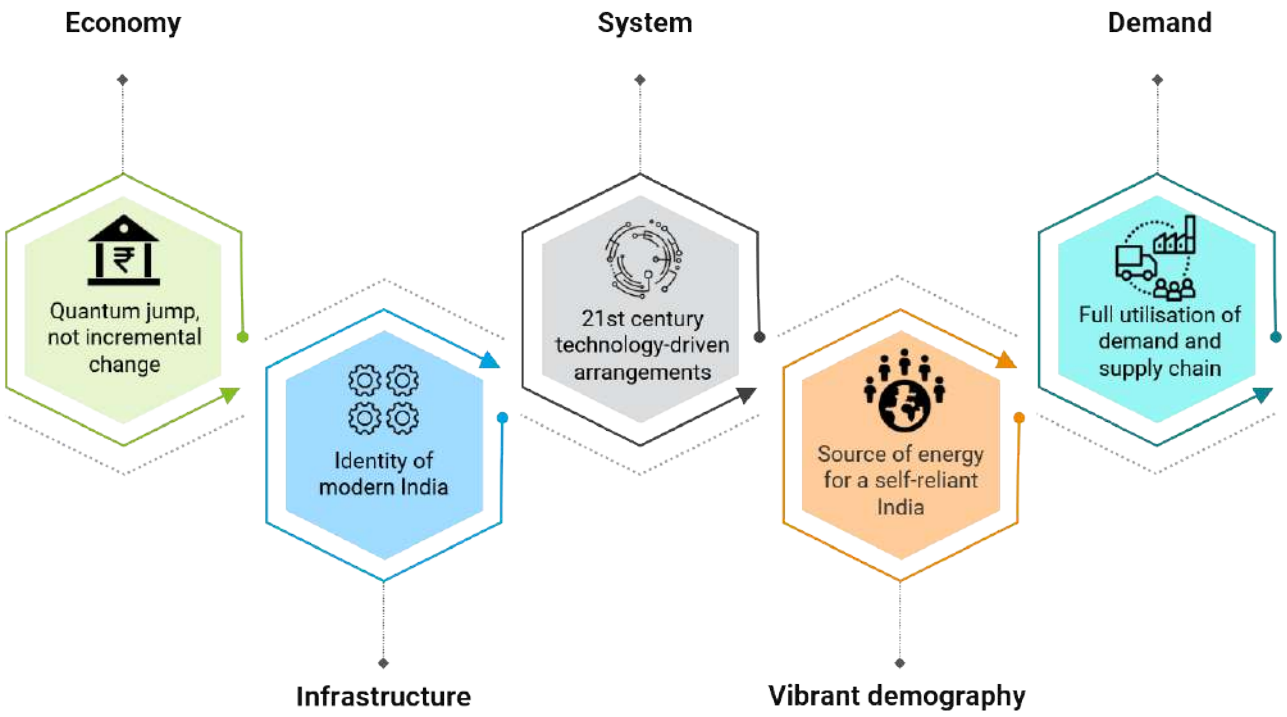


Figure 2: Five pillars of "Aatma Nirbhar Bharat Abhiyan"

- Implementing a scheme across states through a challenge mode for industrial cluster upgrading of common infrastructure facilities and connectivity
- Showcasing availability of industrial land/land bank to promote new investments through GIS-enabled Industrial Information System and **rating of industrial parks (in 2020-21)**

In this regard, the DPIIT has initiated IPRS 2.0 in 2021 to build on the success of pilot IPRS launched in 2018. The findings from IPRS 2.0 are expected to provide i) **policy directions for the central and state governments** in terms of interventions to strengthen existing ecosystem and **spatial planning for new industrial infrastructure to meet investors' demand,** and ii) **investors with visibility on quality of industrial infrastructure** across the country to **aid the prioritisation of potential locations for investment grounding.**

The following section details the highlights of IPRS 2.0 and the enabling role played by IILB (erstwhile Industrial Information System conceptualised in 2017). IILB has a GIS-enabled database of industrial areas spread across the country.

1.2. Introducing IPRS 2.0

IPRS pilot was launched in 2018 with an objective to identify leading benchmarks in India, enhance industrial infrastructure competitiveness, and support policy development for enabling industrialisation across the country. Based on the findings of the pilot and review of the global approaches, frameworks, and guidelines (adopted to develop inclusive and sustainable industrial parks), the DPIIT introduced 'IPRS 2.0' as a key enabler for identifying additional measures to enhance industrial competitiveness. IPRS 2.0 has the following broad objectives:

- **Recognise best practices** to help improve industrial infrastructure and promote competitiveness.
- **Benchmark and identify gaps** to structure interventions. This will allow states to use existing industrial infrastructure assets and services more optimally and plan for new infrastructure.
- **Enable states** to demonstrate their strengths and **promote investment in the state industrial ecosystem.**
- **Enable policymakers** to plan a **strategy for future industrialisation and better capacity utilisation** based on insights from the rating exercise.

1.2.1. Robust institutional mechanism adopted to guide IPRS 2.0

The institutional mechanism for IPRS 2.0 included guidance at the apex level from a steering committee and participation from states/UTs at the field level. The DPIIT constituted a steering committee to guide the IPRS 2.0 initiative (refer Annexure 1 for composition of the steering committee). The committee consisted of 22 members, including senior officials of government departments and agencies, members of reputed think tanks, research institutes, industry associations, and retired senior government officials with experience in the relevant sector.[3] The committee guided the team in the following ways:

- **Provided feedback on the IPRS 2.0 programme/framework** to ensure timely completion and achievement of intended outcomes.
- **Participated in key discussion meetings** to provide expert advice and guidance to the programme team.
- **Provided suggestions on IPRS findings** on assessment of parks and provided sector- and industry-specific insights.
- Conducted a **detailed review of the findings of the IPRS 2.0** study and guided to develop the report.

To ensure field-level support, multiple consultative workshops were conducted with states/UTs to secure feedback on the proposed IPRS 2.0 framework and its implementation methodology. These consultations also ensured hand-holding for addressing queries of states/UTs with respect to the process of submitting nominations and subsequent verification.

1.2.2. IPRS 2.0 framework development

Globally known frameworks were referred for developing the initial concept of IPRS 2.0 viz. the **International Guidelines for Industrial Park (IGIP) developed by UNIDO, and the Eco-Industrial Park (EIP) framework developed by UNIDO, World Bank, and GIZ.**[4] Both the IGIP and EIP frameworks comprehensively cover various pillars and parameters of industrial infrastructure development that include economic, environmental, and social performance; management quality; and infrastructure and service quality. These frameworks align with the objective of IPRS, given that some key objectives of these frameworks included increasing park management and governance performance; enhancing the environmental performance and industrial park competitiveness; supporting industrial park decision-making; improving industrial park efficiency; and promoting industrial park sustainability.

3. List of Steering Committee members has been added as Annexure 1

4. Refer reports which can be accessed at: https://www.unido.org/sites/default/files/files/2020-05/International_Guidelines_for_Industrial_Parks_EN.pdf, https://openknowledge.worldbank.org/bitstream/handle/10986/29110/122179-WP-PUBLIC-AnInternationalFrameworkforEcoIndustrialParks.pdf?sequence=1&isAllowed=y, and http://seip.urban-industrial.in/live/hrdpmp/hrdpmaster/igep/content/e62771/e64465/e64820/e64821/GIZ_SustainableIndustrialAreasGuidelines.pdf

Based on a detailed review of the above-mentioned globally recognised frameworks, experience of major programmes undertaken by DPIIT, and learnings from the pilot phase, the IPRS 2.0 framework was developed across four key pillars (with different weightage) to assess industrial infrastructure:

1. **Internal infrastructure (42 percent weightage),** further divided into sub-pillars, such as utilities (11 percent), common infrastructure (22 percent), and value-added infrastructure (9 percent)
2. **External infrastructure and connectivity (4 percent weightage)**
3. **Business support services (20 percent weightage)**
4. **Environmental and safety management (34 percent weightage)**

Based on the distribution of parameters across pillars, each pillar assumes weightage equivalent to the number of parameters within. As the park developer may not directly control external infrastructure and connectivity, it is assigned a lower weightage. Compared with the 34-parameters assessment framework used for the pilot phase, 45 parameters were developed for the assessment of industrial parks and 40 parameters separately for SEZs under the four pillars for IPRS 2.0 (refer Annexure 2 for the IPRS 2.0 questionnaire, highlighting these parameters). The following figure summarises pillars and parameters[5] comprising the IPRS 2.0 framework.

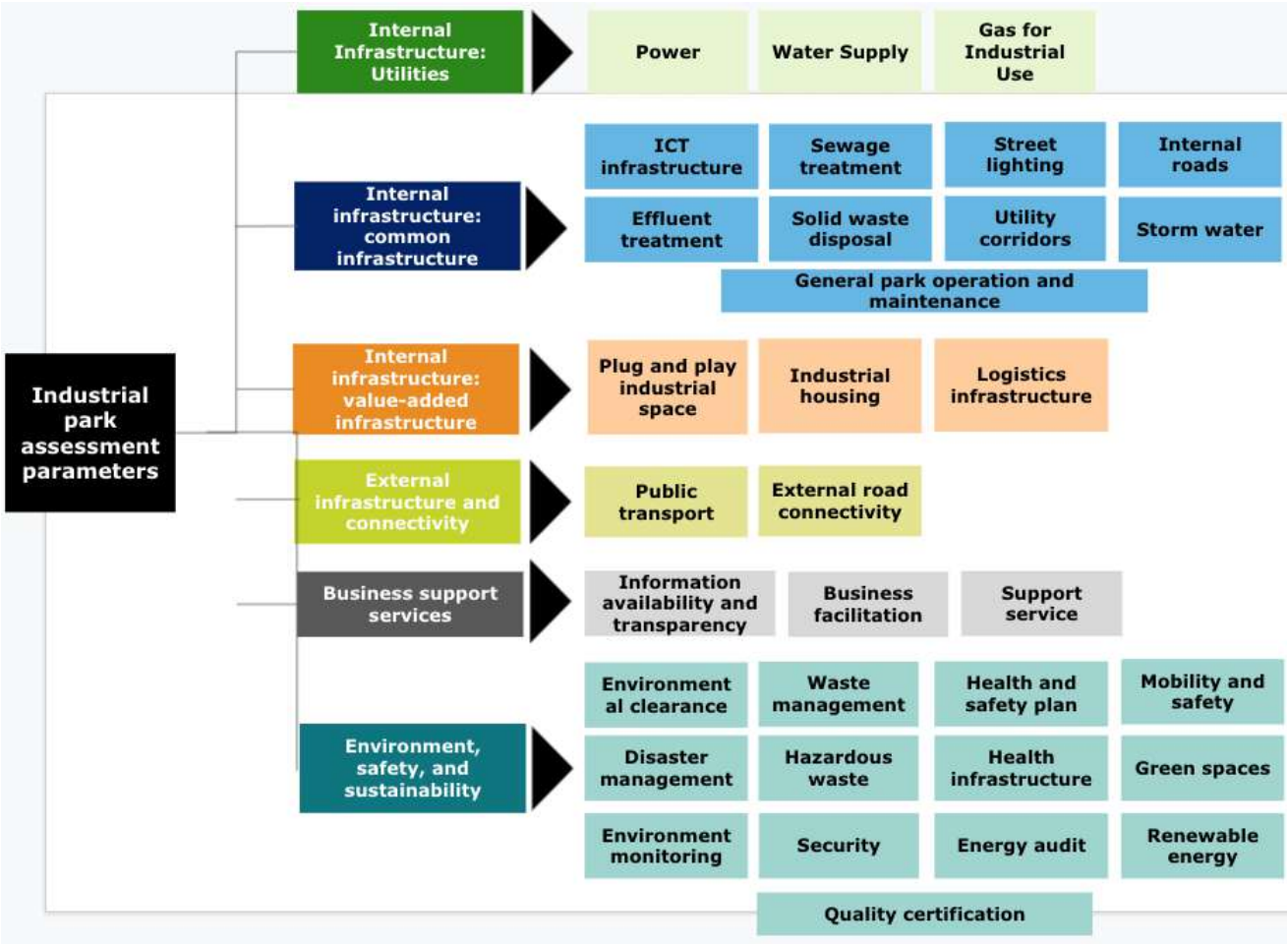


Figure 3: IPRS 2.0 framework (pillars and parameters)

5. Some of these parameters feature multiple categories

A virtual consultation workshop on IPRS 2.0 was organised in **September 2020 chaired by Secretary, DPIIT.** In the workshop**, DPIIT, Asian Development Bank (ADB), states/UTs/central departments, and industry associations** participated and deliberated on the proposed framework for IPRS 2.0. The objectives of IPRS 2.0 were outlined and discussed in the workshop and states and UTs gave their feedback and suggestion, which resulted in the finalisation of the IPRS 2.0 framework (as detailed above).

IPRS 2.0 also takes into consideration lessons from other frameworks implemented by the DPIIT viz. i) Business Reform Action Plan (BRAP) aimed at easing the regulatory compliance for businesses across their life-cycle and ii) state start-up ranking targeted at building a robust start-up ecosystem in the country. Some key learnings from these frameworks and their implementation processes are as follows:

- The BRAP framework provides understanding that an implementable framework undergoes an evolutionary process to achieve the desired degree of maturity. This implies aspects such as assessment parameters, assessment coverage, and the number of participating stakeholders gradually expand, to create an implementable framework.
- Feedback-based assessment requires extensive outreach across stakeholders and therefore, needs to consider the on-ground situation. In line with this, a feedback mechanism has been introduced to assess the on-ground impact from a user perspective, i.e., through survey administration amongst tenants in industrial parks.
- While government stakeholders conceptualise and execute the programme and framework, seeking suggestions and recommendations from various stakeholders, including the private sector, from the initial stage, is quite important to create a participatory environment. This enables the delivery of a successful programme.

One of the critical elements for enabling such frameworks is establishing a system to capture industrial park-related information and data. In this regard, the IILB plays a critical role as a GIS-enabled platform providing details on connectivity, raw material availability, terrain, and real-time updated plot details.

1.3 India Industrial Land Bank (IILB) developed as a single source of reliable and accurate information for decision-making

The Government of India has developed a national-level, GIS-enabled industrial land bank called India **Industrial Land Bank[6] (IILB - erstwhile Industrial Information System)**. The land bank repository will act as a one-stop source for industrial infrastructure related information. Over **4,420 parks and zones have been mapped covering about 5.6 lakh hectare (Ha) area,**[7] on a GIS-enabled platform with details regarding utilities, connectivity, raw material availability, terrain, and real-time updated plot details.

1.3.1. Developing India Industrial Land Bank: The journey so far

The process to develop the GIS-based web portal to capture information on the industrial infrastructure in India was initiated in 2017. The portal has been designed and developed by the DPIIT, in coordination with National e-Governance Division (NeGD), Ministry of Electronics & Information Technology (MeitY), and Bhaskaracharya National Institute for Space Applications and Geo-informatics (BISAG-N).

6. https://iis.ncog.gov.in/parks
7. As of 15th August 2021

1.3.2. Stakeholder support important for development of IILB

The extensive data collection exercise undertaken with participation by states, UTs, central departments, and ministries has contributed to the successful development of this GIS-enabled platform (IILB). The DPIIT, with support from Invest India, has been actively engaged with states/UTs and other central ministries/departments to impress upon the need to develop this platform. The department has also laid emphasis on the key role that states/UTs will play to showcase available industrial land and utilities on this platform. The DPIIT organised workshops and hands-on training sessions in states to disseminate information on the nature of datasets to be captured, and address issues pertaining to data entry. Participating ministries/departments at central/state governments, UTs, and private-sector park developers entered and periodically updated information on the IILB. State Industrial Development Corporations (SIDCs)/industrial departments/industries commissioners are the relevant nodal entities that update information on IILB.

1.3.3. Key features of IILB

The IILB portal[8] has undergone significant upgrades since its launch. It is constantly evolving to provide information to stakeholders through a user-friendly interface. The current data bank **provides investors the most accurate, comprehensive, real-time updates** on the following: raw material availability (agricultural and horticultural crops, minerals); sectoral parks (such as chemicals and automobiles) and types of parks (plug and play, private, and public); land available for allotment by state and sector; and view on key utilities and infrastructure (such as park, plot, urban infrastructure, terrain, connectivity via road, rail, air and port network, and sectoral clusters).

IILB collects data across **104 plot-level data points** and provides multiple features where users can compare and evaluate data for different purposes. It provides an **option of customising search based on type of land, sector, size, connectivity, etc.** The following figure depicts the search query builder developed for the portal. Users can directly explore parks under the “Explore parks” section without registration/login. They are provided a “Demo” option highlighting how the GIS map works.

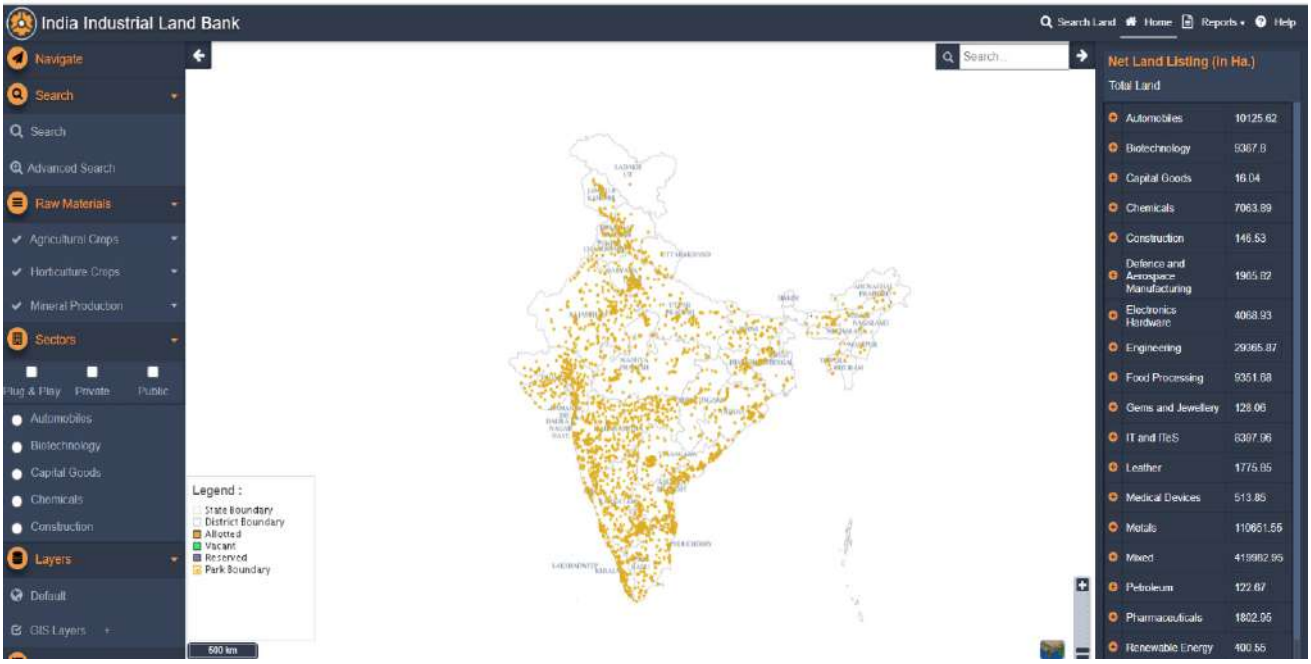


Figure 4: IILB portal GIS map and search query builder
Source: IILB portal (https://iis.ncog.gov.in/parks/login1)

8. Industrial Information System (IIS) was conceptualised in 2017, which was renamed as IILB in 2021 and can be accessed at https://iis.ncog.gov.in/parks/login1

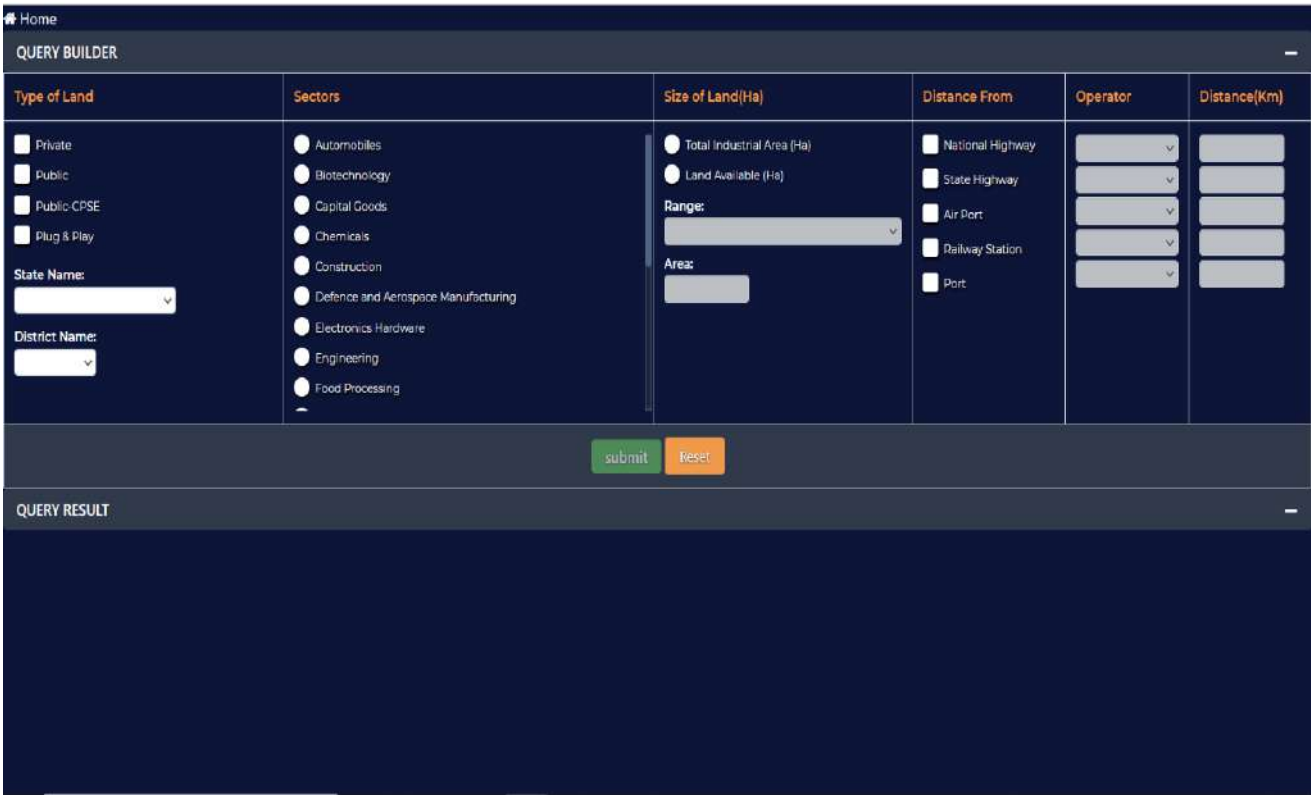


Figure 4: IILB portal GIS map and search query builder
Source: IILB portal (https://iis.ncog.gov.in/parks/login1)

1.3.4. Complete visibility on industrial land availability through a user-friendly portal

One of the key objectives of IILB is to work as a 'decision support system' for various stakeholders, including potential investors and governments, to provide a holistic picture of land availability and concentration across sectors or regions. The land bank repository also aims to support effective spatial planning and development of industrial infrastructure in the future.

The following figure shows the geographic distribution of pan-India industrial land parcels (mapped by IILB), along with an overlay of the key economic/industrial corridors being developed across the country. As observed below, industrial land development is not evenly distributed across the country. For instance, the Northeastern and other hilly regions and parts of central India have witnessed a lower level of industrial infrastructure development.

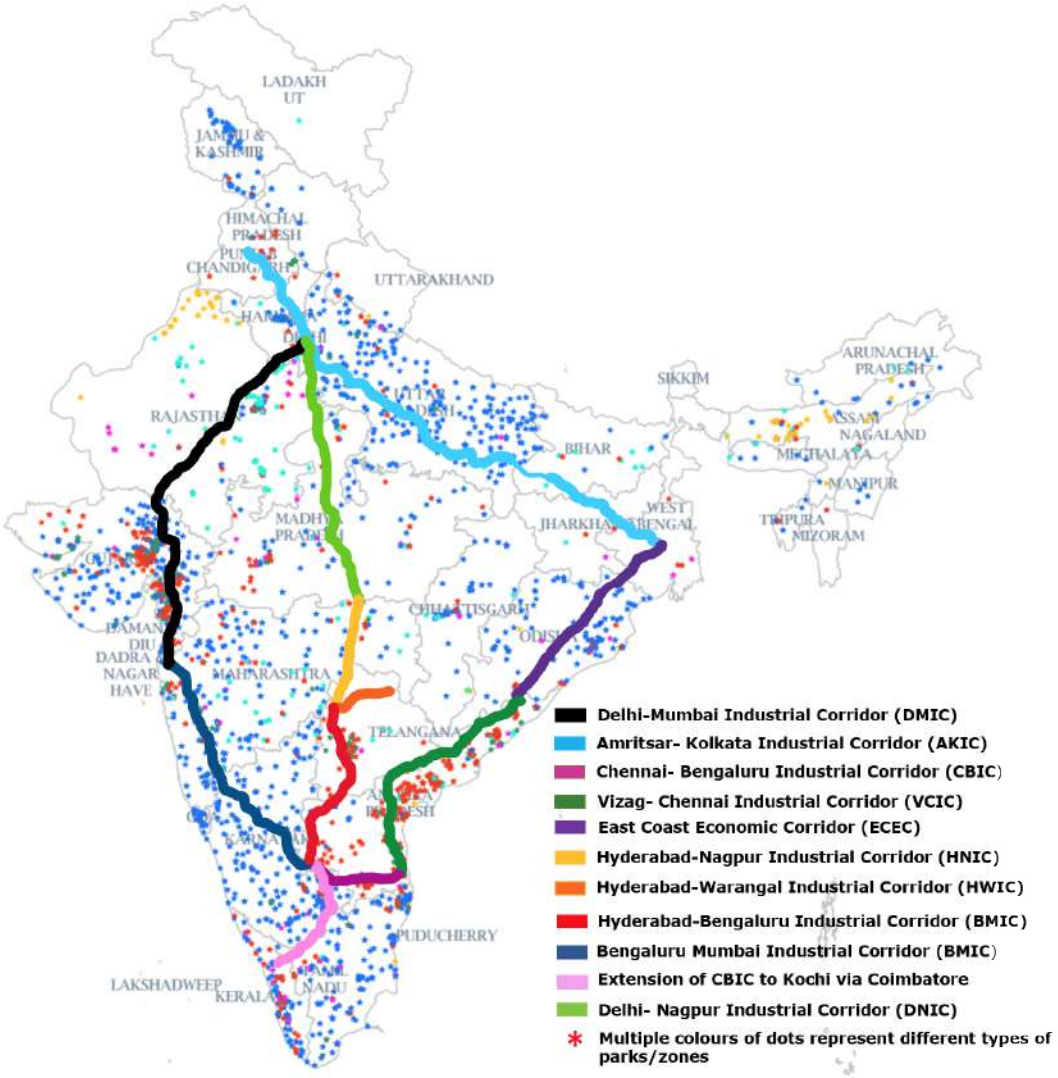


Figure 5: Pan-India industrial footprint
Source: Department for Promotion of Industry and Internal Trade and IILB Portal

The above highlighted land parcels comprise several variants of industrial parks, such as Coastal Economic Zones (CEZs), National Investment and Manufacturing Zones (NIMZs), Special Economic Zones (SEZs), and Industrial Clusters/Parks/Regions/Areas/Estates, developed by government(s), the private sector, or a combination of both.

The portal provides potential investors and policymakers a regional and sectoral perspective on the total number of parks, and the total land area developed and available for allotment in these industrial parks. The following figure depicts park concentration by sector and quantum of industrial land covered by these parks. It also highlights the top states (% share) accounting for the largest concentration of parks by sector. This helps answer key questions of potential investors about existing industrial ecosystems specific to a sector that can be used in terms of existing value chains and supplier base.

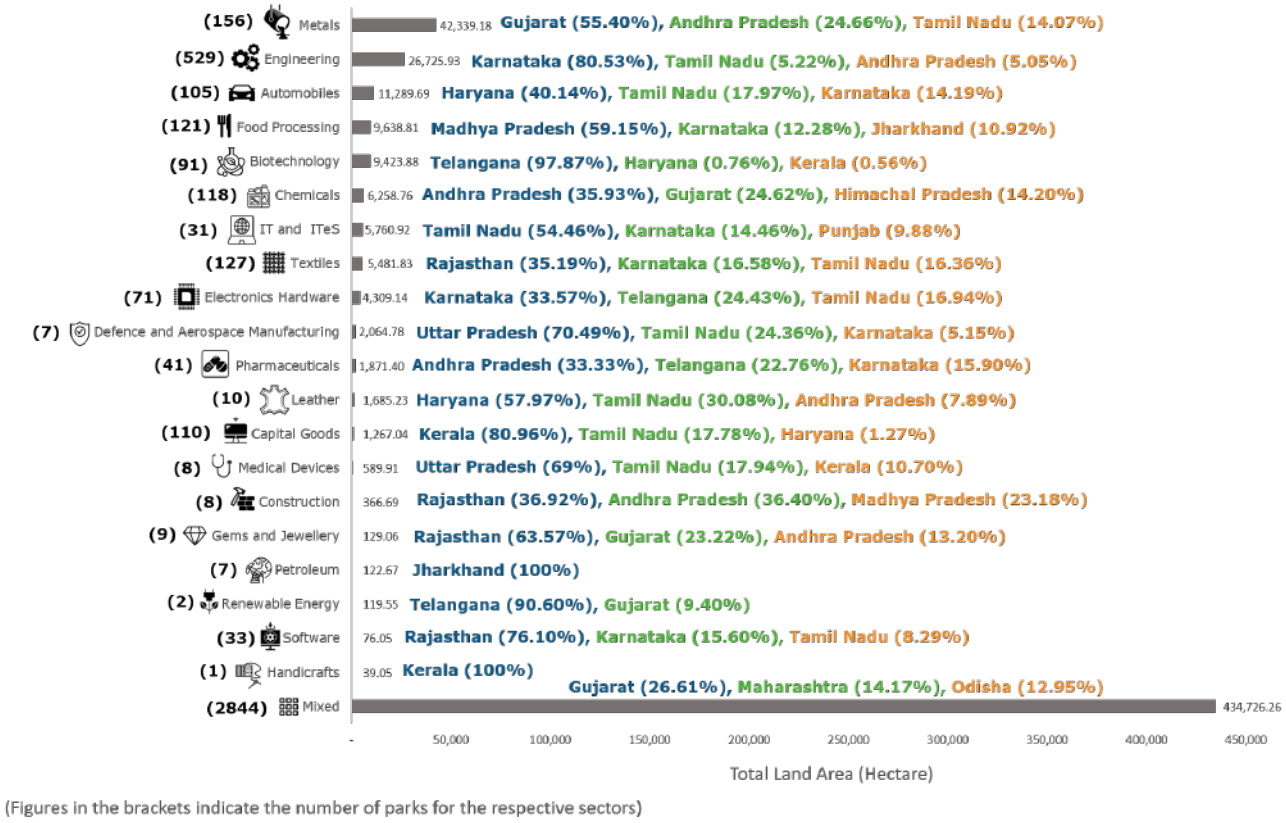


Figure 6: Total land area under use by sector and top states

Source: IILB Portal as on 15 August 2021

In Figure 6, the following points may be noted:

- **Mixed-use parks account for the bulk share (64.21 percent) of the total number of parks.** This is in line with the past trend of government-led development focusing on ensuring supply of industrial land with the demand determining the ultimate end-use. This trend has reversed in the past with a focus on developing sector-specific parks, with the increasing realisation of different infrastructure requirements per specific-sector requirements (such as Petroleum, Chemicals, and Petrochemicals Investment Regions [PCPIR]). This is evident from the fact that a **majority (33.17 percent) of the balance parks are accounted for by only 10 sectors,** viz. engineering (529), metals (156), textiles (127), food processing (121), chemicals (118), capital goods (110), automobiles (105), biotechnology (91), electronics hardware (71), and pharmaceuticals (41).
- Similarly, **in terms of total area, mixed-use parks account for 77.04 percent of the total land area mapped in IILB**. Amongst sector-specific parks, the top five sectors – metals, engineering, automobiles, biotechnology, and food processing – together account for 17.62 percent of the total land mapped.

The platform also showcases the land available for allotment within the mapped industrial parks on a regional and sectoral basis, to potential investors and policymakers. Such data helps answer key questions of policymakers: ***"how much additional industrial land inventory is required to respond to new demand" or "what is the intensity of investment required for infrastructure asset creation"***? It also answers critical questions that potential investors might have. For example, ***"which locations may enable faster grounding given the existing land availability per specific requirement?", and "what is the nature and capacity of connectivity infrastructure?".***

The following figure depicts land availability by state across industrial parks covered by the IILB. It is observed that:

- The **Western and Southern states of India account for 83 percent of the available land,** and the **top five states** with the highest amount of available land (together accounting for **73.61 percent of the total land available)** are from these two regions. These include Tamil Nadu (19.59 percent), Maharashtra (18.82 percent), Gujarat (17.89 percent), Rajasthan (9.83 percent), and Karnataka (7.48 percent).[9]

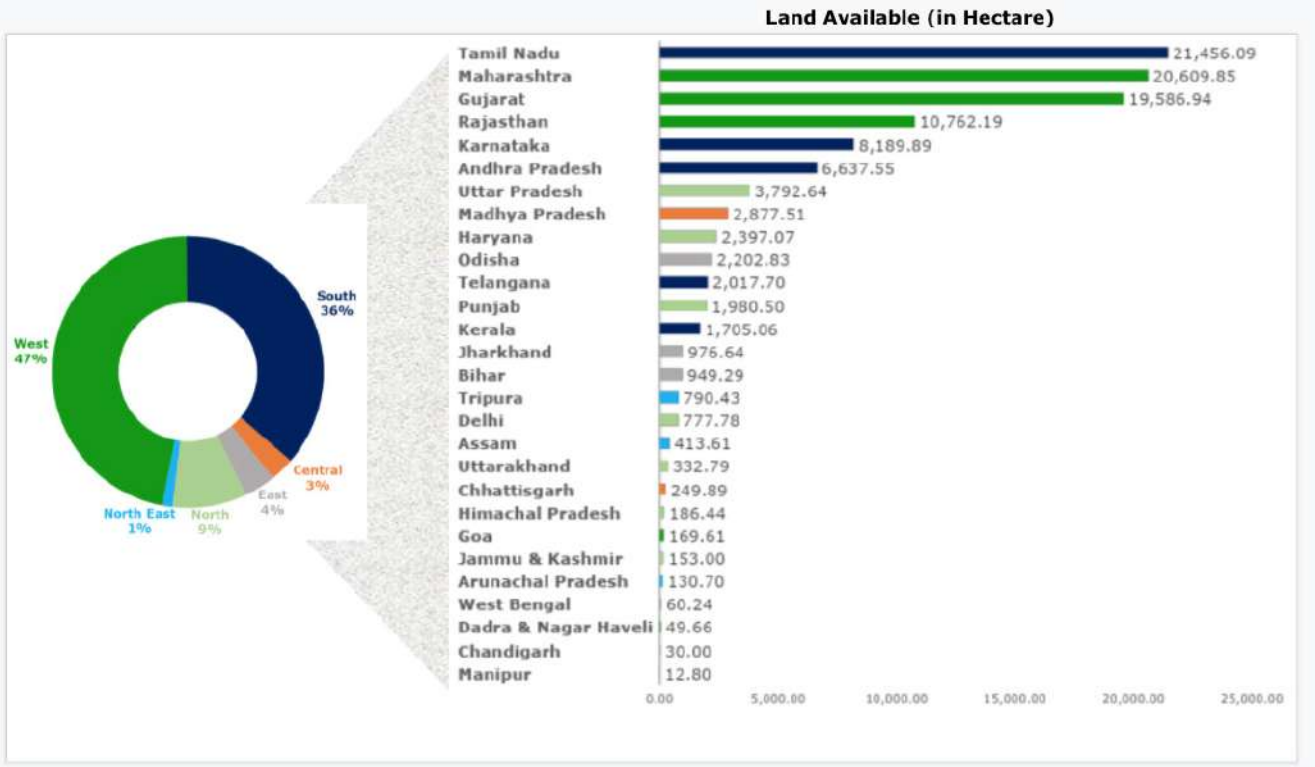


Figure 7: Land availability by region and state
Source: IILB Portal as on 31 May 2021

1.3.5. IILB to provide end-to-end services to potential investors

IILB is being continuously upgraded to provide new features in a user-friendly manner. Key new features (ongoing and proposed development stage) for the platform include the following:

- **Integration with other online industry facilitation portals/systems:** In the future, IILB may be integrated with the National Single Window System and the Invest India Query Portal. This will enable provision of end-to-end services to potential investors, right from the assistance for site selection to providing clearances and approvals.
- **Availability of plot-level information:** Plot-level details, such as plot type, status (vacant, allotted or reserved), plot owner, and line of activity, are currently being integrated on the IILB portal in a phase-wise manner (depicted in Figure 8).
  - **Phases I and II:** About 13 states have integrated their GIS systems with the IILB portal. These states are Andhra Pradesh, Himachal Pradesh, Goa, Gujarat, Haryana, Jharkhand, Karnataka, Maharashtra, Odisha, Punjab, Telangana, Uttarakhand, and Uttar Pradesh.
  - **Phase III:** Seven more States/ UTs – Assam, Bihar, Chhattisgarh, Dadra and Nagar Haveli, Kerala, Madhya Pradesh, and Tamil Nadu – have been completed by September 2021; with Rajasthan due for integration by October 2021.[10]

9. Figures extracted from IILB portal as on 15 August 2021
10. Workshops and one-on-one sessions have been held with the GIS teams across these states.

- **Phase-IV:** This includes the on-boarding of states in the Northeast Region (NER), the Andaman and Nicobar Islands, and UTs (Chandigarh, Delhi, Ladakh, and Puducherry), which currently do not have a GIS system. They will be provided assistance to develop GIS maps with relevant information; these maps can subsequently be integrated with IILB[11] (concluded for Puducherry in August 2021).

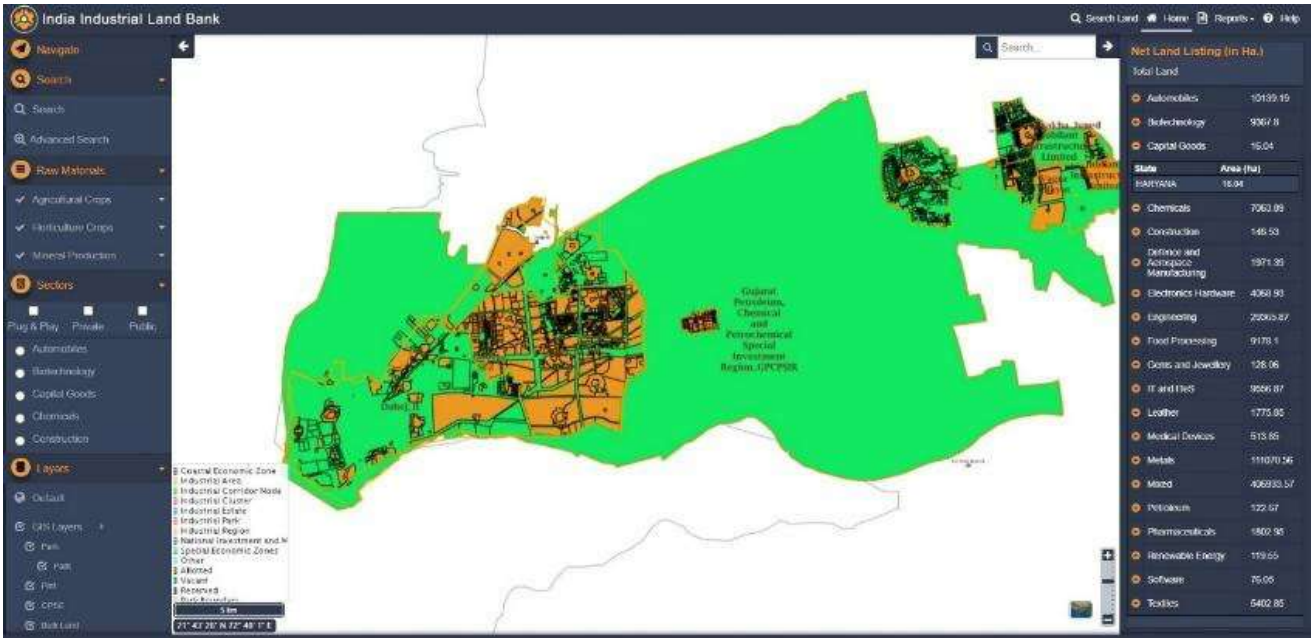


Figure 8: Plot-level details on the IILB portal

The portal aims to achieve pan-India integration by the end of December 2021.

- **Development of mobile application for ease of access:** The mobile application's current version was launched on the iOS and Android platforms[12] with several useful features (depicted in the following figure) to facilitate investor outreach. The application will be further upgraded; it will feature top-rated parks per IPRS 2.0.
- **Additional features planned:** Additional information layers, such as GIs and One District One Product, will be added to the portal.

Significant scaling up in coverage of industrial parks on IILB has played a key role in rolling out IPRS 2.0 in 2021 with availability of park developers' details and provision for administration of online survey through the IILB Platform. The following section describes the framework, approach, and methodology adopted for IPRS 2.0.

11. Workshops are being planned to initiate this exercise.
12. Can be accessed at https://play.google.com/store/apps/details?id=com.negd.iisapp&hl=en_IN&gl=USIOS Link: https://apps.apple.com/in/app/india-industrial-land-bank/id1538770360

Figure 9: Key features of IILB mobile application

Detailing IPRS 2.0

The DPIIT adopted an extensive consultative process to fine-tune the IPRS framework after conducting the pilot study. In line with this step, the DPIIT organised a consultation workshop on IPRS 2.0 that saw participation from various states/UTs/central departments and other stakeholders. It also held periodic meetings with the steering committee. The broad decision areas that emerged from these multiple rounds of deliberations, have been highlighted in the figure below, and the key decision points have been summarised as follows.

*Figure 10 SEQ Figure * ARABIC 10: New features of IPRS 2.0*

Wider and inclusive park/zone representation

- **Widening the coverage of parks:** In the pilot phase, 202 parks were nominated. Of which, 177 parks across 21 states were evaluated. In IPRS 2.0, assessment of the number of parks has been increased to **449 parks and special economic zones across the country** through nomination by SIDCs/UTs/central departments. While IPRS 2.0 conducts assessment of the nominated parks, the system is proposed to be opened for the parks (mapped on IILB) pursuant to the launch of IPRS 2.0 for self-assessment.

- **Inclusion of private-sector parks and manufacturing SEZs:** IPRS 2.0 includes private-sector developed parks and manufacturing SEZs. The mechanism for nomination and assessment procedure for these private-sector parks is the same as that for others. The government has separately assessed manufacturing SEZs, with necessary updates to assessment parameters as they are governed under different regulations. The Department of Commerce nominated additional SEZs for inclusion in IPRS 2.0. Information from these SEZs are sourced in co-ordination with relevant development commissioners.

- **Minimum and maximum nomination from a state/UT:** A state/UT/central department could nominate minimum five parks and maximum 30 parks. However, the nominated parks needed to have 25 percent occupancy as eligibility criteria. This ensured representation of maximum number of states in IPRS 2.0 and enabled potential parks to participate in the initiative.

- **Participation from sector-specific and mixed end-use parks:** IPRS 2.0 includes parks and zones that are either mixed end-use or sector-specific. The mechanism for nomination and assessment procedure for these parks and zones is the same as that for others.

Objective and participatory evaluation framework

- **Addition of new parameters and weightages:** Compared with the pilot phase, some new parameters added to the framework include ICT infrastructure, utility corridors, general park operation and maintenance, plug and play industrial space, and industrial housing. External road connectivity, support service, environmental clearance, hazardous waste, health and safety plan, energy audit, mobility and safety, green spaces, and renewable energy, and quality certification, are also new parameters. Weightages have been introduced to the framework, such that each pillar assumes weightage equivalent to the number of parameters contained within. For instance, business support services with nine parameters carry a weightage of 20 percent, whereas environmental and safety management comprising 15 parameters has 34 percent weightage.

- **Park tenants feedback mechanism:** Compared with the pilot phase of IPRS that included the feedback of only developers, the IPRS 2.0 framework will include feedback from tenants who are running their units in the nominated parks and zones. **The sample size was fixed at 15 percent of the population to mitigate survey and sampling biases.** However, on account of the tenant sample being below the threshold 15 percent for 84 parks and zones, a separate rating exercise was conducted to differentiate the same from the other 365 parks and zones that met the 15 percent threshold.

- **Transparent process:** An end-to-end online system has been adopted for the survey without any physical touchpoints and with provision for an audit trail. It also enabled real-time tracking by developers and provides alerts/notifications for any update/query.

- **Focus on qualitative assessment and best practices:** The questionnaire included qualitative assessment in addition to a tick-box response approach. Several states had representation regarding best practices adopted by them relating to business process re-engineering, sustainability measures, waste management, amongst others. Such best practices would get appropriate recognition, setting an example for other parks across the country. However, they may not be included in rating parameters.

The new features detailed above have been incorporated into IPRS 2.0, and the resulting evaluation methodology has been described in the following sections. The deliberations also threw up various recommendations that could not be incorporated in this round. However, these deliberations such as including additional parameters for park assessment (relating to cost of doing business and transportation cost) and featuring more quantitative parameters/indicators (such as park ratios, internationalisation, trade ratio, and competitiveness of the land being used by industries), will be considered for future evaluation exercises.

2.1. Rolling out the IPRS 2.0 assessment

After finalising the IPRS 2.0 framework, the government initiated the park assessment process to arrive at relative ratings and identified respective improvement areas. Thereafter, it came up with an implementation plan. Some key steps undertaken as part of this assessment are mentioned below.

2.1.1. Nomination process

449 parks and zones were assessed based on the nominations provided by SIDCs/UTs/central departments that own and operate them. As highlighted earlier, invitation for nominations from SIDCs, UTs, and central departments was sent to only those parks that met the eligibility criteria. Further, manufacturing activity had to be the key focus for the nominated parks. Pursuant to the consultation workshop held on 4 September 2020, flexibility in the threshold criteria for nomination was provided to enable states to nominate parks and zones that can emerge as a benchmark for other parks. The move would provide opportunities to other parks that were not eligible for nomination earlier. This was also proposed to recognise potentially better performing parks. The information of the nominated parks had to be updated and completed on IILB to be considered for eligibility under IPRS 2.0.

The parks submitted their nominations, including submission of other relevant information/documents, through the IPRS portal developed by MeitY and BISAG-N. The nominated parks furnished their complete data, and provided information related to tenants and other stakeholders online based on the format provided by DPIIT.

While IPRS 2.0 relates to assessment of the nominated parks only, the system is proposed to be opened for the parks pursuant to its launch and completion of the IPRS 2.0 assessment exercise. **Other operational parks mapped on IILB (independent of the threshold conditions) could opt for self-assessment. However, the assessment of these parks does not feature in this report.**

2.1.2. Developer feedback mechanism

Based on the IPRS 2.0 framework developed, the DPIIT shared a guideline for submission of responses, data of tenants, documents across questions requesting evidence, etc., with the nominated parks. Park developers, including park managers and authorities, nominated by SIDC/UT/central department, provided their responses on the IPRS portal, along with the evidence sought for.

After submitting responses, the **'verification team' undertakes a detailed verification of documents.** The team is mobilised by the DPIIT with support from ADB, comprising experts in industrial infrastructure, business support services, and industrial environment, safety, and sustainability.

If the nominated parks failed to submit the requested documents, no assessment was done for the corresponding parameters. For parameters in which a developer's response was not applicable, an option to indicate 'not applicable' was provided and the parameter was not considered for evaluation. The verification team sought clarifications if the documentation submitted was incomplete or did not firmly meet the respective parameter.

2.1.3. Tenant feedback mechanism

The government formulated a tenant feedback mechanism that included i) online (OTP-based IPRS portal login) and ii) face-to-face interaction based on various deliberations amongst DPIIT, ADB, and Invest India. Nominated parks were required to provide tenant details online in the prescribed format and ensure its accuracy.

Based on the learnings of other similar rating and ranking studies (such as EoDB BRAP, and Startup Ranking), the DPIIT through Invest India on-boarded a survey agency to conduct a **'Tenant Feedback Survey' of the nominated parks**. Given the mobility-related challenges on account of COVID-19, the agency used an optimal mix of the survey techniques, including face-to-face interviews, telephonic conversion, and online feedback to collect responses.

The following are the key features of the tenant sampling methodology:

- Used the tenant data collated from each nominated park to create a **sample set of respondents spread across categories – MSME, large, mega, and ultra-mega size of firms.**
- Adopted an appropriate sampling technique; **used the Cochran formula to determine the intended sample size for the tenant feedback survey;** however, considered a minimum threshold of 15 percent of the tenants in the industrial park for sampling (in line with guidance from the steering committee).
- Considered tenants located in each park as the population for that park to derive a sample size for 'respondents' (tenants) for the feedback survey.
- **Used tenant characteristics for stratification** only to gauge the proportion of strata; will not use these characteristics for the scoring.

2.1.4. Verification and evaluation process focused on transparency and inclusiveness

Based on deliberation with experts and benchmarking with similar studies, the DPIIT decided to **provide a 60:40 weightage on every parameter for developers' responses and tenants' feedback, respectively, for scoring.**

- For developers' responses, the department adopted a documentary evidence-based scoring method; for every developer's 'yes' response with mandatory supporting evidence, a unit score was assigned per parameter. No score was assigned for those parameters for which no evidence document is submitted.

- For parameters where documentary evidence was sought from park developers, the 'verification team' conducted a verification process for documents. The IPRS portal has verification document guidelines, developed and finalised by ADB and DPIIT, to guide respondents on how to submit supporting documents.

- The first step of the process involved document verification in terms of adherence to guidelines provided and completeness. If the guidelines were not followed, **the park developer got an opportunity to respond to clarifications for maximum two instances, with a timeframe of 10 days in the first instance and three days in the second instance.** To help developers at state/UT level understand IPRS guidelines and documents required for each parameter, multiple consultative workshops were conducted within states/UTs. Even after these consultations, if a developer was not able to submit documents or provide the necessary clarification sought after the two rounds, the verification team discussed such cases with the DPIIT team before finalising park ratings. The entire

verification process was conducted online to ensure transparency. However, **for the 84 parks and zones where the 15 percent tenant threshold was not attained,** the verification of the developer response was not undertaken and **it has been based on self-assessment by the developer.**

Tenants' feedback was measured based on their satisfaction levels across parameters on a four-point Likert scale ('Strongly agree', 'Agree', 'Disagree', and 'Strongly disagree') and the weightage of responses was provided based on standard market practices.

The overall rating for industrial clusters/parks/estates was given based on the combined score of developers' responses and tenants' feedback, as detailed below.

Scenario	Industrial Park (IP) response	Tenant response	Verification of IP response	Scoring
1	**Positive opinion** • The park submits an affirmative response with a document.	**Positive opinion** • More than 50 percent respondents submit responses as "Agree" and Strongly agree."	To be verified for completeness of the document	• The park's response meets verification requirements– score assigned (60%, weightage applied) • Weighted score of tenant response on the Likert scale assigned (40% weightage)
2	**Positive opinion** • The park submits an affirmative response with a document.	**Negative opinion** • More than 50% respondents submit responses as "Disagree" and Strongly disagree"	To be verified	• The park's response meets verification requirements– score assigned (60% weightage applied) • Weighted score of tenant response on the Likert scale assigned (40% weightage)
3	**Positive opinion** • The park submits an affirmative response with a document.	**Negative opinion** • More than 50% respondents submit responses as "Disagree" and Strongly disagree."	To be verified	• The park's response fails verification requirement; no score assigned • Tenant score – Zero • Total score – Zero

Figure 11: Industrial park scoring mechanism

Document verification was carried out in both the cases where i) >50 percent responded "Agree"/" Strongly agree" on the proposed Likert scale for a given parameter, and ii) >50 percent of the tenants responded "Disagree"/"Strongly Disagree" to the claim made by park developers.

Key findings

3.1. Overview of industrial parks/SEZs considered for evaluation

As detailed in section 2, the IPRS 2.0 framework enabled states and UTs to nominate industrial parks/SEZs for purposes of rating and self-appraisal. This section captures the details for the following set of nominations received from states and UTs:

- 449 parks and SEZs were nominated for the purpose of rating. **These comprise 365 parks and SEZs wherein the threshold of 15 percent tenant feedback was achieved, and the balance 84 parks and SEZs wherein a lower threshold was achieved.**[13]
- **1,614 parks and SEZs were nominated for the purpose of self-assessment.**

3.1.1. Overview of nominations received (449) for the purpose of rating

The chart below highlights the pan-India coverage of the nominations received for 449 parks and SEZs for the purpose of rating.

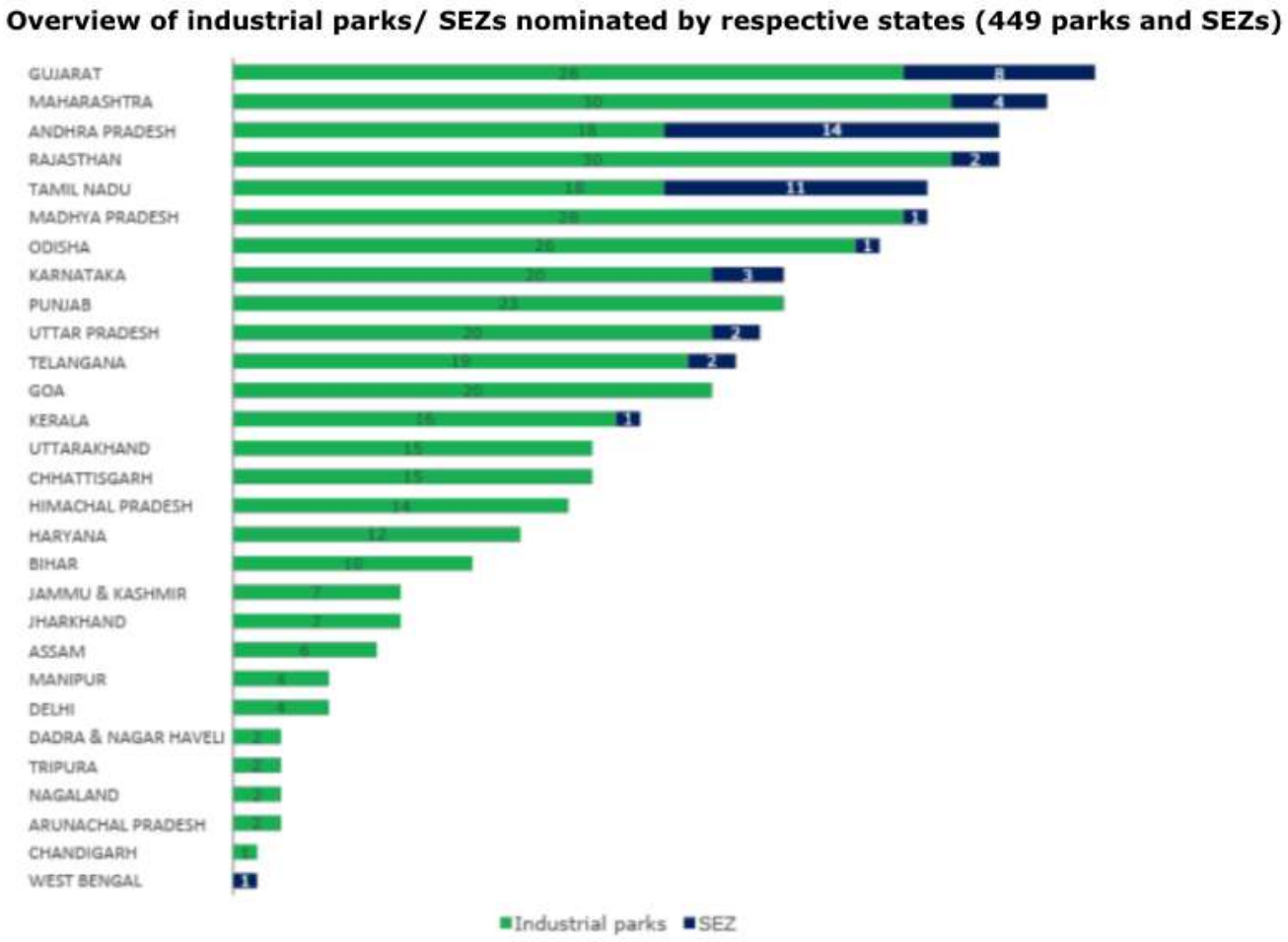


Figure 12: IPs and SEZs by state/UT[14]

13. Different evaluation mechanisms were adopted for the parks achieving a threshold 15 percent tenant response vis-à-vis those not achieving it. If the tenant response threshold was not achieved, no verification was done for the developer response in terms of the supporting documents to be provided in line with the guidelines provided. Therefore, the evaluation results for these 84 parks have been captured separately in this section.
14. The chart represents parks nominated by states and UTs for IPRS 2.0 and is not a reflection of the actual number of parks/SEZs in the respective states and UTs.

Figure 12 shows that the highest contribution of parks/SEZs for the purpose of rating under the IPRS 2.0 framework comes from larger states (by geographic area). The **top six states account for about 43 percent of the total parks and SEZs.** These states include Gujarat (8 percent), Maharashtra (7.6 percent), Andhra Pradesh (7.1 percent), Rajasthan (7.1 percent), Tamil Nadu (6.5 percent), and Madhya Pradesh (6.5 percent). These states are the ones that have nominated the majority of SEZs for the purpose of evaluation, in addition to select other states (such as Odisha, Karnataka, Uttar Pradesh, Telangana, Kerala, and West Bengal).

The highlights of parks/SEZs with respect to the geographical spread are given below:

- **About 55 percent of the total nominated parks/SEZs** are from either i) the **Western region** comprising Goa, Rajasthan, Maharashtra, Gujarat, and Dadra and Nagar Haveli, or ii) the **Southern region** comprising Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, and Telangana

- States with a hilly terrain across the North-Eastern (except Meghalaya) and Northern regions (Himachal Pradesh, Jammu and Kashmir, and Uttarakhand) account for about 11.6 percent of the total parks/SEZs nominated.

- UTs have a relatively low proportion of parks (1.6 percent) nominated for the purpose of IPRS 2.0 evaluation.

Sector mapping of industrial parks and SEZs

In terms of the specific/diffused sectoral focus of parks and SEZs, **about 73 percent of the nominated parks were for mixed end-use** as depicted in the chart below (refer Annexure 3 for further details).[15]

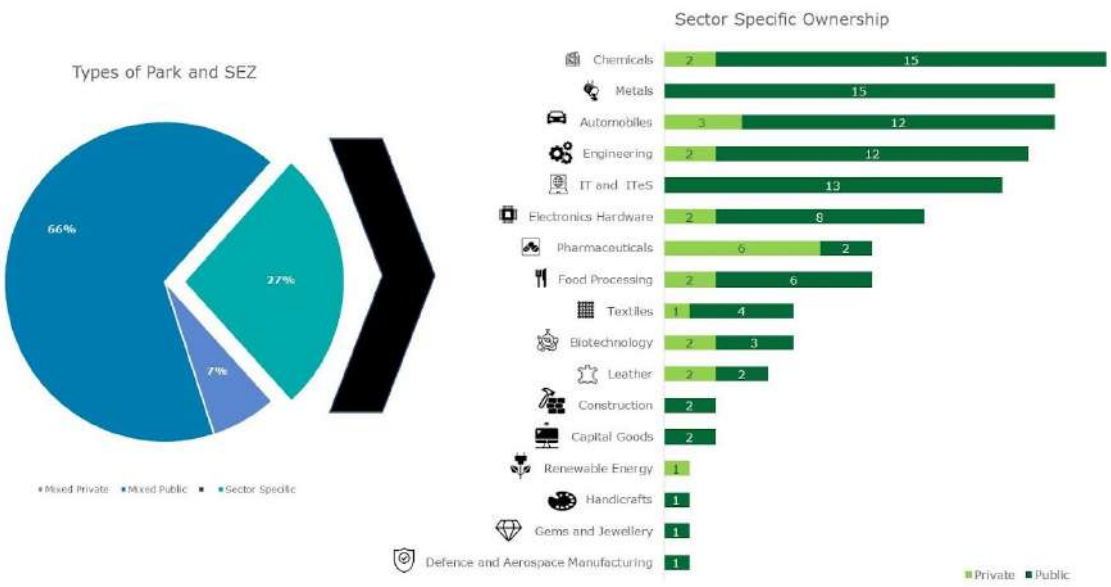


Figure 13: Division of parks and SEZs into mixed end-use or sector specific

Amongst the sector-specific parks/SEZs, select sectors, such as chemicals, metals, automobiles, engineering, information technology, and information technology and enabled services (IT and ITeS), and electronic hardware contribute nearly 68 percent to the total sector-specific parks/SEZs. In terms of ownership, the parks developed by the **public sector dominate both the mixed end-use and sector-specific parks, with about 88 percent share.** The private sector developed the remaining parks. Their participation has been observed across sectors that include taking the lead in case of select sectors, such as pharmaceuticals.

15. Vide Special Economic Zones (3rd Amendment) Rules, 2019, all existing notified SEZs were deemed to be multi-sector SEZs. However, the original sector-specific mapping of SEZs has been maintained for the purpose of this rating exercise. http://sezindia.nic.in/upload/uploadfiles/files/Amendment%20rules%202006.pdf

Area mapping of industrial parks and SEZs

The parks nominated for rating cover an **area of about 1.3 lakh hectares.** In terms of the area of the nominated parks, about 64 percent of the parks are below 200 hectares as illustrated in Figure 14:

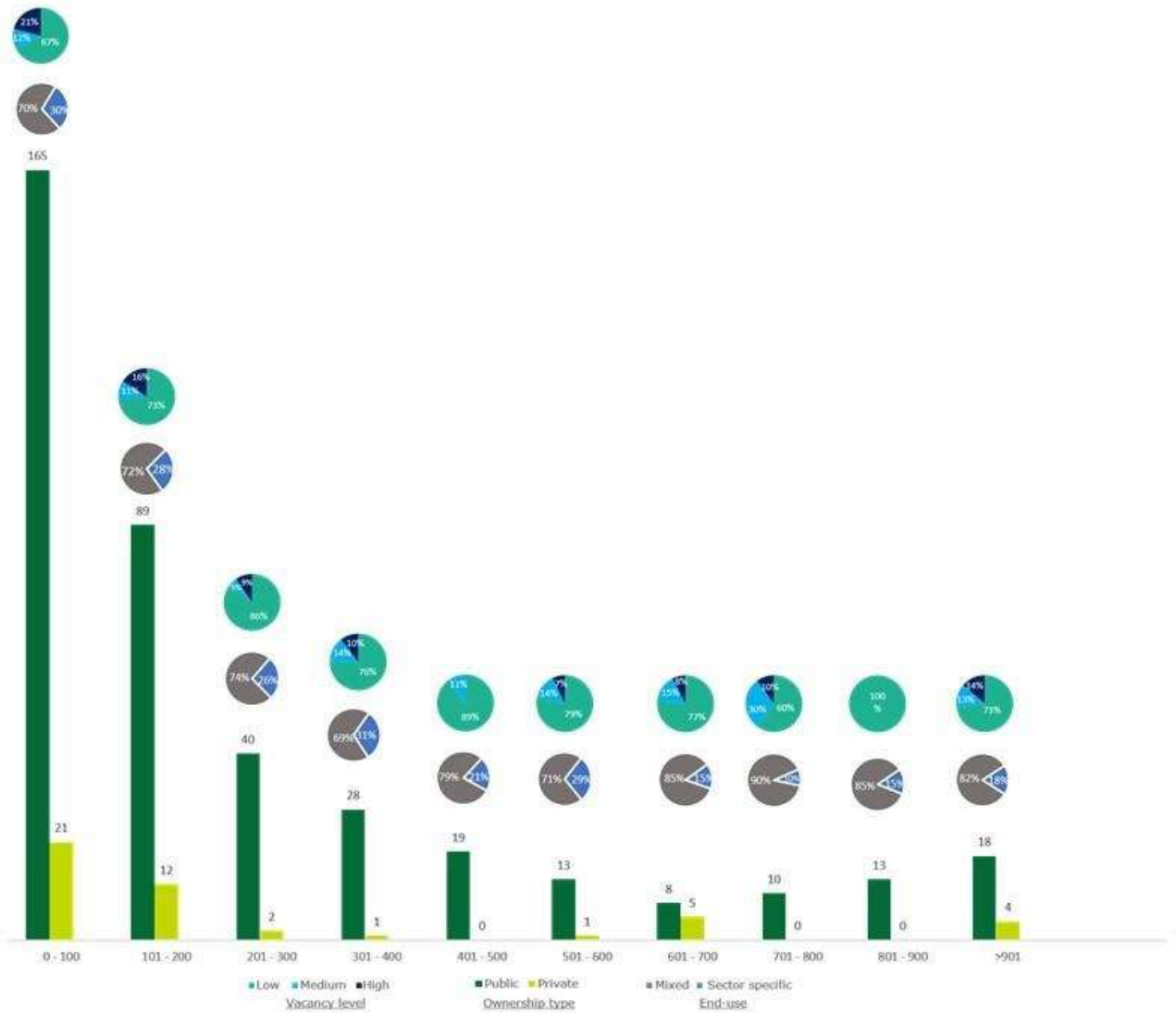


Figure 14: Area of industrial parks and SEZs (in hectare)

Only about 5 percent of the nominated parks and SEZs are spread over an area of greater than 1,000 hectares; a majority of them are under the government ownership. Further, parks/zones with an area of up to 600 hectares have a relatively higher proportion of sector-specific parks. Mixed end-use parks constitute a relatively higher proportion as the size increases. In terms of vacancy, **nearly 15 percent of the industrial parks and zones nominated for rating have a considerable area available for allocation** for the purpose of attracting investments.

3.1.2. Overview of nominations received (1,614) for the purpose of self-assessment

Figure 15 highlights the pan-India coverage of the nominations received for 1,614 parks and SEZs for the purpose of self-assessment.

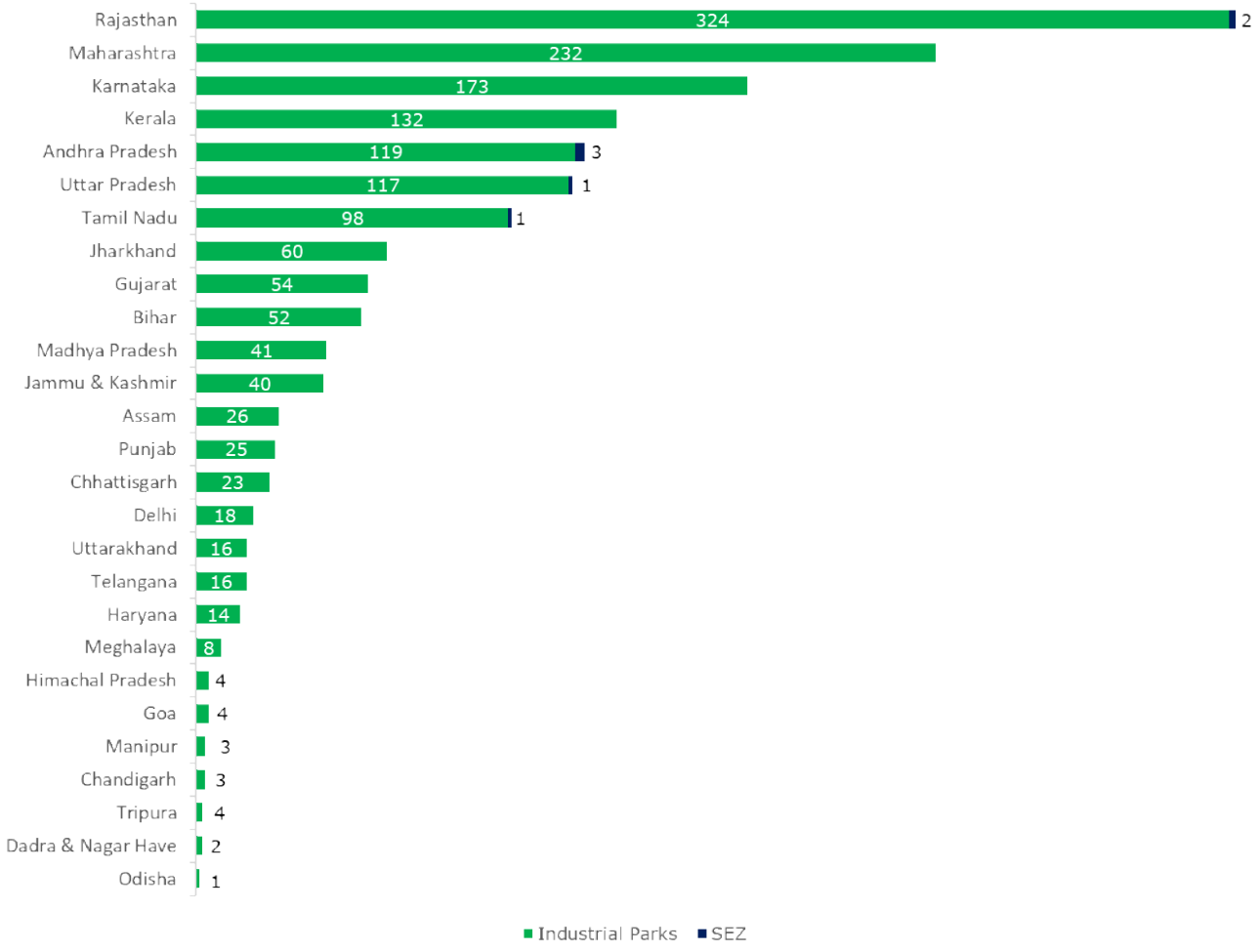


Figure 15: IP and SEZ by state/UT[16]

Figure 15 makes it clear that the highest contribution of parks/SEZs for the purpose of self-assessment under the IPRS 2.0 framework majorly comes from larger states (by geographic area). **The top five states account for approximately 61 percent of the total parks and SEZs nominated for self-evaluation as part of IPRS 2.0.** These states include Rajasthan (20.2 percent), Maharashtra (14.4 percent), Karnataka (10.7 percent), Kerala (8.2 percent), and Andhra Pradesh (7.6 percent). Andhra Pradesh and Rajasthan are also observed to be the ones that have nominated the majority of SEZs, in addition to select other states, such as Uttar Pradesh and Tamil Nadu.

The highlights of parks/SEZ with respect to the geographical spread are given below:

- i) The **Western region** comprising Goa, Rajasthan, Maharashtra, Gujarat, and Dadra and Nagar Haveli, and ii) the **Southern region** comprising Kerala, Tamil Nadu, Karnataka, Andhra Pradesh and Telangana make up **nearly 72 percent of the total nominated parks/SEZs.**

- States with a hilly terrain across the North-Eastern (except Nagaland) and Northern regions (Himachal Pradesh, Jammu and Kashmir, and Uttarakhand) account for around 6.1 percent of the total parks/SEZs nominated.

- UTs comprising Chandigarh, Dadra and Nagar Haveli, and Delhi, have a relatively low proportion of parks (1.4 percent) nominated for IPRS 2.0 evaluation.

16. The chart represents parks nominated by states and UTs for IPRS 2.0 and is not a reflection of the actual number of parks/ SEZs in the respective states and UTs.

Sector mapping of industrial parks and SEZs

In terms of specific/diffused sectoral focus of parks and SEZs, about **78 percent of the parks nominated for self-assessment were related to mixed end-use** as depicted in the chart below.

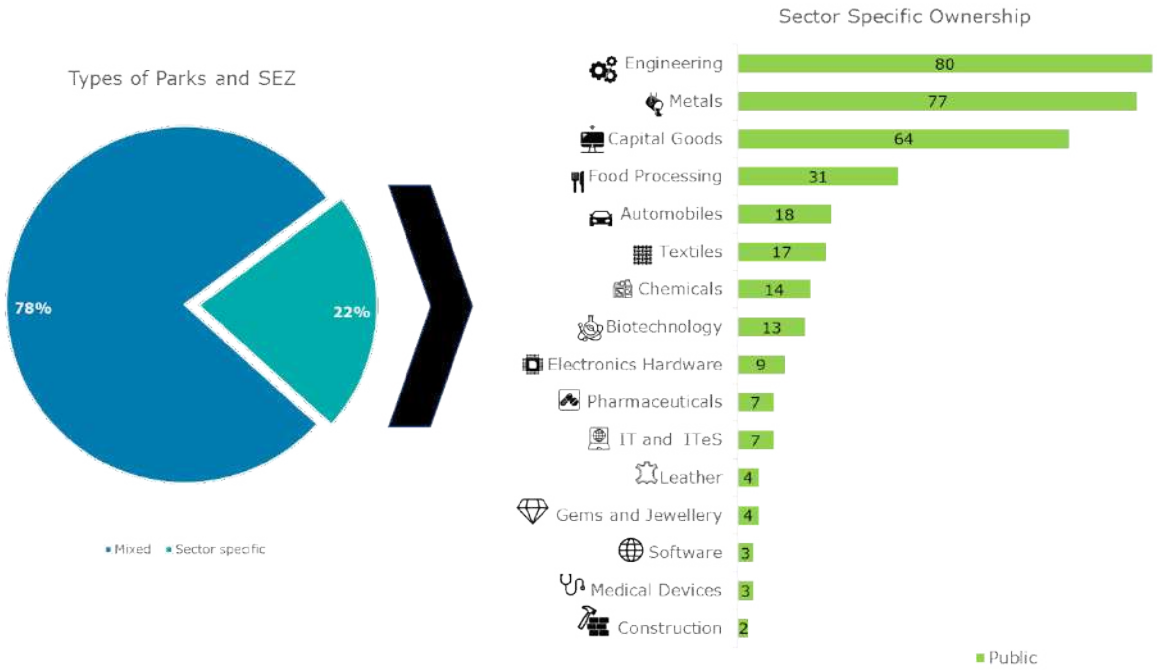


Figure 16: Division of 1,614 parks and SEZs into mixed end-use or sector specific

Amongst the sector-specific parks, select sectors, such as engineering, metals, capital goods, and food processing make up about 71 percent of the total sector-specific parks/SEZs nominated for self-assessment. In terms of ownership, parks/SEZs nominated for self-assessment belong to the public sector and mainly have mixed end-use; **sector-specific parks/SEZs have a 22 percent share.**

Area mapping of industrial parks and SEZs

The parks nominated for self-assessment are observed to be spread over an **area of about 1.34 lakh hectares.** In terms of area, nearly 90 percent parks are below 200 hectares in size, as illustrated below:

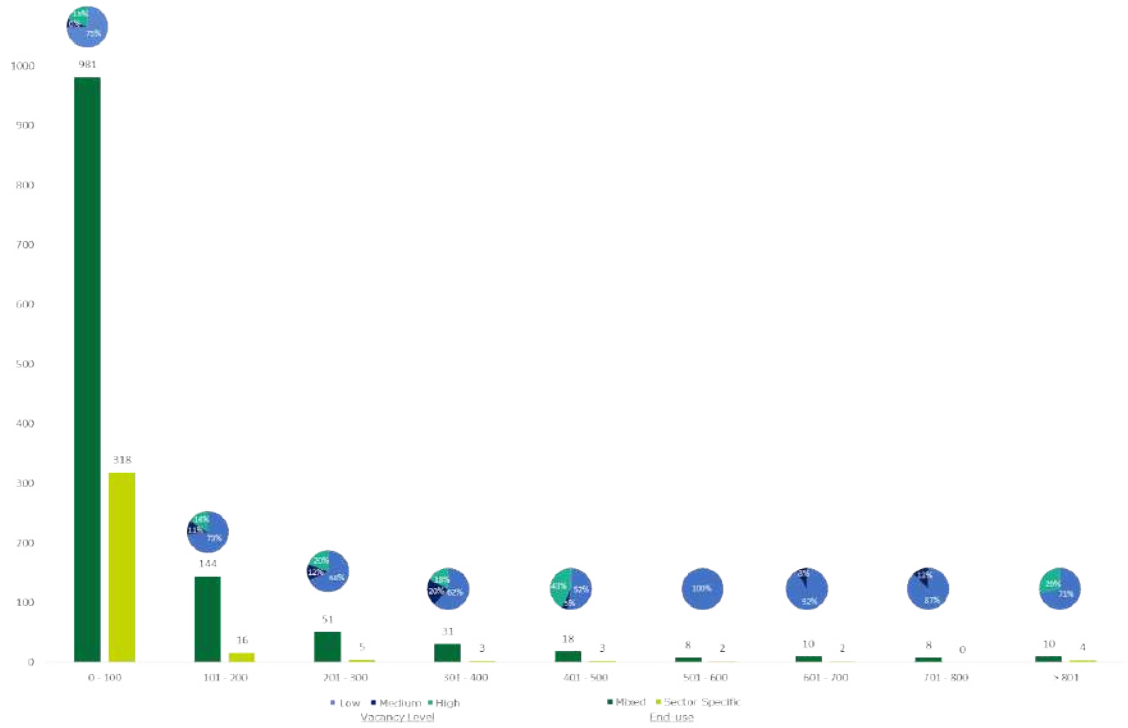


Figure 17: Area of parks and SEZs (in hectare)

Less than 1 percent of the parks and SEZs nominated for self-assessment are spread over an area of greater than 1,000 hectares, with each one being under government ownership. Further, parks/zones throughout the area intervals have a higher proportion of mixed end-use parks. In terms of vacancy, **only about 19 percent of the industrial parks and zones nominated for self-assessment have a considerable area available for allocation** for the purpose of attracting investments.

3.2. Aggregate performance registered by parks and SEZs nominated for rating

The aggregate rating[17] has been computed with categorisation of parks and SEZs into the following three categories:

- **Leaders** are parks and zones registering the highest level of performance at an aggregate level.[18]
- **Challengers** are parks and zones registering performance level quite close to leaders, but marginally lower at the aggregate level.[19]
- **Aspirers** are parks and SEZs that need significant interventions in the future to improve their performance.[20]

3.2.1. Rating for parks nominated where response was received from more than 15 percent tenants

The section[21] presents findings from the rating exercise at the aggregate level for industrial parks.

Leaders

Figure 18 presents the details of 41 best performing parks where the response was received from more than 15 percent tenants.

17. Rating has been considered separately for parks and zones that have attained a threshold of 15 percent tenant response vis-à vis those that could not manage a similar response.
18. In case of parks and zones with more than 15 percent tenant response, the threshold has been pegged at an aggregate score of more than 2 (maximum score is 4). In case of parks and zones with lower than 15 percent tenant response, the threshold has been fixed at more than 3.2 (maximum score is 4).
19. In case of parks and zones with more than 15 percent tenant response, the threshold has been pegged at an aggregate score of 1-2 (maximum score is 4). In case of parks and zones with lower than 15 percent tenant response, the threshold lies between 2 and 3.2 (maximum score is 4).
20. In case of parks and zones with more than 15 percent tenant response, the threshold has been pegged at an aggregate score of less than 1 (maximum score is 4). In case of parks and zones with lower than 15 percent tenant response, the threshold has been fixed at less than 2 (maximum score is 4).
21. Names of states and parks/SEZs therein has been presented in an alphabetical order

Sr.No.	Park Name	Region	Ownership/ End-Use
1	Additional Ambernath Industrial Area, Maharashtra	West	
2	Additional Amravati (Textile Zone) Industrial Area, Maharashtra	West	
3	Agro Food Park, Boranada, Rajasthan	West	
4	Ambad (Nashik) Industrial Area, Maharashtra	West	
5	Boranada Phase-IV, Rajasthan	West	
6	Chakan Industrial Area PH-I, Maharashtra	West	
7	Chakan Industrial Area PH-II, Maharasthra	West	
8	Chakan Industrial Area PH-III, Maharasthra	West	
9	Chakan Industrial Area PH-IV, Maharasthra	West	
10	EPIP, Boranada, Rajasthan	West	
11	ESIPL, Uttarakhand	North	
12	EXPORT PROMOTION INDUSTRIAL PARK, Rajasthan	West	
13	Govt. IE, Patelnagar, Uttarakhand	North	
14	Hamraz Food Products Pvt Ltd, Gujarat	West	
15	IIE Sitarganj, Phase II, Uttarakhand	North	
16	Industrial area Sitapura Ph.- III, Rajasthan	West	
17	Industrial Neemrana Phase-II, Rajasthan	West	
18	KALADWAS(EXTN.), Rajasthan	West	
19	Kalmeshwar Industrial Area, Maharasthra	West	
20	KAROLI, Rajasthan	West	
21	KISHANGARH-IV PHASE, Rajasthan	West	
22	Latur Industrial Area, Maharasthra	West	
23	Lote Parshuram Industrial Area, Maharasthra	West	
24	Mahad Industrial Area, Maharasthra	West	
25	MANDA PHASE - I, Rajasthan	West	
26	MIA EXTENSION, ALWAR, Rajasthan	West	
27	MIA UDAIPUR, Rajasthan	West	
28	New Industrial Complex (Majrakath) Neemrana, Rajasthan	West	
29	Phaltan Industrial Area, Maharasthra	West	
30	Rajiv Gandhi IT Park-II Industrial Area, Maharasthra	West	
31	Rajiv Gandhi IT Park-III Industrial Area, Maharasthra	West	
32	RIICO I/A BALOTRA PH.-I,II,III & III extn., Rajasthan	West	
33	RIICO INDUSTRIAL AREA CHOPANKI, Rajasthan	West	
34	RIICO INDUSTRIAL AREA TAPUKARA , Rajasthan	West	
35	RIICO INDUSTRIAL AREA, GHILOTH (ALWAR), Rajasthan	West	
36	Roha Industrial Area, Maharasthra	West	
37	Satpur Industrial Area, Maharasthra	West	
38	Shendra Five Star Industrial Area, Maharasthra	West	
39	SIDC Bahadrabad, Uttarakhand	North	
40	Sri City-EMC, Andhra Pradesh	South	
41	Talegaon Industrial Area, Maharasthra	West	

Private Public Sector Specific Mixed

From Figure 18, it is evident that:

- **About 98 percent parks identified in this category are from the Western (Maharashtra, Rajasthan, and Gujarat) and Northern (Uttarakhand) regions.** The only exception is a park from the Southern (Andhra Pradesh) region.

- **Government-owned parks and parks with mixed end-use dominate this category with about 95 percent and 88 percent share, respectively.** In this category, sector-specific park representation is limited to Andhra Pradesh (electronics hardware) in the Southern region and Rajasthan (food processing, engineering, textiles and automobiles) in the Western region. Private parks were from Andhra Pradesh and Gujarat.

- In this category, **average vacancy for parks is only 17 percent.** This may limit their ability to attract further investments unless expansions are planned in their vicinity (subject to land availability). Figure 19 presents the parks with a relatively higher level of vacancy (>50 percent of the allottable area).

Gujarat	Maharashtra	Rajasthan
Hamraz Food Products Pvt Ltd	Additional Amravati (Textile Zone Industrial Area)	Kishangarh-IV Phase

Figure 19: Leaders with a relatively high level of vacancy

Challengers

Figure 20 displays the details of 90 moderately performing parks where the response was received from more than 15 percent tenants.

Figure 20: Challengers - Industrial parks with a moderate level of aggregate performance

Sr.No.	Park Name	Region	Ownership/ End-Use
1	Badiakhedi, Madhya Pradesh	Central	
2	Balbahadurpur, Uttarakhand	North	
3	Bhanpuri-Rawabhata Industrial Area, Chattisgarh	Central	
4	Bhimtal, Uttarakhand	North	
5	Bidadi 1st Phase & II phase, Karnataka	South	
6	Bodhjungnagar Industrial Area, Tripura	North East	
7	ECOTECH1-EXTN1, Uttar Pradesh	North	
8	ECOTECH-XII, Uttar Pradesh	North	
9	Electronic Complex Rangreth, Budgam J&K SIDCO, Jammu & Kashmir	North	
10	Electronic Complex, Madhya Pradesh	Central	
11	Electronic Manufacturing Cluster, Naya Raipur, Chattisgarh	Central	
12	Fanidhar Mega Food Park Pvt Ltd, Gujarat	West	
13	Financial District IT Park, Telangana	South	
14	Government Industrial Estate, Kashipur, Uttarakhand	North	

Sr.No.	Park Name	Region	Ownership/ End-Use
15	Government Industrial Estate, Sitabpur, Uttarakhand	North	
16	Gujarat Agro Infrastructure Mega Food Park Pvt. Ltd, Gujarat	West	
17	Hi Tech Cycle Valley, Punjab	North	
18	Hyderabad Knowledge City , Telangana	South	
19	IE Bari-Brahmana J&K SIDCO, Jammu & Kashmir	North	
20	IFP CHANALON, Punjab	North	
21	IFP Dera Bassi, Punjab	North	
22	IFP HOSHIARPUR, Punjab	North	
23	IFP Moga, Punjab	North	
24	IFP Mohali Phase 8 A and B, Punjab	North	
25	IFP Mohali Phase-VII, Punjab	North	
26	IFP NABHA NEW, Punjab	North	
27	IFP NAWANSHEHAR, Punjab	North	
28	IFP Sangrur, Punjab	North	
29	IGC ,Lassipora, Pulwama J&K SIDCO , Jammu & Kashmir	North	
30	IGC Bathinda, Punjab	North	
31	IGC Samba Phase I-II J&K SIDCO, Jammu & Kashmir	North	
32	IGC Samba Phase-III, Jammu & Kashmir	North	
33	IIE Kotdwar, Uttarakhand	North	
34	IIE Pharmacity Selaqui, Uttarakhand	North	
35	IMUI Kapurthala, Punjab	North	
36	Indapur Industrial Area (Loni Devkar), Maharasthra	West	
37	INDUSTRIAL AREA PRAHLADPURA, Rajasthan	West	
38	Industrial Estate Ghatti, Kathua J&K SIDCO, Jammu & Kashmir	North	
39	Industrial Estate Manakpur, Haryana	North	
40	Industrial Focal Point, Kotakpura, Punjab	North	
41	Industrial Focal Point, Ludhiana, Phase-IV, Punjab	North	
42	Industrial Focal Point, Patiala, Punjab	North	
43	Industrial Growth Centre (IGC) Borgaon, Madhya Pradesh	Central	
44	Industrial Growth Centre, Borai, Chattisgarh	Central	
45	Industrial Growth Centre, Siltara, Chattisgarh	Central	
46	Industrial Growth Centre, Sirgitti, Chattisgarh	Central	
47	Integrated Industrial Development Centre, Birkoni, Chattisgarh	Central	
48	IT Park Madhapur - HiTech City, Telangana	South	
49	IT Park, Uttarakhand	North	
50	Jalandhar (Expn.), Punjab	North	
51	Jalandhar Old, Punjab	North	
52	Jharmajri Phase II, Himachal Pradesh	North	
53	Kadakola Industrial Area, Karnataka	South	
54	Kaharani(Bhiwadi Ext.), Rajasthan	West	
55	Khandala Phase-I (Kesurdi) SEZ Industrial Area, Maharasthra	West	
56	KINFRA Film And Video Park (KFVP),Kazhakuttom,Trivandum , Kerala	South	
57	KINFRA Hi-Tech Park,Kalamassery, Kochi , Kerala	South	

Sr.No.	Park Name	Region	Ownership/ End-Use
58	KINFRA Integrated Industrial And Textile Park, Kanjikode, Palakkad, Kerala	South	
59	KINFRA Mega Food Park,Kozhipara, Palakkad , Kerala	South	
60	Leather Complex, Jalandhar, Punjab	North	
61	Lodhimajra, Himachal Pradesh	North	
62	Mahindra World City Chennai, Tamil Nadu	South	
63	Malanpur-Ghirongi, Madhya Pradesh	Central	
64	Mandi Gobindgarh, Punjab	North	
65	Mascot Infrastructure Gujarat LLP, Gujarat	West	
66	Meghnagar, Madhya Pradesh	Central	
67	Metal Park, Rawabhata, Chattisgarh	Central	
68	Mini Industrial Area Kaleshwar, Uttarakhand	North	
69	MOHALI PHASE 9 EXPANSION, Punjab	North	
70	MOHALI PHASE 9, Punjab	North	
71	Nanjangud Industrial area, Karnataka	South	
72	OneHub Chennai, Tamil Nadu	South	
73	Punayata, Rajasthan	West	
74	RIICO INDUSTRIAL AREA KHUSKHERA , Rajasthan	West	
75	Savli, Gujarat	West	
76	SECTOR - 33, Uttar Pradesh	North	
77	SECTOR-16, Uttar Pradesh	North	
78	Sector-81, Uttar Pradesh	North	
79	SIDC Jasodharpur, Uttarakhand	North	
80	SIDCO INDUSTRIAL ESTATE, KAKKALUR, Tamil Nadu	South	
81	SIPCOT INDUSTRIAL COMPLEX, BARGUR, Tamil Nadu	South	
82	SIPCOT INDUSTRIAL COMPLEX, RANIPET (Phase I, II & III), Tamil Nadu	South	
83	SIPCOT INDUSTRIAL PARK, IRUNGATTUKOTTAI, Tamil Nadu	South	
84	SIPCOT INDUSTRIAL PARK, VALLAM-VADAGAL, Tamil Nadu	South	
85	SKS Reengus, Rajasthan	West	
86	Smart Industrial Park Near NATRIP, Madhya Pradesh	Central	
87	Surajpur Site-V, Uttar Pradesh	North	
88	TALANAGRI INDUSTRIAL AREA, Uttar Pradesh	North	
89	Vision Industrial Park, Gujarat	West	
90	Welspun Anjar SEZ Limited, Gujarat	West	

Private Public Sector Specific Mixed

From Figure 20, it is evident that:

- Parks from the Central (Chhattisgarh and Madhya Pradesh), Western (Gujarat, Maharashtra, and Rajasthan), Northern (Punjab, Uttar Pradesh, Uttarakhand, Himachal Pradesh, Haryana, and Jammu and Kashmir) and Southern (Karnataka, Kerala, Tamil Nadu, and Telangana) regions constitute about 99 percent of the parks identified in this category. The only exception is a park from Tripura in the North-Eastern region.

- **Government-owned parks and parks with mixed end-use dominate this category with about 92 percent and 72 percent share,** respectively. While the representation from private parks is observed only in Gujarat and Tamil Nadu, the representation amongst the sector-specific parks is more broadly distributed. This includes representation from Karnataka (automobiles), Kerala (handicrafts, chemicals, capital goods, and food processing), Tamil Nadu (automobiles and leather), and Telangana (IT and ITeS) in the Southern region; Chhattisgarh (electronics hardware) and Madhya Pradesh (engineering) in the Central region; Haryana (metals), Punjab (IT and ITeS), Uttar Pradesh (metals), Uttarakhand (pharmaceuticals and IT and ITeS), and Himachal Pradesh (chemicals) in the Northern region; and Gujarat (food processing) and Rajasthan (textiles) in the Western region.

- **Average vacancy for parks in this category is about 27 percent.** Therefore, they can attract further investment. Figure 21 presents parks with a relatively higher level of vacancy (>50 percent of allottable area).

Gujarat	Kerala	Maharashtra	Uttarakhand	Punjab
Vision Industrial park	Kinfra Hi-TechPark, Kalamasser, kochi	Khandala Phase-I (Kesurdi) SEZ Industrail Area	Government Industrial Estate, Kashipur	• IFP Dera Bassi • IFP Hoshiarpur • IFP Moga • IFP Mohali Phase-VII • IFP Nawanshehar • IFP Sangrur • IMUI Kapurthala
Karnataka		**Uttar Pradesh**	**Punjab**	
Bidadi 1st Phase & II Phase		Sector-16	• jalandhar (Expn.) • Leather Complex Jalandhar	

Figure 21: Challengers with a relatively high level of vacancy

Aspirers

Figure 22 presents the details of 185 parks wherein improvement required for purposes of enhancing service delivery and making requisite facilities available to tenants is observed to be relatively higher.

Figure 22: Aspirers - Industrial parks requiring a relatively higher level of interventions

Sr. No.	Park Name	Region	Ownership/ End-Use
1	Aatmiya Brookfields, Gujarat	West	
2	Aatmiya-2 Industrial Park (Snehdeep), Gujarat	West	
3	Adityapur Industrial Area (6th Phase), Jharkhand	East	
4	Adityapur Industrial Area (7th Phase), Jharkhand	East	
5	Adityapur Industrial Area Phase 2, Jharkhand	East	
6	Aerospace_SEZ_Adibatla, Telangana	South	
7	Ahmedabad Foundry & Engineering & Cluster, Gujarat	West	
8	Alluminium Park, Odisha	East	
9	Antharasanahalli Industrial Area, 1st Phase & II Phase, Karnataka	South	
10	Anuradha Realty Pvt Ltd, Gujarat	West	

Sr. No.	Park Name	Region	Ownership/ End-Use
11	Badli, Delhi	North	
12	Baikampady, Karnataka	South	
13	Balidih Industrial Area Phase - IV, Jharkhand	East	
14	Banmore, Madhya Pradesh	Central	
15	Belur Industrial Area, Karnataka	South	
16	Bethora, Goa	West	
17	Block - F, Andhra Pradesh	South	
18	Canacona, Goa	West	
19	Chandanvelly, Telangana	South	
20	Colvale, Goa	West	
21	Contrans Logistic Park Private Limited, Gujarat	West	
22	Dahej_II, Gujarat	West	
23	Dahej_III, Gujarat	West	
24	Dahod(Kharedi), Gujarat	West	
25	Damanganga Industrial Park, Gujarat	West	
26	Development Area , Edayar, Kerala	South	
27	Development Area, Ananthapuram, Kerala	South	
28	Development Area, Veli, Kerala	South	
29	Development Plot, Ananthapuram, Kerala	South	
30	Dewas Sector 2 & 3, Madhya Pradesh	Central	
31	Doddanekunddi, sadarmangala EPIP, Karnataka	South	
32	E_CITY_SEZ, Telangana	South	
33	ECOTECH-I, Uttar Pradesh	North	
34	Electronic city Phase - 2, Karnataka	South	
35	EMC Park, Infovalley, Bhubaneswar, Odisha	East	
36	Engineering Park Bhilai , Chattisgarh	Central	
37	EPIP Hajipur, Bihar	East	
38	Export Promotion Industrial Park, Assam	North East	
39	Fatuha Industrial Area, Bihar	East	
40	Food Park Babai, Madhya Pradesh	Central	
41	Food park Nilakuthi, Manipur	North East	
42	Gagret Phase I & II, Himachal Pradesh	North	
43	Gallops Industrial Park ï¿‚ï¾– 1, Gujarat	West	
44	Gallops Industrial Park-2, Gujarat	West	
45	Gondpur Phase I, Himachal Pradesh	North	
46	Government Industrial Estate, Khadoli, Dadra & Nagar Haveli	West	
47	Government Industrial Estate, Masat., Dadra & Nagar Haveli	West	
48	GrouthCenter Manamunda , Odisha	East	
49	GROWTH CENTRE BOBBILI, Andhra Pradesh	South	
50	Gwalthai Phase II, Himachal Pradesh	North	
51	Hajipur Industrial Area, Bihar	East	
52	Halol Expansion, Gujarat	West	
53	Halol_I, Gujarat	West	

Sr. No.	Park Name	Region	Ownership/ End-Use
54	Hardware Park, Telangana	South	
55	Hargarh Jabalpur, Madhya Pradesh	Central	
56	Heavy Industrial Area, Bhilai, Chattisgarh	Central	
57	Hindva Builders LLP, Gujarat	West	
58	Honda, Goa	West	
59	Horizon Industrial Park, Gujarat	West	
60	I.E Balgopalpur, Odisha	East	
61	I.E Bhagabanpur, Odisha	East	
62	I.E Bolangir-GC-Phase-II, Odisha	East	
63	I.E Chhatabar, Odisha	East	
64	I.E Choudwar, Odisha	East	
65	I.E Food Park Khurda, Odisha	East	
66	I.E Gothapatna, Odisha	East	
67	I.E Gundichapada, Odisha	East	
68	I.E IID Rayagada, Odisha	East	
69	I.E Jharsuguda G.C, Odisha	East	
70	I.E Khurda, Odisha	East	
71	I.E Mandiakudar, Odisha	East	
72	I.E Matkambeda, Odisha	East	
73	I.E Rairangpur, Odisha	East	
74	I.E Ramdaspur, Odisha	East	
75	I.E Sarua, Odisha	East	
76	I.E Somnathpur, Odisha	East	
77	I.E Talcher, Odisha	East	
78	IDA-PARAWADA, Andhra Pradesh	South	
79	IDP Kadapa, Andhra Pradesh	South	
80	IFP Goindwal Sahib Phase II, Punjab	North	
81	IFP KHANNA, Punjab	North	
82	IGC Chaygaon (Jambari), Assam	North East	
83	IGC, Balipara, Assam	North East	
84	IGC, Matia, Assam	North East	
85	IID Bina, Madhya Pradesh	Central	
86	IID Jaderua , Madhya Pradesh	Central	
87	IID Pratappura, Madhya Pradesh	Central	
88	IIDC Nalbari, Assam	North East	
89	IIDC Rangia, Assam	North East	
90	Industrial Area Muzaffarpur, Bihar	East	
91	Industrial Area Pandoul, Bihar	East	
92	Industrial Area, Silpahari, Chattisgarh	Central	
93	Industrial Area, Tifra, Chattisgarh	Central	
94	Industrial Estate Bhilai, Chattisgarh	Central	
95	Industrial Estate Muzaffarpur, Bihar	East	
96	Industrial estate, ollur, Kerala	South	

Sr. No.	Park Name	Region	Ownership/ End-Use
97	Industrial Growth Center Maranga Purnea, Bihar	East	
98	Industrial Growth Centre (IGC) Maneri, Madhya Pradesh	Central	
99	Industrial Growth Centre, Niglok-Ngorlung, Arunachal Pradesh	North East	
100	Industrial Growth Centre, Urla, Chattisgarh	Central	
101	Integrated Industrial Development Centre, Nayanpur, Girwarganj, Chattisgarh	Central	
102	IP Agro Processing Park Bandamaylaram , Telangana	South	
103	IP Attivaram, Andhra Pradesh	South	
104	IP IC PUDI, Andhra Pradesh	South	
105	IP Kakatiya Mega Textile Park, Telangana	South	
106	IP MANKAL, Telangana	South	
107	IP Naidupeta, Andhra Pradesh	South	
108	IP PYIDIBHIMAVARAM, Andhra Pradesh	South	
109	IP Rampur, Telangana	South	
110	IP Sultanpur General Park/ Medical Devices, Telangana	South	
111	IP_GAMBHEERAM, Andhra Pradesh	South	
112	IP_Madikonda, Telangana	South	
113	IP_Toopran, Telangana	South	
114	IP-AMMAVARIPALLI, Andhra Pradesh	South	
115	IP-ERRAMANCHI, Andhra Pradesh	South	
116	IP-GAJULMANDYAM, Andhra Pradesh	South	
117	IT_PARK_MANGALAGIRI, Andhra Pradesh	South	
118	Japanese Park (Mandal), Gujarat	West	
119	Jasidih Industrial Area Phase 2, Jharkhand	East	
120	Kakoda, Goa	West	
121	Kala Amb, Himachal Pradesh	North	
122	Kandrori Phase I, Himachal Pradesh	North	
123	KINFRA Small Industries Park (KSIP),Mazhuvannur,Ernakulam , Kerala	South	
124	KSIDC - Industrial Growth Centre, Kinalur, Kozhikode, Kerala	South	
125	KSIDC - Industrial Growth Centre, Valiyavelicham, Kannur, Kerala	South	
126	KSIDC -Mega Food Park, Kerala	South	
127	KSIDC-INDUSTRIAL GROWTH CENTRE, PALLIPURAM, CHERTHALA, Kerala	South	
128	Kuraopokpi Industrial Estate, Manipur	North East	
129	Lamtara, Madhya Pradesh	Central	
130	Large Industrial Estate Barari, Bihar	East	
131	Light Industrial Area, Bhilai, Chattisgarh	Central	
132	Madkaim, Goa	West	
133	Maksi, Madhya Pradesh	Central	
134	Mapusa, Goa	West	
135	Mehatpur, Himachal Pradesh	North	
136	Narasapura industrial area, Karnataka	South	
137	New Industrial Estate, Nagaland	North East	
138	Obedanahalli IA (Doddaballapur 3rd Phase IA), Karnataka	South	
139	Old Industrial Estate, Nagaland	North East	

Sr. No.	Park Name	Region	Ownership/ End-Use
140	Pandoga, Himachal Pradesh	North	
141	PATLIPUTRA INDUSTRIAL AREA, Bihar	East	
142	Patparganj, Delhi	North	
143	Patratu Industrial Area-I, Jharkhand	East	
144	PEDDAPURAM-UDL, Andhra Pradesh	South	
145	Pilerne, Goa	West	
146	Pilukhedi, Madhya Pradesh	Central	
147	Pissurlem, Goa	West	
148	R.K.Nagar Industrial Area, Tripura	North East	
149	Raichur Growth centre, Karnataka	South	
150	Rajiv Gandhi Chandigarh Technology Park (RGCTP), Chandigarh	North	
151	Ratanakar Estate Developer, Gujarat	West	
152	Romanovia Industrial Park, Gujarat	West	
153	Sanand, Gujarat	West	
154	Sancoale, Goa	West	
155	Sanguem, Goa	West	
156	Sansarpur Phase III, Himachal Pradesh	North	
157	Sayakha, Gujarat	West	
158	SEZ, Infovally, Bhubaneswar, Odisha	East	
159	Shamshi, Himachal Pradesh	North	
160	Shiroda, Goa	West	
161	Shoghi, Himachal Pradesh	North	
162	Sidco industrial estate, ettumanoor, Kerala	South	
163	SIDCO INDUSTRIAL ESTATE,kollakadavu, Kerala	South	
164	Siddhi Industrial Infrastructure Park, Gujarat	West	
165	Sidhguwan Phase-I, Madhya Pradesh	Central	
166	Sikandarpur Industrial Area, Bihar	East	
167	SIPCOT INDUSTRIAL COMPLEX THOOTHUKKUDI (Phase I), Tamil Nadu	South	
168	SIPCOT INDUSTRIAL COMPLEX, CHEYYAR (Phase I &II), Tamil Nadu	South	
169	SIPCOT INDUSTRIAL GROWTH CENTRE, ORAGADAM, Tamil Nadu	South	
170	Sompura 1st and 2nd Stage(Dabaspet 3rd Phase) Industrial Area, Karnataka	South	
171	State Food Park, Andhra Pradesh	South	
172	Stone Park Gwalior, Madhya Pradesh	Central	
173	Tahiwal Phase I & II, Himachal Pradesh	North	
174	Takyel Industrial Estate, Manipur	North East	
175	Tatisilwai Industrial Area Phase 1, Jharkhand	East	
176	Tera Urak Industrial Estate, Manipur	North East	
177	Tippi Industrial Estate,Bhalukpong, Arunachal Pradesh	North East	
178	TSIIC_Jedcharla_GIP, Telangana	South	
179	Tuem, Goa	West	
180	Udyog Vihar Rewa, Madhya Pradesh	Central	
181	Udyoggiri Purena, Madhya Pradesh	Central	
182	Umariya Dungariya Phase-I, Madhya Pradesh	Central	

Sr. No.	Park Name	Region	Ownership/ End-Use
183	Vasanthanarasapura 1st Phase, Karnataka	South	
184	vemgal industrial area, Karnataka	South	
185	Vikruthamala EMC-2, Andhra Pradesh	South	

Private Public Sector Specific Mixed

From Figure 22, it is evident that:

- The Eastern (Bihar, Jharkhand, and Odisha), North-Eastern (Arunachal Pradesh, Assam, Manipur, Tripura, and Nagaland), Western (Dadra and Nagar Haveli, Goa, and Gujarat), and Southern (Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, and Telangana) regions make up nearly 78 percent of the parks identified in this category. Other states finding representation in this category include Chhattisgarh and Madhya Pradesh in the Central region; and Chandigarh, Delhi, Himachal Pradesh, Punjab, and Uttar Pradesh in the Northern region.

- **Government-owned parks and parks with mixed end-use dominate this category with about 93 percent and 75 percent share,** respectively. While the representation from private parks is observed only in Gujarat, the representation amongst sector-specific parks is more broadly distributed. This includes representation from Andhra Pradesh (automobiles, metals, and food processing), Karnataka (electronics hardware, automobiles, engineering, and pharmaceuticals), Kerala (food processing and capital goods), Tamil Nadu (engineering), and Telangana (biotechnology, electronics hardware, and textiles) in the Southern region; Madhya Pradesh (food processing and construction) in the Central region; Chandigarh (IT and ITeS) and Himachal Pradesh (Chemicals) in the Northern region; Gujarat (automobiles) in the Western region; Odisha (metals, electronics hardware, and IT and ITeS) in the Eastern region; and Assam (metals) and Manipur (food processing) in the North-Eastern region.

- **Average vacancy for parks in this category is about 17 percent** that may limit their ability to attract further investments, unless expansions are planned in their vicinity (subject to land availability). Figure 23 presents the parks with a relatively higher level of vacancy (>50 percent of the allottable area).

Figure 23: Aspirers with a relatively high level of vacancy

<table>
<tr><th>Andhra Pradesh</th><th>Assam</th><th>Gujarat</th><th>Jharkhand</th><th>Kerala</th></tr>
<tr><td>• IDA-Parawada
• IP-Erramanchi
• IP-Gajulmandyam</td><td>• IGC Chaygaon
• IIDC Rangia</td><td rowspan="3">• Aatmiya-2 Industrial Park (Snehdeep)
• Ahmedabad Foundry & Engineering & Cluster
• Anuradha Realty Pvt Ltd</td><td>• Patratu Industrial Area-I
• Tatisilwai Industrial Area Phase 1</td><td>• KINFRA Small Industries Park (KSIP), Mazhuvannur, Ernakulam</td></tr>
<tr><th>Arunachal Pradesh</th><th>Karnataka</th><th>Punjab</th><th>Karnataka</th></tr>
<tr><td>• Industrial Growth Centre, Niglok-Ngorlung</td><td>• Obedanahalli IA (Doddaballapur 3rd Phase IA)</td><td>• IFP Khanna</td><td>• SEZ, Infovally, Bhubaneswar</td></tr>
</table>

3.2.2 Rating for SEZs nominated where response was received from more than 15 percent tenants

The section[22] presents findings from the rating exercise at the aggregate level for SEZs.

Leaders

Figure 24 presents the details of 13 best performing zones where the response was received from more than 15 percent tenants.

Figure 24: Leaders - SEZs with the highest level of aggregate performance

Sr.	Name of SEZ	Region	Ownership/ End-Use
1	AEQUS SEPECIAL ECONOMIC ZONE, Karnataka	South	
2	BIOCON SPECIAL ECONOMIC ZONE, Karnataka	South	
3	BRANDIX INDIA APPAREL CITY P LTD., Andhra Pradesh	South	
4	Cheyyar SEZ Developers Pvt Ltd, Tamil Nadu	South	
5	COCHIN SPECIAL ECONOMIC ZONE, Kerala	South	
6	Jubilant Infrastructure Limited, Gujarat	West	
7	KANDLA SPECIAL ECONOMIC ZONE, Gujarat	West	
8	LARSEN & TOUBRO LIMITED SEZ, Tamil Nadu	South	
9	Mahindra World city (Jaipur) Ltd, Rajasthan	West	
10	MAHINDRA WORLD CITY DEVELOPERS LIMITED, Tamil Nadu	South	
11	MANGALORE SPECIAL ECONOMIC ZONE, Karnataka	South	
12	RAMKY PHARMACITY INDIA LINITED SEZ, Andhra Pradesh	South	
13	SRICITY SEZ, Andhra Pradesh	South	

Private Public Sector Specific Mixed

From Figure 24, it is evident that:

- Zones from the **Southern (Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu) region constitute about 77 percent of the zones identified in this category.** Other states finding representation in this category include Rajasthan and Gujarat in the Western region.

- **Privately owned and sector-specific zones dominate this category with about 77 percent and 62 percent share, respectively.** The representation from privately owned zones is observed in Gujarat and Rajasthan in the Western region, and Andhra Pradesh, Karnataka, and Tamil Nadu in the Southern region. However, the representation amongst sector-specific zones is observed majorly from the Southern region, including Andhra Pradesh (textiles and pharmaceuticals), Karnataka (defence and aerospace manufacturing, and biotechnology), and Tamil Nadu (leather, engineering, and automobiles).

- **Average vacancy for zones in this category is about 30 percent.** Therefore, these zones have the ability to attract further investment. Figure 25 presents a relatively higher level of vacancy (>50 percent of allottable area)

Figure 25: Leaders with a relatively high level of vacancy

Kerala	Kerala
Aequs Special Economic Zone	Mahindra World city (Jaipur) Ltd

22. Names of states and parks/SEZs therein has been presented in an alphabetical order

Challengers

Figure 26 presents the details of 19 moderately performing zones where the response was received from more than 15 percent tenants:

Figure 26: Challengers - SEZs with a moderate level of aggregate performance

Sr.	Name of SEZ	Region	Ownership/ End-Use
1	Adani Ports and Special Economic Zone Ltd., Gujarat	West	
2	Apache SEZ Developement India Pvt.Limited, Andhra Pradesh	South	
3	Arshiya Northern FTWZ Ltd., Uttar Pradesh	North	
4	ASPEN PARK INFRA COIMBATORE PVT LTD, Tamil Nadu	South	
5	Chennai Free Trade Zone, Tamil Nadu	South	
6	Dahej SEZ, Gujarat	West	
7	DR.REDDY'S SECTOR SPECIFIC SEZ FOR APIs & PHARMACEUTICALS, Andhra Pradesh	South	
8	FLEXTRONICS TECHNOLOGIES (INDIA) PRIVATE LIMTED, Tamil Nadu	South	
9	HETERO INFRASTRUCTURE SEZ LIMITED, Andhra Pradesh	South	
10	MEPZ SPECIAL ECONOMIC ZONE, Tamil Nadu	South	
11	Reliance Jamnagar SEZ, Jamnagar, Gujarat	West	
12	Santacruz Electronics Export Processing Zone, Maharasthra	West	
13	SIPCOT HI-TECH SEZ ORAGADAM, Tamil Nadu	South	
14	SIPCOT TRANSPORT ENGINEERING SEZ GANGAIKONDAN, Tamil Nadu	South	
15	SPECIAL ECONOMIC ZONE SURAT, Gujarat	West	
16	Special Economic Zone, Indore, Madhya Pradesh	Central	
17	VEDANTA LIMITED SEZ, Odisha	East	
18	Visakhapatnam Special Economic Zone, Andhra Pradesh	South	
19	Zydus Pharma SEZ, Gujarat	West	

Private Public Sector Specific Mixed

From Figure 26, it is evident that:

- **Zones from the Southern (Andhra Pradesh and Tamil Nadu) and Western (Gujarat and Maharashtra) regions constitute about 84 percent of the zones identified in this category.** Other states finding representation in this category include Odisha in the Eastern region, Uttar Pradesh in the Northern region, and Madhya Pradesh in the Central region.

- **Privately owned zones dominate this category with nearly 63 percent share –** The split between mixed end-use and sector-specific zones almost equal at 53 percent and 47 percent, respectively. The representation from privately owned zones is observed in Gujarat in the Western region; Andhra Pradesh and Tamil Nadu in the Southern region; Odisha in the Eastern region; and Uttar Pradesh in the Northern region. The representation amongst the sector-specific zones is observed from Andhra Pradesh and Tamil Nadu in the Southern region and Gujarat in the Western region with sectors, including leather, pharmaceuticals, chemicals, engineering, and electronics hardware.

- **Average vacancy for zones in this category is only about 20 percent.** The low vacancy may limit their ability to attract further investments, unless expansions are planned in their vicinity (subject to land availability). Figure 27 presents the zones with a relatively higher level of vacancy (>50 percent of allottable area).

Figure 27: Challengers with a relatively high level of vacancy

Gujarat	Timil Nadu
Adani Ports and Special Economic Zone	• Chennai Free Trade Zone • Flextronics Technologies (India) Private Limited • SIPCOT Transport Engineering SEZ Ganaikondan

Aspirers

Figure 28 presents the details of 17 zones requiring a relatively higher improvement to enhance service delivery and make requisite facilities available to tenants.

Figure 28: Aspirers - SEZs requiring a relatively higher level of interventions

Sr.	Name of SEZ	Region	Ownership/ End-Use
1	ATCHUTAPURAM_APSEZ	South	
2	BPSEZ, Annangi(V), Andhra Pradesh	South	
3	DIVIS SECTOR SPECIFIC SEZ (PHARMA), Andhra Pradesh	South	
4	FABCITY SPV, Telangana	South	
5	FALTA SPECIAL ECONOMIC ZONE, West Bengal	East	
6	IT SEZ HILL 2, Andhra Pradesh	South	
7	IT SEZ HILL 3, Andhra Pradesh	South	
8	MIDC PHALTAN SEZ, Maharasthra	West	
9	MIHAN SEZ, Maharasthra	West	
10	Parry Infrastructure Company Private Limited, Andhra Pradesh	South	
11	SERUM BIO PHARMA PARK, Maharasthra	West	
12	SEZ JADCHERLA, Telangana	South	
13	SEZ Naidupeta, Andhra Pradesh	South	
14	SEZ-II, Jaipur, Rajasthan	West	
15	SIPCOT INDUSTRIAL GROWTH CENTER - SEZ, Tamil Nadu	South	
16	SIPCOT INDUSTRIAL PARK SRIPERUMBUDUR, Tamil Nadu	South	
17	Sterling SEZ, Gujarat	West	

Private Public Sector Specific Mixed

From Figure 28, it is evident that:

- **Zones from the Southern (Andhra Pradesh, Telangana, and Tamil Nadu) and Western (Gujarat, Rajasthan, and Maharashtra) regions make up about 94 percent of the zones identified in this category.** The only exception is a park from West Bengal in the Eastern region.

- **Government-owned and sector-specific zones dominate this category with about 59 percent and 76 percent share, respectively.** They primarily represent states from the Southern and Western regions. The representation from government-owned zones is observed in Maharashtra and Rajasthan in the Western region, Andhra Pradesh and Tamil Nadu in the Southern region, and West Bengal in the Eastern region. The representation amongst sector-specific zones is observed from Tamil Nadu, Telangana, and Andhra Pradesh in the Southern region, and Maharashtra and Rajasthan from the Western region. The key sectors represented in these zones include construction, pharmaceuticals, food processing, metals, engineering, biotechnology, gems and jewellery, electronics hardware, and renewable energy.

- **Average vacancy for zones in this category is only about 15 percent,** which may limit their ability to attract further investments unless expansions are planned in their vicinity (subject to land availability). Figure 29 presents zones with a relatively higher level of vacancy (>50 percent of allottable area).

Figure 29: Aspirers with a relatively high level of vacancy

Gujarat
Sterling SEZ

3.2.3. Rating for parks nominated where response was received from less than 15 percent tenants[23]

The figure below presents the findings from the rating exercise at an aggregate level for industrial parks.

Leaders

Figure 30: Leaders - Industrial parks with the highest level of aggregate performance

Sr.	Park	Region	Ownership/ End-Use
1	BAGRU EXT.PHASE II, Rajasthan	West	
2	Baramati Industrial Area, Maharashtra	West	
3	Bhiwadi, Rajasthan	West	
4	Butibori Industrial Area, Maharashtra	West	
5	E.P.I.P. Neemrana, Rajasthan	West	
6	GROWTH CENTER PHASE-II, Rajasthan	West	
7	Growth Centre , Jhalawar, Rajasthan	West	
8	IIE Haridwar, Uttarakhand	North	
9	IIE Pantnagar, Uttarakhand	North	
10	IPIA,KOTA, Rajasthan	West	
11	Kagal Hatkanangale Five Star Industrial Area, Maharashtra	West	
12	Khara Industrial Area, Rajasthan	West	
13	Neemrana Phase-I, Rajasthan	West	
14	Phase-II, Uttar Pradesh	North	
15	Pimpri Industrial Area, Maharashtra	West	
16	Ranjangaon Industrial Area, Maharashtra	West	
17	SECTOR - 29, Uttar Pradesh	North	
18	Sector-1, Uttar Pradesh	North	
19	Sector-63, Uttar Pradesh	North	
20	Sector-67, Uttar Pradesh	North	
21	Sector-68, Uttar Pradesh	North	
22	Sector-80, Uttar Pradesh	North	
23	Sector-84A, Uttar Pradesh	North	
24	T.T.C. Industrial Area, Maharashtra	West	
25	Taloje Industrial Area, Maharashtra	West	
26	Tarapur Industrial Area, Maharashtra	West	
27	Waluj Industrial Area, Maharashtra	West	

Private Public Sector Specific Mixed

23. The names of the states and the parks/SEZs therein have been presented in the alphabetical order. No separate analysis has been presented for SEZs as there was only one SEZ within this category of parks and zones that did not attain the survey threshold of 15 percent.

From Figure 30, it is evident that:

- Only parks from the **Western** (Maharashtra and Rajasthan) and **Northern** (Uttar Pradesh and Uttarakhand) regions constitute the parks identified in this category. Further, **these parks are government owned. Only one park is sector-specific (engineering).**

- **Average vacancy for parks in this category is only about 10 percent.** The low vacancy may limit their ability to attract further investments unless expansions are planned in their vicinity (subject to land availability). Figure 31 presents parks with a relatively higher level of vacancy (>50 percent of allottable area).

Figure 31: Leaders with a relatively high level of vacancy

Rajasthan
Growth Centre, Jhalawar

Challengers

Figure 32 presents the details of 18 moderately performing parks where the response was received from less than 15 percent tenants:

Figure 32: Challengers - Industrial parks with a moderate level of aggregate performance

Sr.	Park	Region	Ownership/ End-Use
1	Bawana, Delhi	North	
2	ECOTECH-01-EXTN, Uttar Pradesh	North	
3	ECOTECH-II, Uttar Pradesh	North	
4	ECOTECH-III, Uttar Pradesh	North	
5	ECOTECH-VI, Uttar Pradesh	North	
6	Hebbal industrial area, Karnataka	South	
7	I.E Mancheswar, Odisha	East	
8	Industrial Estate, Bahadurgarth, Haryana	North	
9	Industrial Model Township, Bawal, Haryana	North	
10	Industrial Model Township, Manesar, Haryana	North	
11	Jharmajri Phase I, Himachal Pradesh	North	
12	Nanded Industrial Area, Maharashtra	West	
13	Narela , Delhi	North	
14	Pashamylaram Phase I to IV and EPIP, Telangana	South	
15	SIDCO Industrial Estate, Guindy, Tamil Nadu	South	
16	SIDCO Industrial Estate, Thirumazhisai,, Tamil Nadu	South	
17	SIDCO INDUSTRIAL ESTATE, THIRUMUDIVAKKAM MAIN, Tamil Nadu	South	
18	SIDCO INDUSTRIAL ESTATE, Thirumullaivoyal WIP, Tamil Nadu	South	

Private Public Sector Specific Mixed

From Figure 32, it is evident that:

- **Parks from the Northern (Delhi, Haryana, Himachal Pradesh, and Uttar Pradesh) region account for nearly 56 percent of the parks identified in this category.** Other states finding representation in this category include Odisha from the Eastern region; Karnataka, Tamil Nadu, and Telangana from the Southern region; and Maharashtra from the West region. Further, these parks are government owned.

- A very small proportion of the parks are sector specific. These include parks from Haryana (leather and automobile) and Himachal Pradesh (chemicals) in the Northern region; and Tamil Nadu (engineering) in the Southern region.

- **Average vacancy for parks in this category is only about 18 percent.** This may limit their ability to attract further investments unless expansions are planned in their vicinity (subject to land availability). Figure 33 presents parks with a relatively higher level of vacancy (>50 percent of allottable area).

Figure 33: Challengers with a relatively high level of vacancy

Delhi	Timil Nadu
Bawana	• SIDCO Industrial Estate, Thirmullaivoyal WIP • SIDCO Industrial Estate, Thirumazhisai • SIDCO Industrial Estate, Thirumudivakkam Main

Aspirers

Figure 34 presents the details of 38 parks requiring relatively higher improvement to enhance service delivery and make requisite facilities available to tenants.

Figure 34: Aspirers - Industrial parks requiring a relatively higher level of interventions

Sr.	Park	Region	Ownership/ End-Use
1	Acharpura Industrial Area, Madhya Pradesh	Central	
2	Bagroda, Madhya Pradesh	Central	
3	Bangalore IT Park, Defence and Aerospace Park & Aerospace SEZ, Karnataka	South	
4	Bicholim, Goa	West	
5	BOMMASANDRA 1ST, 2ND, 3RD & 4TH PHASE, Karnataka	South	
6	Bommasandra Jigni link Road, Karnataka	South	
7	Corlim, Goa	West	
8	Cuncolim, Goa	West	
9	Harohalli 1st & 2nd Phase IA, Karnataka	South	
10	Hassan Growth Centre Industrial Area, Karnataka	South	
11	I.E Jagatpur_New, Odisha	East	
12	I.E Kalunga, Odisha	East	
13	IMT Faridabad & Sector 59, Haryana	North	
14	Industrial Estate Karnal, Haryana	North	
15	Industrial Estate Kundli, Haryana	North	
16	Industrial Estate Rai, Haryana	North	
17	Industrial Estate, Barhi, Haryana	North	

Private Public Sector Specific Mixed

Sr.	Park	Region	Ownership/ End-Use
18	Industrial Estate, Khunmoh, Phase I, II & III, Jammu & Kashmir	North	
19	Industrial Growth Centre, Saha, Haryana	North	
20	Industrial Model Township, Rohtak, Haryana	North	
21	IP CHERLAPALLY PHASE I to V, Telangana	South	
22	IT Park Chandaka/Infocity-I, Odisha	East	
23	Jeedimetla Phase I to V, Telangana	South	
24	Kundaim, Goa	West	
25	Mandideep, Madhya Pradesh	Central	
26	Margao, Goa	West	
27	Model_Industrial_Park, Andhra Pradesh	South	
28	Pithampur Industrial Area - Sector 1 & 2, Madhya Pradesh	Central	
29	Pithampur Industrial Area - Sector 3 & 4, Madhya Pradesh	Central	
30	Readymade Garment Complex, Madhya Pradesh	Central	
31	SIPCOT INDUSTRIAL COMPLEX HOSUR (Phase I & II), Tamil Nadu	South	
32	SIPCOT INDUSTRIAL COMPLEX, GUMMIDIPOONDI (I & II), Tamil Nadu	South	
33	SIPCOT INDUSTRIAL GROWTH CENTER, GANGAIKONDAN, Tamil Nadu	South	
34	SIPCOT INDUSTRIAL GROWTH CENTER, PERUNDURAI, Tamil Nadu	South	
35	TIF/TSIIC, Telangana	South	
36	Tivim, Goa	West	
37	Udyog Vihar, Gurugram, Haryana	North	
38	Verna, Goa	West	

Private Public Sector Specific Mixed

From Figure 34, it is evident that:

- Parks from the Eastern (Odisha), Northern (Haryana, Jammu and Kashmir), and Southern (Andhra Pradesh, Karnataka, Tamil Nadu, and Telangana) regions make up nearly 66 percent of the parks identified in this category. Other states finding representation in this category include Madhya Pradesh (the Central region) and Goa (the Western region).

- **Government-owned parks and parks with mixed end-use dominate this category with nearly 95 percent and 79 percent share,** respectively. While the representation from private parks is observed only in Tamil Nadu and Telangana in the Southern region, the representation amongst the sector-specific parks is a bit more broadly distributed. This includes representation from Karnataka (engineering and automobile), and Tamil Nadu (textiles) in the Southern region, Haryana (automobiles) in the Northern region, and Odisha (IT and ITeS) in the Eastern region.

- **Average vacancy for parks in this category is only 7 percent**, which may limit their ability to attract further investments unless expansions are planned in their vicinity (subject to land availability). Figure 35 presents parks with a relatively higher level of vacancy (>50 percent of allottable area).

Figure 35: Aspirers with a relatively high level of vacancy

Haryana	Karnataka
Industrial Estate Karnal	• Bommasandra 1st, 2nd, 3rd & 4th Phase

3.3. Pillar-level performance registered by parks and SEZs nominated for rating

3.3.1. Internal Infrastructure

According to the IPRS 2.0 assessment framework, internal infrastructure comprises three sub-pillars detailed below:

1. Utilities: Address parameters related to provision of key utilities, such as power, water, and gas supply
2. Common infrastructure: Relates to provision of infrastructure available on a shared basis for tenants in a park or zone. It could relate to internal roads, ICT, sewage/effluent treatment, solid waste, storm water, utility corridors, and street lighting, along with operation and maintenance-related activities
3. Value-added infrastructure: Relates to provision of facilities associated with logistics, industrial housing, and plug and play infrastructure

Figure 36 presents performance of industrial parks and zones at an aggregate level for internal infrastructure, along with various key aspects.

Figure 36: Best practices observed across states and UTs

- Uninterrupted power supply: States such as Maharashtra, Andhra Pradesh, Telangana, and Gujarat have mechanisms wherein park developers work in coordination with the state trans mission/distribution company that feeds power in addition to availability of alternate source of supply.
- Underground cabling: States such as Rajasthan and Maharashtra have used central govern ment schemes, such as Integrated Power Development Scheme (IPDS) to convert overhead cables into underground lines.
- Street lighting: States such as Maharashtra, Rajasthan, and Gujarat have either annual mainte nance contracts or outsourced these operations to third parties to ensure adequate monitor ing of streetlight operations.
- Water supply and ground water extraction: States such as Maharashtra, Rajasthan, and Gujarat have assured supply water per demands from parks with adequate monitoring and application of charges to users. Most states have implemented circulars/Government Orders (GOs) to safeguard against exploitation of ground water for industrial use. Maharashtra has implemented relaxations during extreme scarcity of water due to weather.
- Sewage/effluent treatment facilities: States such as Tamil Nadu, Andhra Pradesh, Maharashtra, and Rajasthan have provided requisite facilities. Many of these states recently appointed third-party agencies to manage treatment plants according to their state policies.
- Railway siding: Only select states, such as Maharashtra, Rajasthan, Gujarat, Uttarakhand, and Odisha have parks and zones with presence of railway siding facilities. Western states have drawn the advantage of robust, land-based transport infrastructure facilities across many of these states. However, gateway ports on the west coast are the drivers that have led to installation of railway sidings/warehousing facilities in these states.

3.3.1.1 Performance by region (for internal infrastructure pillar)

Figures 37 and 38 capture 15 top-rated parks and 5 top-rated SEZs in each geographic region based on aggregate performance for internal infrastructure.

Figure 37: Top-performing industrial parks[24]

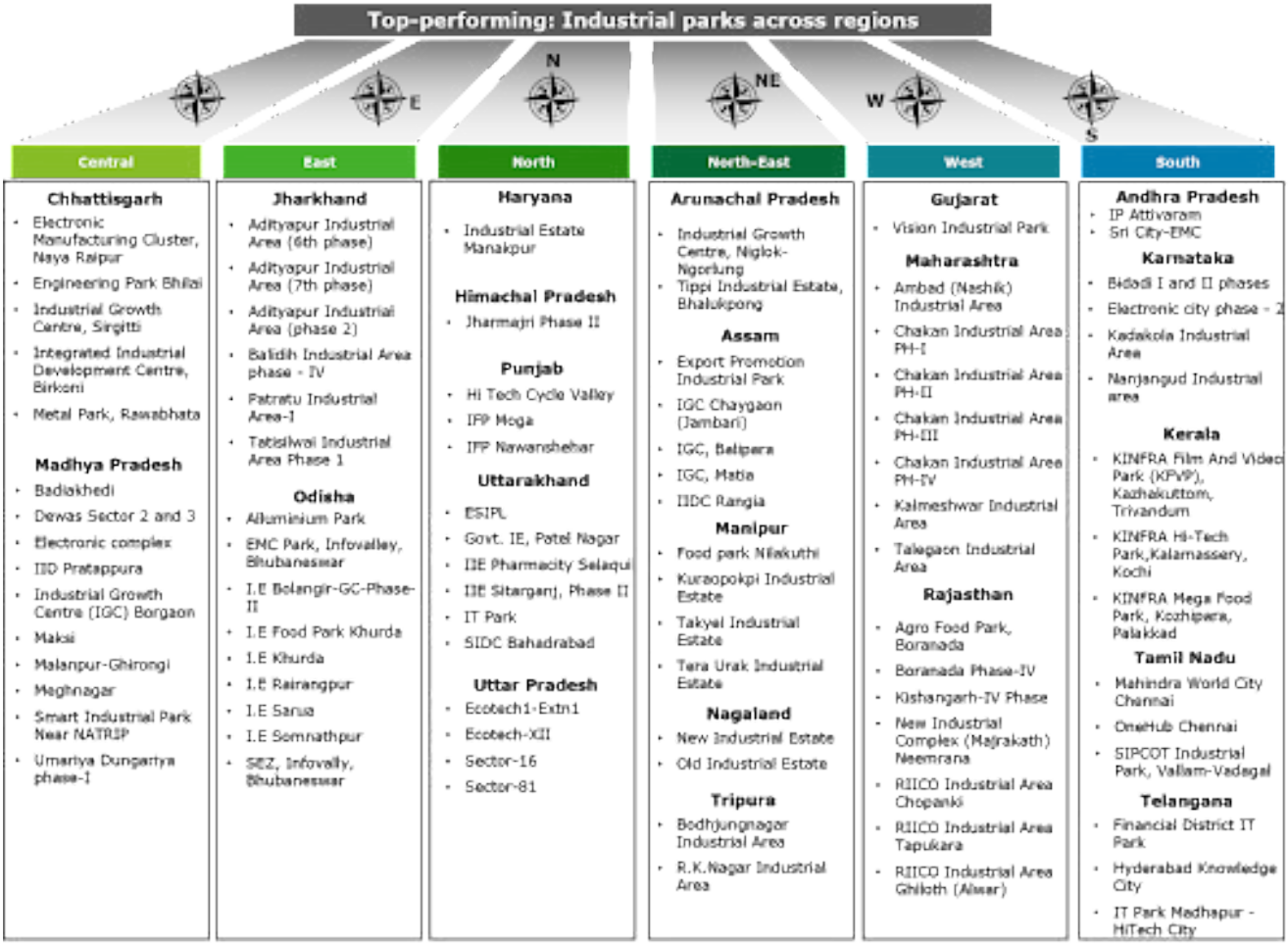
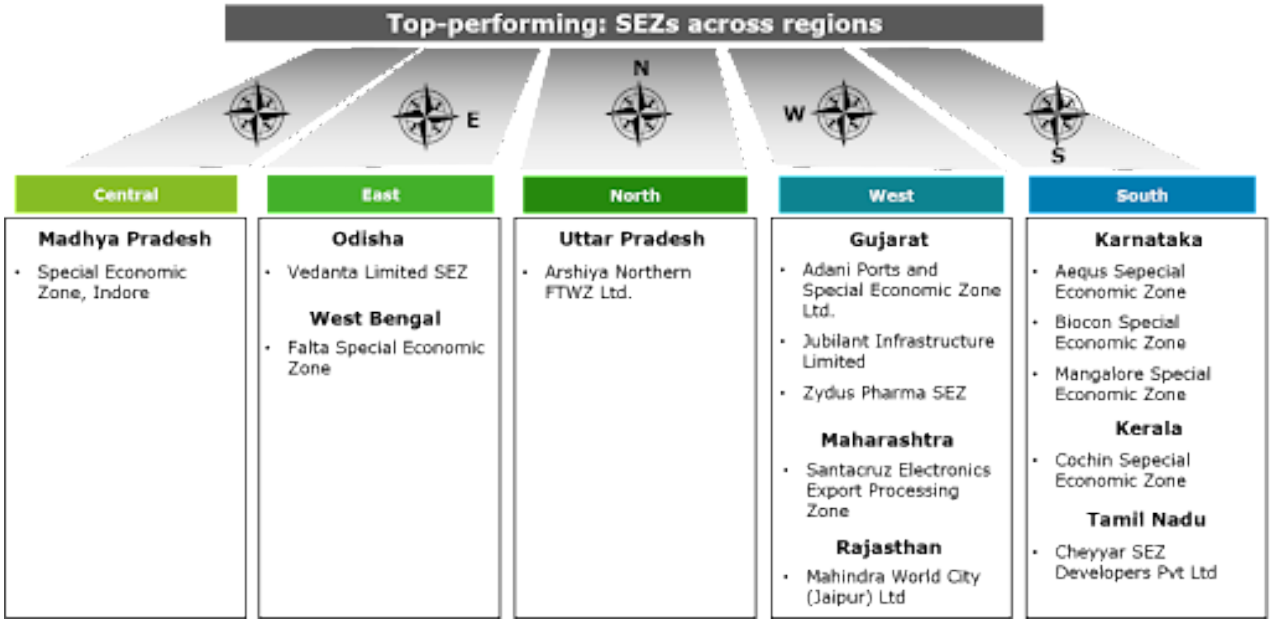


Figure 38: Top-performing SEZs[25]



24. The chart depicts top 15 parks in the respective regions in terms of their performance at an aggregate level for the internal infrastructure pillar. The relative performance of these parks in the different regions may vary. The names of states and parks therein have been arranged in the alphabetical order, with the number of parks in particular region a function of performance and number of entries received.
25. The names of states and SEZs therein have been arranged in the alphabetical order, with the number of SEZs in particular region being a function of performance and number of entries received (may not necessarily be 5 in each region).

3.3.1.2 Performance of private parks (for internal infrastructure pillar)

Figures 39 and 40 present 15 top-rated parks and SEZs owned by the private sector.

Figure 39: Top-performing, privately owned industrial parks[26]

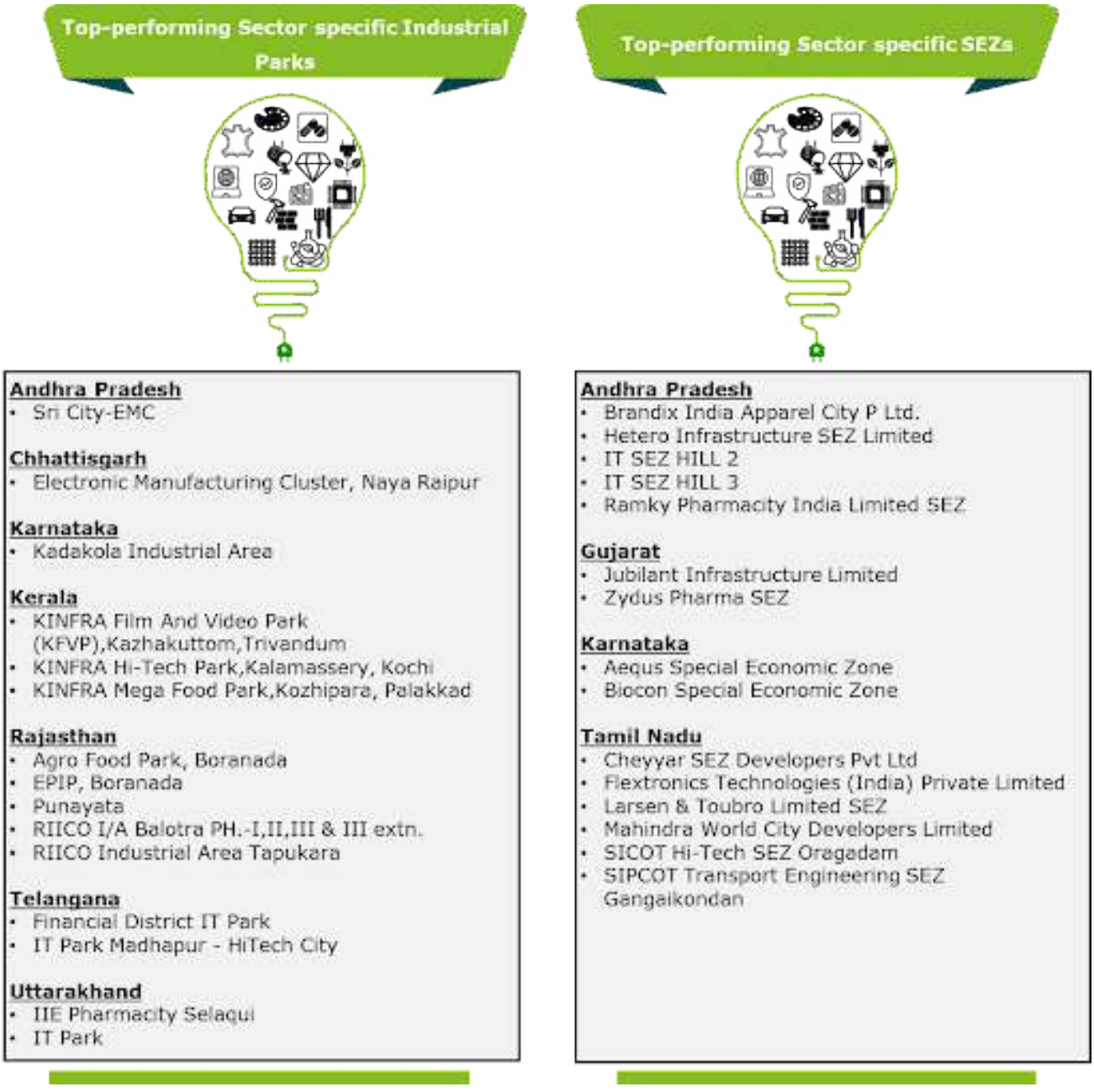
Figure 40: Top-performing, privately owned SEZs[27]

26. The names of states and parks therein have been arranged in the alphabetical order, with the number of parks in particular region a function of performance and number of entries received.
27. The names of states and SEZs therein have been arranged in the alphabetical order, with the number of SEZs in particular region being a function of performance and number of entries received.

3.3.1.3 Performance of sector-specific parks (for internal infrastructure pillar)

Figure 41 depicts 15 top-rated, sector-specific parks and SEZs.

Figure 41: Top-performing, sector-specific industrial parks and SEZs[28]



28. The names of states and parks and SEZs therein have been arranged in the alphabetical order.

3.2.2 External Infrastructure

According to the IPRS 2.0 assessment framework, external infrastructure measures the effectiveness of public transport and external road connectivity for the seamless movement of resources from and to parks and zones.

Figure 42 presents performance of the industrial parks and zones at an aggregate level for external infrastructure, along with various key aspects.

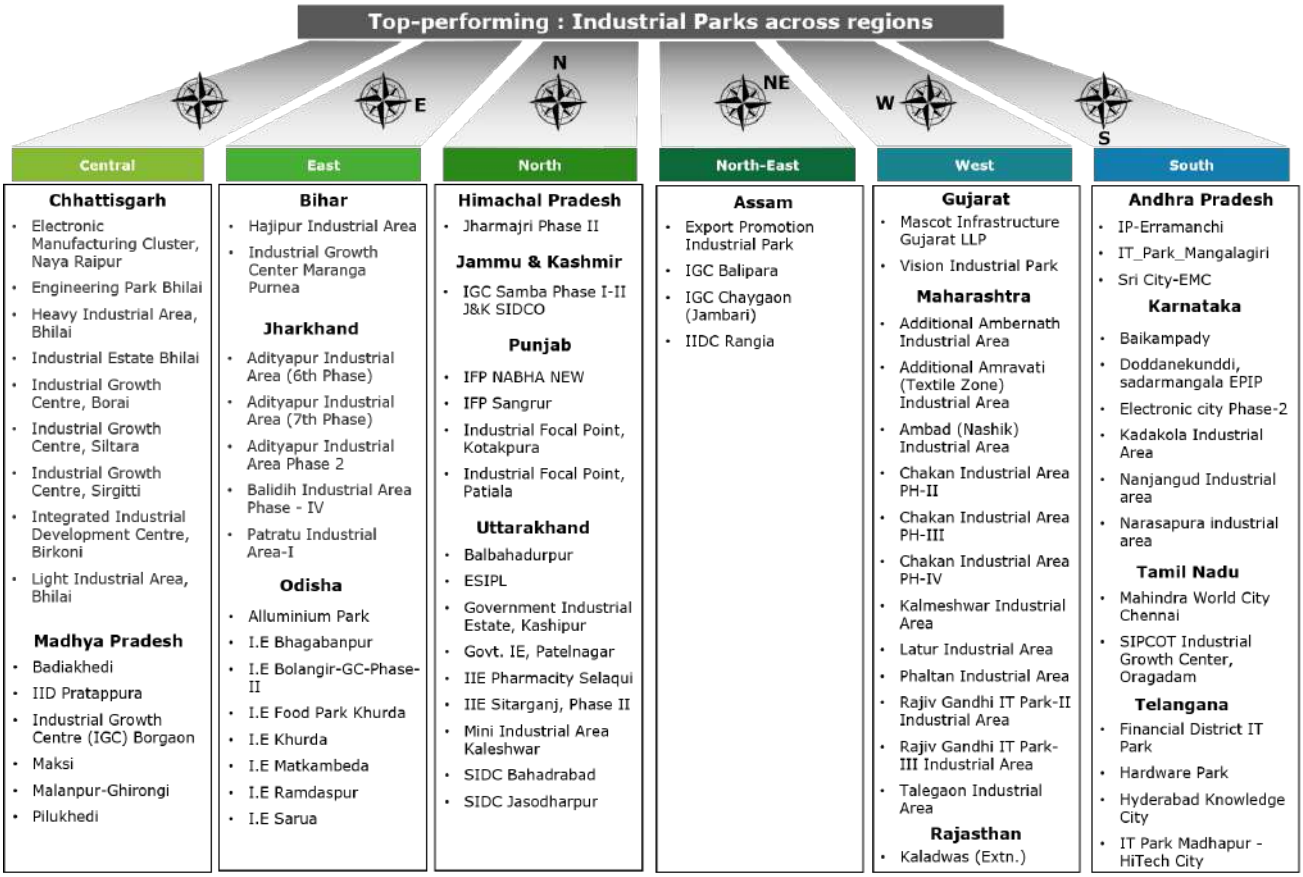
Figure 42: Best practices observed across states and UTs

- Energy is supplied through a gas pipeline in Maharashtra, Gujarat, Rajasthan, and Tamil Nadu. Other states are also implementing gas pipelines in upcoming parks.
- States such as Maharashtra, Rajasthan, Tamil Nadu and Uttar Pradesh have installed Closed-Circuit Television (CCTV)/surveillance cameras to ensure safety of parks and workers. A continuous boundary wall was also built to ensure the safety of parks and products stored therein. Some states that invested in this area include Gujarat, Rajasthan, Tamil Nadu, Telangana, Uttarakhand, and Uttar Pradesh.
- Some states, including Maharashtra, Rajasthan, Tamil Nadu and Telangana, ensured safe workforce movement within the park with adequate facilities and law enforcement and through awareness and educational programmes.
- Maharashtra, and Rajasthan have introduced mock drills on safety procedures during incidents.

3.3.2.1 Performance by region (for external infrastructure pillar)

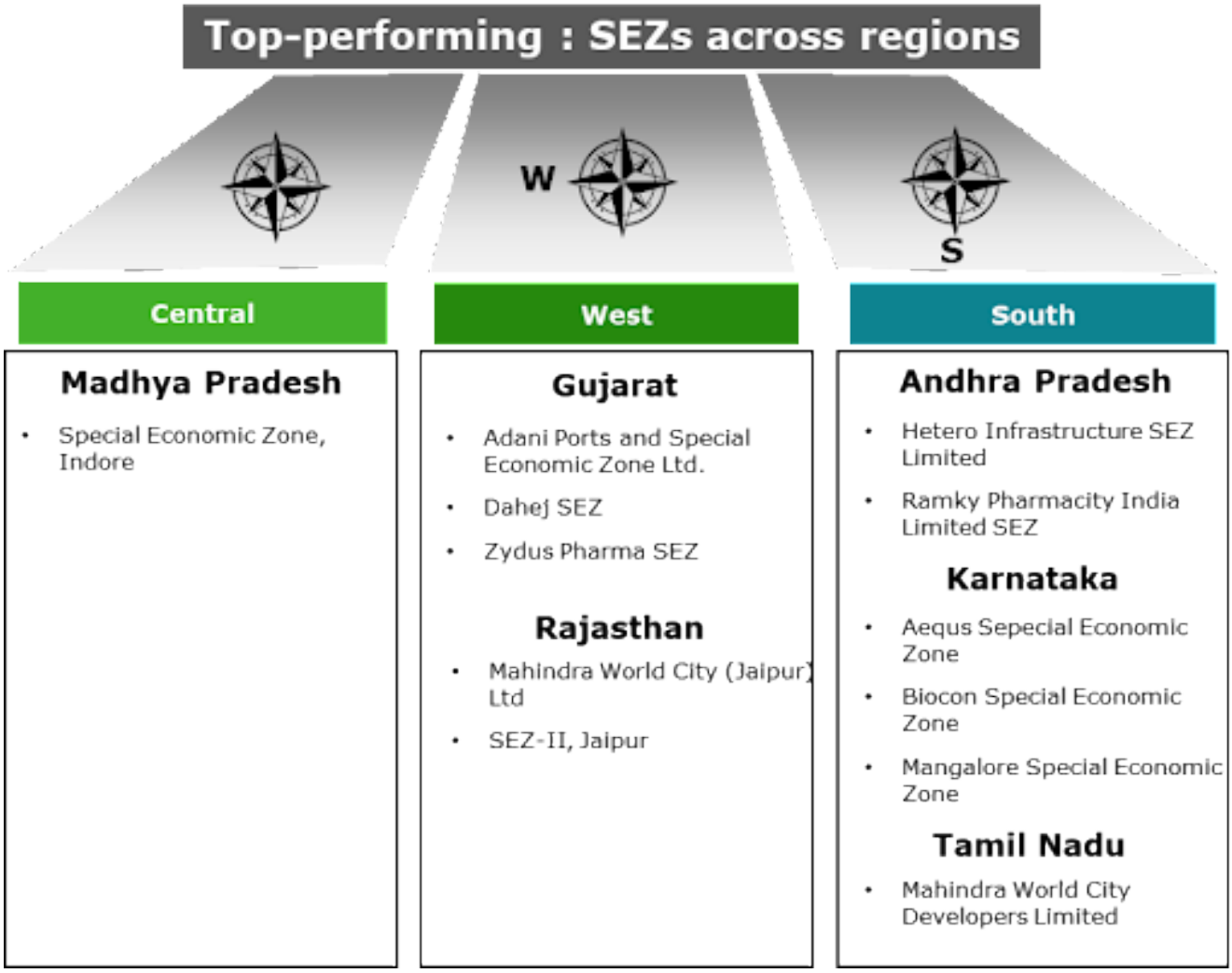
Figures 43 and 44 capture 15 top-rated parks and 5 top-rated SEZs in each geographic region based on aggregate performance for external infrastructure.

Figure 43: Top-performing industrial parks[29]



29. The chart depicts top 15 parks in the respective regions in terms of their performance at an aggregate level for the external infrastructure pillar. The relative performance of these parks in the different regions may vary. The names of states and parks therein have been arranged in the alphabetical order, with the number of parks in particular region a function of performance and number of entries received (may not necessarily be 15 in each region).

Figure 44: Top-performing SEZs[30]



3.3.2.1 Performance of private parks (for external infrastructure pillar)

Figures 45 and 46 present 15 top-rated parks and SEZs owned by the private sector.

Figure 45: Top-performing, privately owned industrial parks[31]

30. The names of states and SEZs therein have been arranged in the alphabetical order, with the number of SEZs in particular region being a function of performance and number of entries received (may not necessarily be 5 in each region).

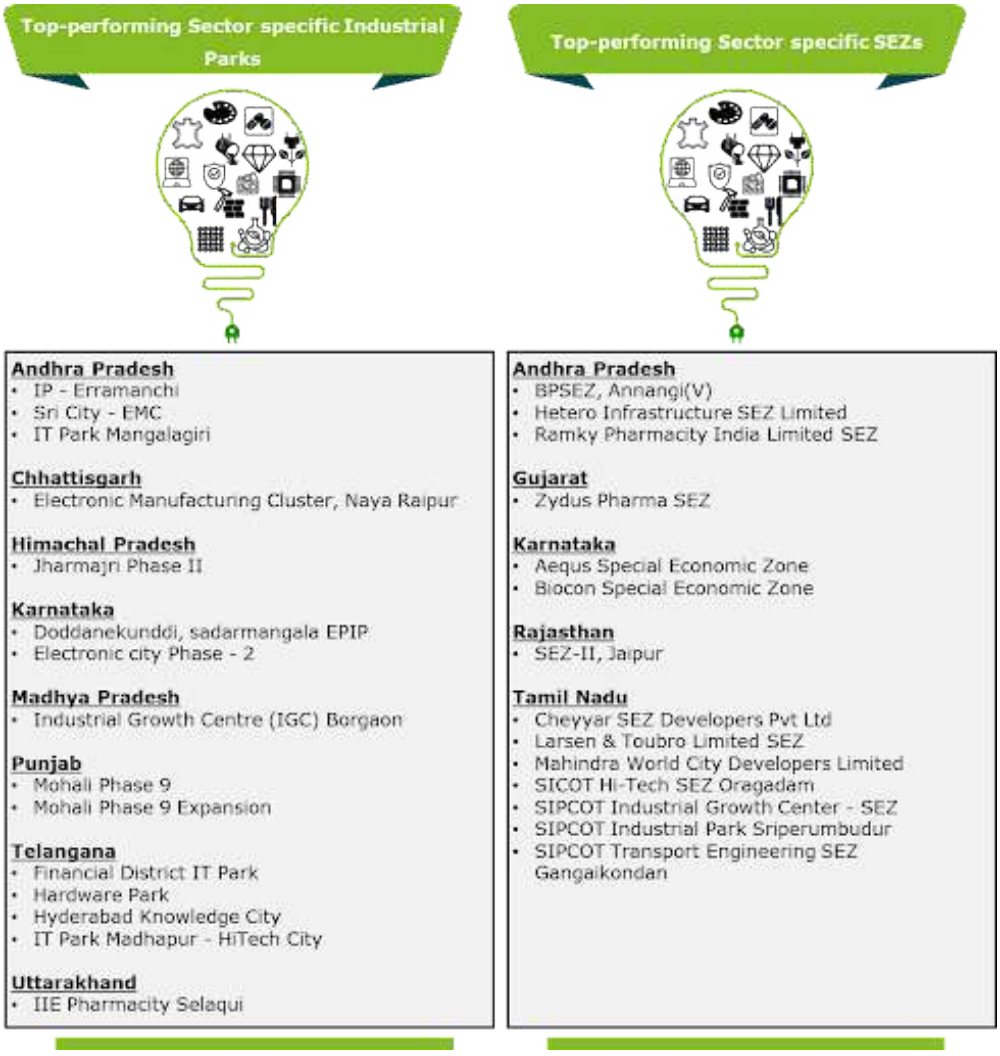
31. The names of states and parks therein have been arranged in the alphabetical order, with the number of parks in particular region a function of performance and number of entries received.

Figure 46: Top-performing, privately owned SEZs[32]

3.3.2.3 Performance of sector-specific parks (for external infrastructure pillar)

Figure 47 depicts 15 top-rated, sector-specific parks and SEZs.

Figure 47: Top-performing, sector-specific industrial parks and SEZs[33]



32. The names of states and SEZs therein have been arranged in the alphabetical order, with the number of SEZs in particular region being a function of performance and number of entries received (may not necessarily be 15 in this category).

33. The names of states and parks and SEZs therein have been arranged in the alphabetical order, with the number of SEZs in particular region being a function of performance and number of entries received (may not necessarily be 15 in this category).

3.3.3 Business Support Services

According to the IPRS 2.0 assessment framework, business support services comprise nine parameters organised under the following three categories:

1. Information availability and transparency: This pillar ensures access to information on plot-level prices and associated availability, along with a detailed application process for land allotment to tenants in each park/zone across states.
2. Support services: Under this pillar, services are associated with creation of enabling infrastructure for skill development centre, Common Facilitation Centre (CFC), commercial centre, and other facilities (such as banking and weigh bridge).
3. Business facilitation: This pillar relates to provision of services related to single-window facilitation in the form of any dedicated helpdesk or an online system assisting investors setting up business in parks/zones. Further, it covers services related to customer relationship management and support to tenants for R&D, patenting, product commercialisation, market access, and similar services.

Performance of the industrial parks and zones at an aggregate level for business support services has been presented below, along with various key aspects.

Figure 48: Best practices observed across states and UTs

- Select states, such as Rajasthan, Madhya Pradesh, Jharkhand, Bihar, Chhattisgarh, Uttarakhand, and Maharashtra have already established GIS-based land bank repository. The repository has been linked or is in the process of integration with IILB. Parks from these states have ensured a higher level of compliance with the requirements under the parameter associated with information transparency on plot availability/pricing/allocation using these state-level systems.
- Select states, such as Rajasthan and Maharashtra, have issued specific state-level orders promoting the establishment of support service facilities, such as educational and skill development centres, within industrial parks as an enabling mechanism.
- Multiple states have focused on developing the skilling ecosystem within parks and zones to ensure supply of industry-ready professionals, through partnerships with both government and private institutions. Select examples include Bhanpuri-Rawabhata Industrial Area (Chhattisgarh), which has tied up with Central Institute of Petrochemicals Engineering & Technology (CIPET) and EPIP Haijpur (Bihar) which has tied up with National Institute of Pharmaceutical Education and Research (NIPER). Multiple parks across Chhattisgarh, Bihar, Uttarakhand and Maharashtra are collaborating with Industrial Training Institutes (ITI), Polytechnic institutes, MSME department institutes, training centres operated by the State Labour Department, and State Skill Development Societies, along with industrial associations.
- In addition to operationalising state-level, single-window systems for investor facilitation, select states, such as Maharashtra, Madhya Pradesh, Uttarakhand, Uttar Pradesh, and Chhattisgarh, have appointed designated officials. These officials support and guide investors in securing the requisite clearances and approvals, and address associated grievances, if any. Such designated officials for industrial parks/estates are also responsible for overall customer relationship management-related mechanisms, including conducting regular meetings to identify key issues/challenges faced and associated grievance redressal. This trend is observed in states such as Rajasthan, Karnataka, and Kerala. However, the deployment of dedicated online customer relationship management systems seems to be limited, with a few examples of it across parks that the private sector operates. These parks include Sri City in Andhra Pradesh that caters to the entire life-cycle, from pre-sales to post-sales support to investors.
- Support for R&D, patenting while being limited is observed to be channelised through partnerships with leading national institutes, such as the Automotive Research Association of India (an institute affiliated to the Ministry of Heavy Industries and Public Enterprises), Central Leather Research Institute, or industrial associations. This has been observed in select states, such as Maharashtra, Rajasthan, Uttarakhand, Himachal Pradesh, and Punjab.

3.3.3.1 Performance by region (for business support services pillar)

Figures 49 and 50 capture 15 top-rated parks and 5 top-rated SEZs in each of the geographic regions based on aggregate performance for business support services.

Figure 49: Top-performing industrial parks[34]

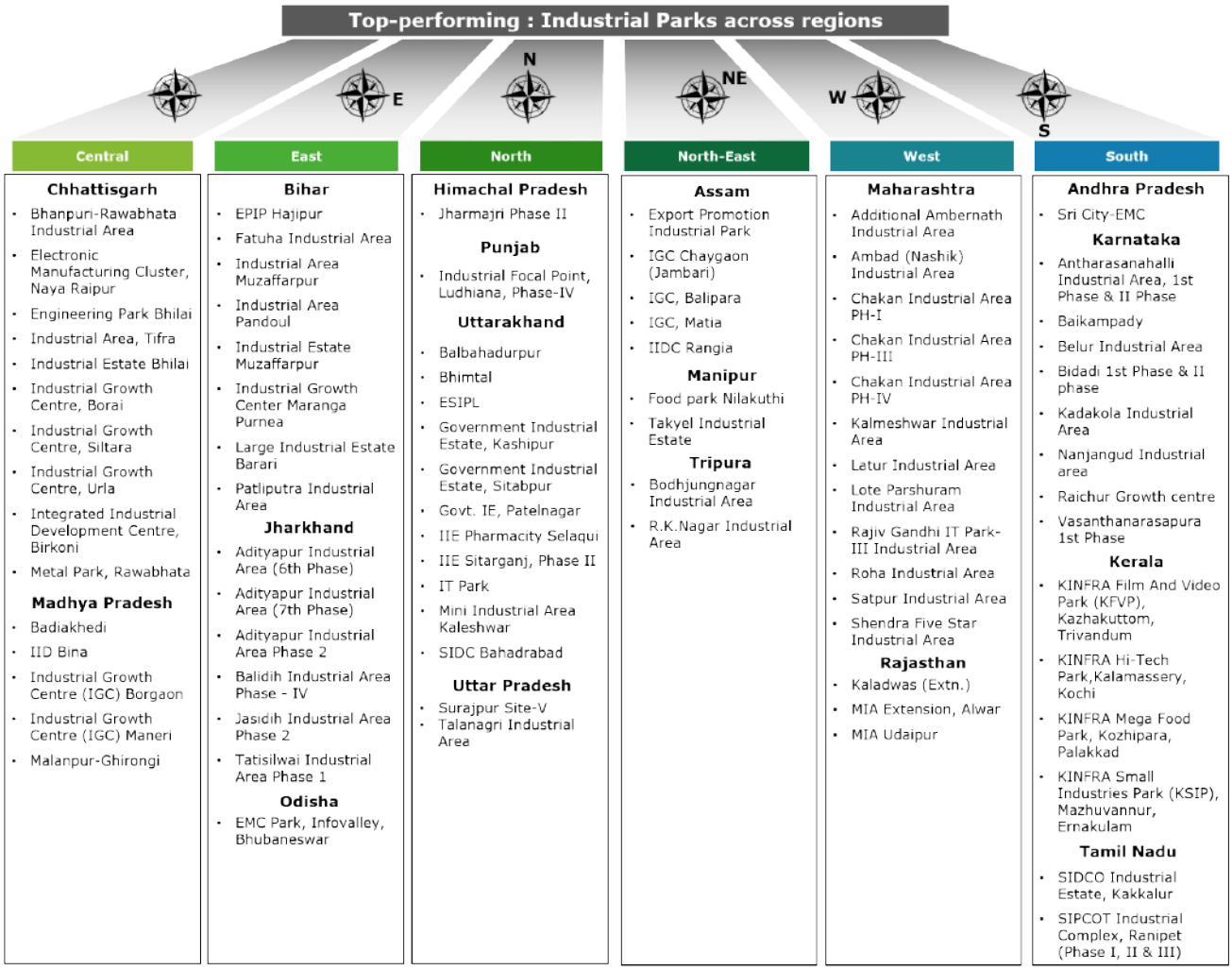
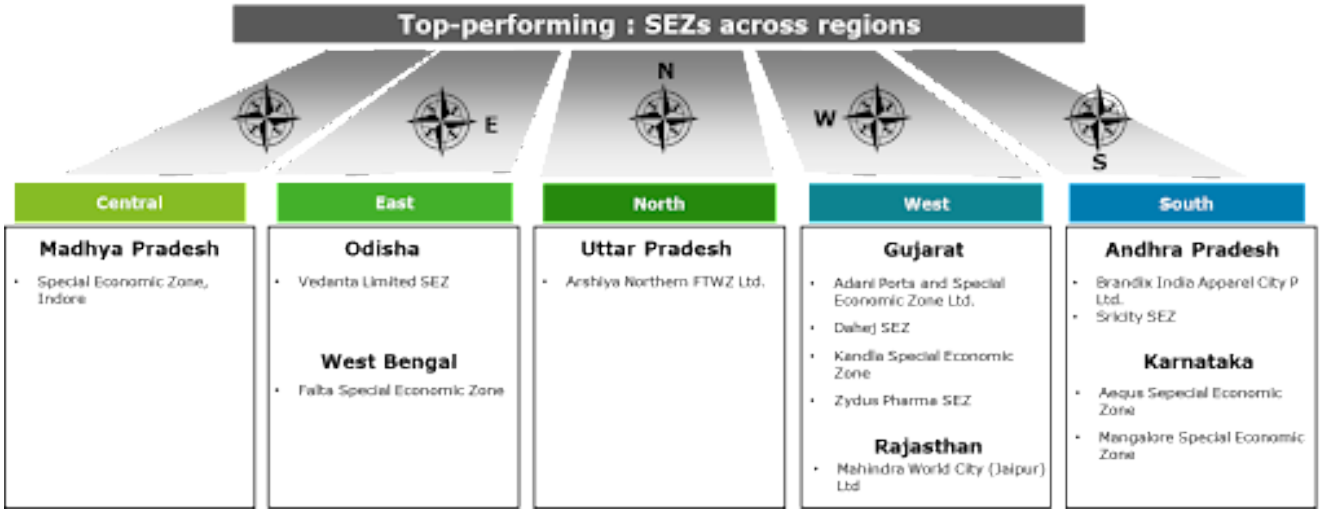


Figure 50: Top-performing SEZs[35]



34. The chart depicts the top 15 parks in the respective regions in terms of their performance at an aggregate level for the business support services pillar. The relative performance of these parks in the different regions may vary. The names of states and parks therein have been arranged in the alphabetical order, with the number of parks in particular region a function of performance and number of entries received (may not necessarily be 15 in each region).

35. The names of states and SEZs therein have been arranged in the alphabetical order, with the number of SEZs in particular region being a function of performance and number of entries received (may not necessarily be 5 in each region).

3.3.3.2 Performance of private parks (for business support services pillar)

Figures 51 and 52 present 15 top-rated parks and SEZs owned by the private sector.

Figure 51: Top-performing, privately owned industrial parks[36]

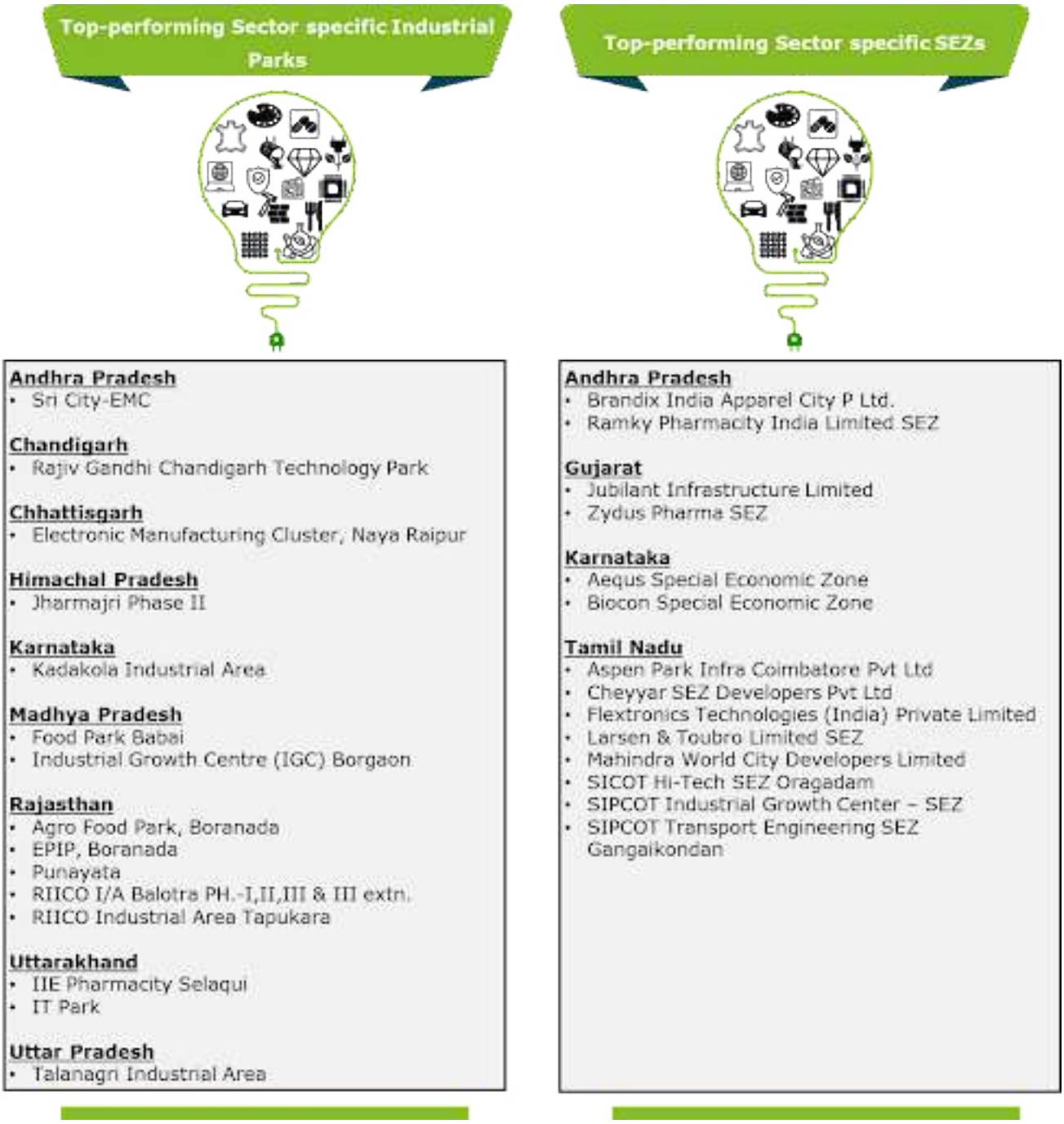
Figure 52: Top-performing, privately owned SEZs[37]

3.3.3.3 Performance of sector-specific parks (for business support services pillar)

Figure 53 details 15 top-rated, sector-specific parks and SEZs.

36. The names of states and parks therein have been arranged in the alphabetical order, with the number of parks in particular region a function of performance and number of entries received (may not necessarily be 15 in this category).
37. The names of states and SEZs therein have been arranged in the alphabetical order, with the number of SEZs in particular region being a function of performance and number of entries received

Figure 53: Top-performing, sector-specific industrial parks and SEZs[38]



38. The names of states and parks and SEZs therein have been arranged in the alphabetical order, with the number of SEZs in particular region being a function of performance and number of entries received (may not necessarily be 15 in this category).
39. The chart depicts top 15 parks in the respective regions in terms of their performance at an aggregate level for the environment, safety and sustainability pillar. The relative performance of these parks in the different regions may vary. The names of states and parks therein have been arranged in the alphabetical order, with the number of parks in particular region a function of performance and number of entries received.

3.3.4 Environment, safety, and sustainability

According to the IPRS 2.0 assessment framework, environment, safety, and sustainability comprise the following sub-pillars as detailed below:

1. Environment-related aspects in terms of requisite environmental clearances, waste management (including hazardous waste), and environment monitoring mechanisms
2. Safety that relates to physical and surveillance systems of the park/zone, health infrastructure, health and safety plan for workers, disaster management, and safe mobility solutions
3. Sustainability that relates to requisite quality certifications, maintenance of open/green spaces, periodic energy audits, and deployment of renewable energy sources

Performance of the industrial parks and zones at an aggregate level for environment, safety, and sustainability has been presented below, along with various key aspects.

Figure 54: Best practices observed across states and UTs

- Solid waste management: States such as Maharashtra, Uttarakhand, and Rajasthan have mandated the provision of solid wate management related services to the respective urban local bodies. In some states, including Tamil Nadu, services have also been mandated to third parties for effective delivery.
- Disaster management: States such as Uttarakhand and Rajasthan are observed to have district-level disaster management plans that are being adhered by the respective parks according to this location.
- Environment quality monitoring: State pollution control boards in select states, such as Maharashtra, Rajasthan, and Gujarat, are monitoring air and water quality within the respective estates under national programmes, such as National Ambient Air Quality Monitoring.
- Polluter pays principle: Issue of government order/notification in states such as Maharashtra and Rajasthan, allows the industrial park developer to levy charges.
- Captive renewable sources: Only select states, such as Maharashtra, Gujarat, Andhra Pradesh, Telangana, and Karnataka, have initiated some measures (including use of solar streetlight and rooftop solar plants on common administrative building) to use renewable energy to replace part/full consumption of power consumed by common infrastructure. Specific interventions also include use of more distributed systems, such as a roof top system, solar streetlights, and solar pumping.

3.3.4.1 Performance by region (for environment, safety, and sustainability pillar)

Figure 55 and 56 capture 15 top-rated parks and 5 top-rated SEZs in each of the geographic regions based on aggregate performance for environment, safety, and sustainability.

Figure 55: Top-performing industrial parks[39]

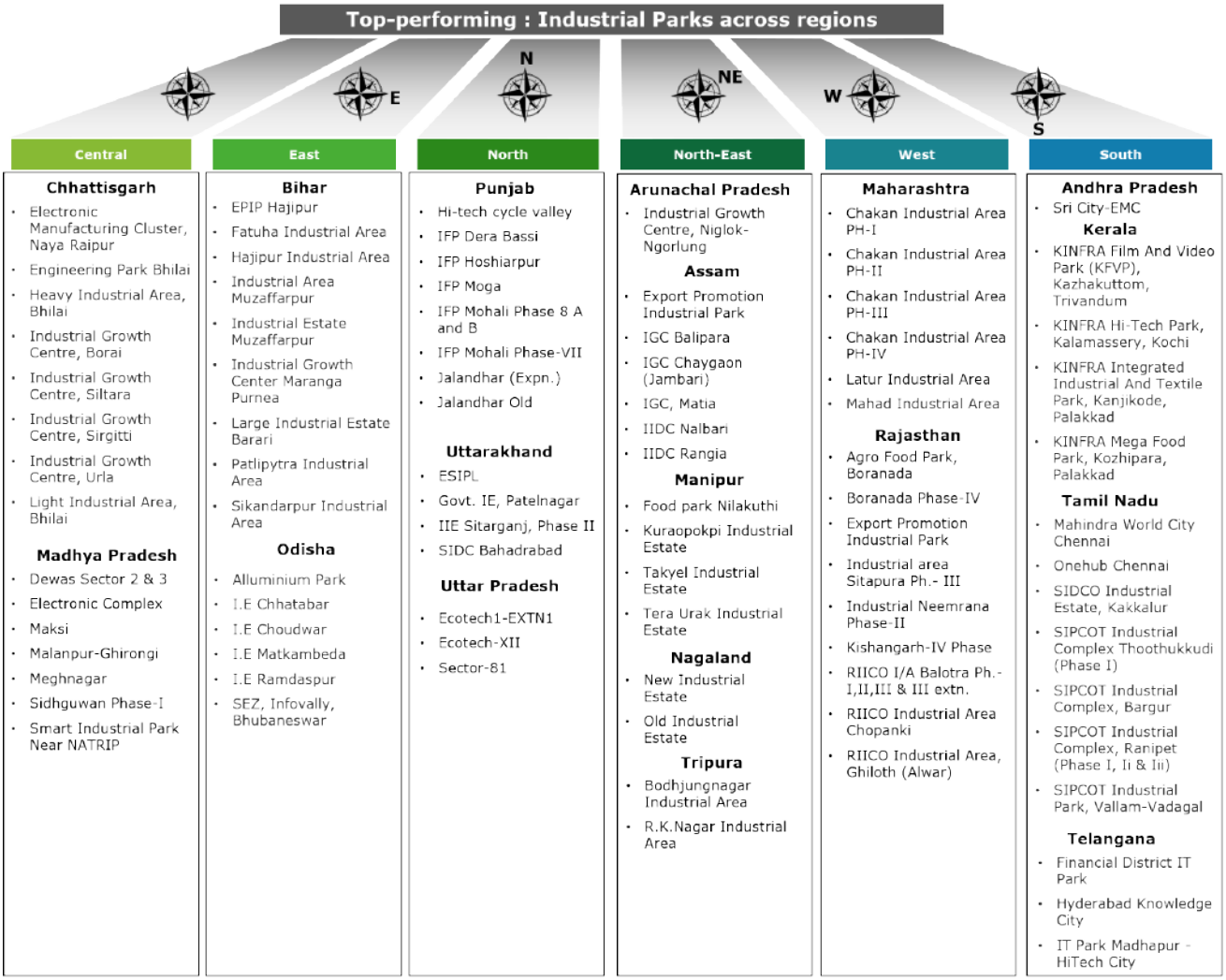
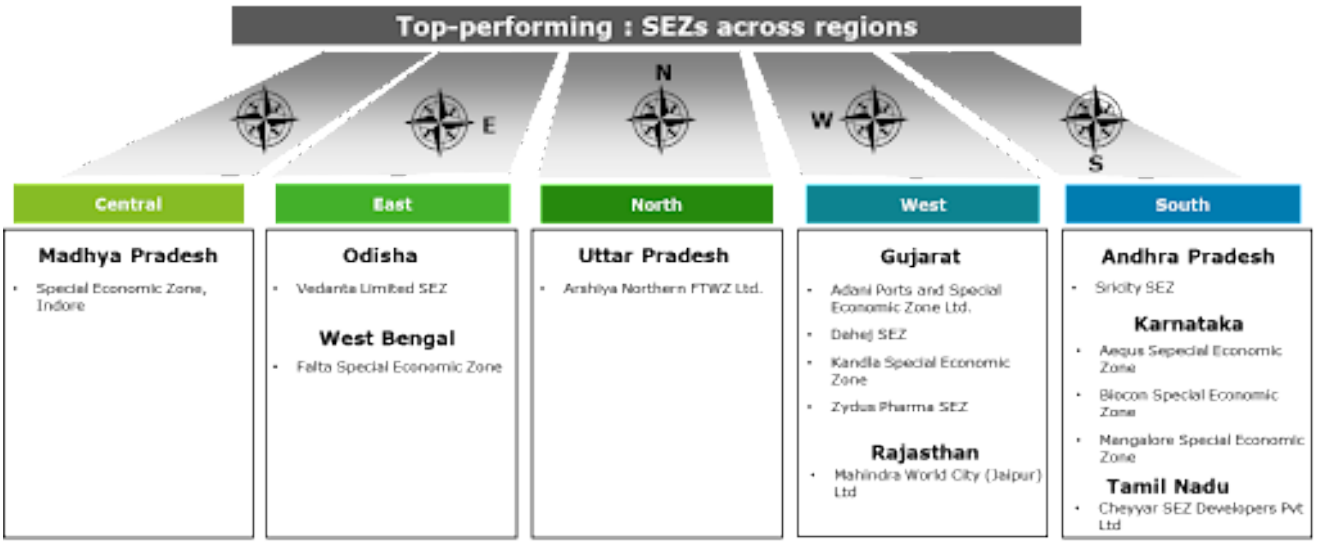


Figure 56: Top-performing SEZs[40]



3.3.4.2 Performance of private parks (for environment, safety, and sustainability pillar)

Figure 57 and 58 present 15 top-rated parks and SEZs owned by the private sector:

39. The chart depicts top 15 parks in the respective regions in terms of their performance at an aggregate level for the environment, safety and sustainability pillar. The relative performance of these parks in the different regions may vary. The names of states and parks therein have been arranged in the alphabetical order, with the number of parks in particular region a function of performance and number of entries received.
40. The names of states and SEZs therein have been arranged in the alphabetical order, with the number of SEZs in particular region being a function of performance and number of entries received (may not necessarily be 5 in each region).

Figure 57: Top-performing, privately owned industrial parks[41]

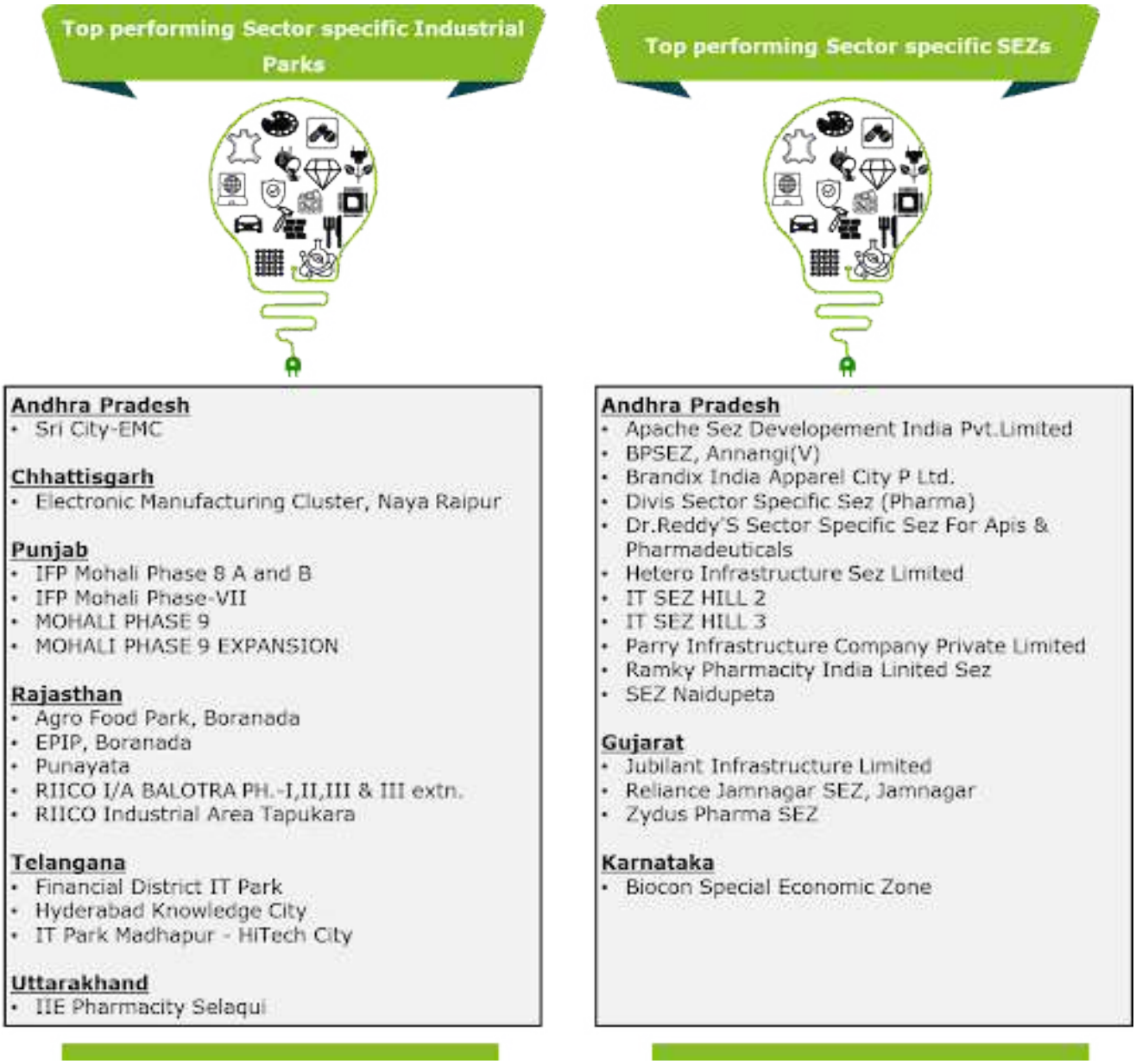
Figure 58: Top-performing, privately owned SEZs[42]

3.3.4. Performance of sector-specific parks (for environment, safety, and sustainability pillar)

Figure 59 details 15 top-rated, sector-specific parks and SEZs.

41. The names of states and parks therein have been arranged in the alphabetical order, with the number of parks in particular region a function of performance and number of entries received.
42. The names of states and SEZs therein have been arranged in the alphabetical order, with the number of SEZs in particular region being a function of performance and number of entries received.

Figure 59: Top-performing, sector-specific industrial parks and SEZs[43]



43. The names of states and parks and SEZs therein have been arranged in the alphabetical order.

Enabling competitiveness of industrial parks/zones

4.1 Financing the uprating of industrial parks and zones

4.1.1 Progress on internal infrastructure enablers with a future focus on enhancing sustainability

The IILB database shows that an industrial land inventory of more than 5.6 lakh hectare is available across industrial parks and zones in nearly every district in the country. The competitiveness of supply chain continues to improve as Bharatmala, Sagarmala, and National Industrial Corridor Development Programme (DMIC – Delhi-Mumbai Industrial Corridor, ECEC - East Coast Economic Corridor, AKIC - Amritsar-Kolkata Industrial Corridor, and CBIC - Chennai Bengaluru Industrial Corridor), are implemented. Other initiatives are also underway to improve the competitiveness of cost of manufacturing. These include reducing corporate income tax rates, offering the Production-Linked Incentives (PLI) scheme, easing FDI norms, and addressing cross subsidies in power costs. The IPRS 2.0 exercise focuses on ecosystem enablers for industrial growth. The results of the rating show that **India's efforts in improving ease of doing business and cost of doing business have yielded rich dividends.** Very few parks are rated low on factors such as last mile connectivity (road quality), paved roads for internal circulation, availability of industrial use water, and availability of storm water drainage infrastructure. Parameters relating to pillars of environment and safety, and business support services need further strengthening on enablers that contribute to sustainable manufacturing. Figure 60 shows some parameters for further support to enhance parks' competitiveness. Funding and financing these enablers will be critical to ensure that parks are able to achieve the desired uprating in competitiveness. These enablers will require the development agency to commit finance or bring in private-sector efficiency to develop, manage, and operate parks. Financial support from multilateral or alternative financing agencies need to be explored by State Industrial Development Corporations (SIDCs) and other industrial infrastructure development agencies.

Figure 60: Enablers for intervention to enhance competitiveness and sustainability

Internal Infrastructure	External Infrastructure
Availability of effluent treatment facility; Availability of sewage treatment facility; Availability of solid waste management;	Public transport linkage to the parks
Ready Built Factory infrastructure; Industrial housing and dormitories	
Business Support Services	**Environment and Safety**
Support services in R&D, market access; One stop support services;	Availability of hazardous waste management; Availability of disaster management infrastructure for safety; Conducting energy audits for common infrastructure; Adopting captive renewable energy; Healthcare infrastructure (hospital/ dispensary);
Common facilitation centres; Skill development centre;	
Funding/ financing by development corporation	Funding/ financing through private sector participation

4.1.2. Infrastructure for Sustainable Manufacturing requires financing and operational efficiency improvement

Businesses are under pressure to build sustainability into their operations. Industrial units not only need to comply with regulatory requirements, but also meet expectations of their investors and buyers, amongst others. There is an opportunity to share costs of sustainability infrastructure, thereby achieving scale benefits. Therefore, SIDCs and industrial infrastructure development authorities need to consider this infrastructure as core to improve competitiveness of manufacturing in India and approach it accordingly.

Sustainability infrastructure has been sub-optimal in the past for several reasons. Insufficient monitoring and/or low penalties encouraged businesses to avoid bearing costs. This also meant that those businesses that did comply would be less competitive relative to their non-compliant competitors. The insufficiency of revenues led to difficulty in funding capital expenditure for projects and proper operations of those projects. Thus, financing of sustainability infrastructure, in a manner that the projects deliver on their service level commitment over their entire economic life, is critical to improving the rating of industrial parks.

Figure 61: Illustration of cluster approach for adopting Zero Liquid Discharge (ZLD) to conserve water

TWIC, Tamil Nadu: A cluster approach in Tiruppur textile hub to achieve ZLD (Zero Liquid Discharge) has resulted in recycling on over 98% water
Tamil Nadu Water Investment Company Limited (TWIC), is a pioneering developer of the projects at Tiruppur. TWIC is promoted by IL&FS (54%) and Government of Tamil Nadu (46%). ZLD (Zero Liquid Discharge) is a requirement in the area in order to protect the quality of river water & ground water. Under the project, TWIC has developed and established 9 textile dyeing CETPs with a capacity ranging from 3 MLD to 11 MLD (combined capacity 53 MLD) in Tiruppur based on zero liquid discharge with recycling of more than 98% water and reuse of more than 90% salt.

4.1.3. SIDCs may need to consider alternates to user-financing model

The current approach to financing of industrial parks is to load the cost of infrastructure onto land cost and recover it as an upfront lease payment by tenants (industrial units located in an industrial park). The cost of initial land acquisition is borne by the state government or through internal accruals of the development corporation. As the land value increases, tenants later generate a surplus for the SIDC. However, given the pace of inventory addition, this is rarely enough to fund further development needs, and infrastructure upgrading in existing parks remains lower in priority.

The implication of the present approach to pricing and financing is that most SIDCs –

- Depend on annual budget allocations for funding land acquisition and infrastructure, which makes planning over multiple years difficult
- Do not have recurring cash flow to raise commercial capital (and do not do the level of diligence on their business case as would be warranted by commercial capital investors)
- Primarily focused on sale of land to raise money, and accord a lower priority to service quality (particularly of sustainability infrastructure)
- Do not have strong mechanisms to require other government departments (Public Works Department - PWD, Power, Urban Local Body - ULB, etc.) to provide high-quality service to tenants. This has been partly addressed by the competition introduced through ease of doing business (EoDB) rankings.

In several leading industrial parks in the world, the tenants pay land lease on a recurring (monthly or annual) basis, with indexed increases. This appeals to stakeholders for various reasons –

- Industrial park developers have the ability to raise finance. They also have strong incentives to maintain and operate infrastructure to the promised service level. Tenants have the option of switching to another location if the service quality is not high as they are not locked into high costs of land (factory buildings are also often rented).
- Tenants pay more as their business grows, thereby sharing business risks with the industrial park developer. Tenants who either cannot afford a high upfront cost or prefer to be asset light and deploy their capital in their core business, also prefer this model.
- "Investors" do not need to be "users" and have structured financial mechanisms to invest in the industrial park (or its sub projects), thereby obviating issues such as sub-leasing permissions.

This approach to pricing is similar to the "pay-as-you-use" approach to pricing infrastructure such as energy and transport. While the model cannot be adopted for existing tenants who have fully paid for the land and infrastructure, SIDCs could evaluate its merits for future tenants.

The Ministry of Shipping Policy issued mandates such as Policy Guidelines for Land Management of Major Ports. These guidelines provide the flexibility for allotment and payment of industrial plots on a leasehold basis. In this arrangement, allotments can be done through either an annual rental or upfront lease consideration mechanism. A recent policy note from National Industrial Corridor Development Corporation (NICDC) proposed annual rental as an option for leasing/allotting land to industries for long term. Such an arrangement will reduce the upfront capital investment required to procure land for new projects/industries.

4.1.4. Flexible approach towards maintenance cost recovery required in sync with project maturity

Maintenance charge is the primary recurring revenue stream for industrial park developers. It is intended to cover the operation and maintenance cost of common infrastructure and typically allocated to tenants in proportion of the extent of land that they occupy. The two major computation mechanisms followed by park developers are a flat-rate fixation and aggregate based rate computation. In the flat rate method, a predetermined maintenance charge is levied on park tenants through a price/rate charter and typically recovered annually. Flat rate fixation is carried out by defining the per annum maintenance charge on the industrial land area. For instance, SIDC, such as Maharashtra Industrial Development Corporation (MIDC) and Rajasthan State Industrial Development and Investment Corporation (RIICO) operate on a flat rate model where service charges on industrial areas are fixed separately for each district for the upkeep of industrial infrastructure. In the flat rate model, Uttar Pradesh State Industrial Development Corporation (UPSIDC) categorises land parcels as fast developing, developing, and slow developing, and fixes different service charges, providing a discount for slow-developing parks.

The other method of aggregate computation is where the development corporation aggregates maintenance expenditure of parks/zones annually and distributes it equally across occupants (area based). As a large part of Operations and Maintenance (O&M) costs are fixed and not dependent on occupancy of the park, the maintenance charge tends to be higher for the initial tenants and reduces as more tenants join in and share costs. Thus, the fixed rate mechanism may create a lost revenue opportunity situation where the ability to pay increases only when more tenants come in and the asset utilisation of the tenants increases, i.e., the park earn more operating revenue). An illustration from State Industries Promotion Corporation of Tamil Nadu (SIPCOT) presented below shows that SIDCs have adopted a differentiated approach to levy and recover maintenance charges for operation and maintenance of industrial parks.

Figure 62: Illustration of aggregate level maintenance charge levy model - SIPCOT

Industrial area developers/corporations adopt diverse mechanisms for levying maintenance charge to create a sustainable financial position for an operating industrial area.
Aggregate-based rate computation is one of the innovative mechanisms observed in SIPCOT (Tamil Nadu) that has recently transitioned from park-specific maintenance charges to averaging of maintenance charges across parks. As this approach is intended to enable smoother cost recovery, it could generate a surplus above cost. The surplus can be used to service investments in capital expenditure for infrastructure upgrade.

Private parks do not follow a strict cost-recovery approach and pass through costs initially. Thus, by bearing some costs, they provide a smoother maintenance cost increase trajectory for tenants. Leading parks globally have a similar approach. They link maintenance charges to property value, thereby providing certainty to tenants, while also benefiting from land value-appreciation.

SIDCs operate several parks that are a mix of vintage, occupancy level, etc. They could use this diversity to earn maintenance charges on a pooled basis. Thus, instead of maintenance charges reducing over time, the surplus could be used to service capital raised to improve infrastructure. Though the approach would need to be tested for consistency with any contractual commitments, it is similar to socialising costs across users in network industries, such as power and telecom (also known as “shallow charging” in regulatory economics).

4.1.5. Coordination with other agencies (particularly the Urban Local Body) could be critical to optimizing projects and raising financing

Industrial parks do not directly provide several infrastructure services that are instead provided by other agencies. These include regulated businesses, such as power and gas, where economic regulators determine tariffs considering the investment and financing needs and for the targeted level of service quality. These also include infrastructure such as road and water that are often funded from budgets of relevant departments. In these cases, the financing itself is not the challenge as it is raised on the balance sheet of the corporate entity or provided through the budget. The challenge often is that capital expenditure is prioritised for expansion projects over major maintenance/upgrading projects. Coordination through cross-departmental committees has had a limited impact. SIDCs will likely need some level of financial strength to prioritise upgrades that other departments will deliver and enforce committed service levels.

Urban Local Bodies (ULB) can have a particularly strong role in optimally upgrading infrastructure for industrial park tenants. As discussed above, several services, such as public transport and solid waste management, are in a ULB’s domain. The optimal land parcel for certain projects may be outside the park limits for projects such as truck parking and worker housing. Innovative projects, such as recycling of municipal wastewater for industrial use, have succeeded only where the ULB and the industry have collaborated.

ULBs also collect property tax from industrial park tenants where the park is within a ULB’s area. This could be a revenue stream used for financing upgrade of certain infrastructure. State governments and ULBs could consider alternate approaches to using all or part of property tax revenues to incentivise committed service levels through Public-Private Partnerships (PPP) or other models. Illustration can be drawn from SIDCs such as Andhra Pradesh Industrial Infrastructure Corporation (APIIC) and Telangana State Industrial Infrastructure Corporation (TSIIC) on implementing the Industrial Area Local Authority (IALA) model to levy and collect property tax from industries in industrial parks.

Figure 63: Model of property tax collection and appropriation under IALA Model – TSIIC

Collection and use of property tax by industrial area local authority in Telangana
Under the Industrial Area Local Authority Act of the State, Telangana State Industrial Infrastructure Corporation (TSIIC) is empowered with the local authority status to collect tax revenues from industrial areas. The state government notified industrial area local authorities for 86 industrial townships. TSIIC is required to remit 35 percent /50 percent of the property tax/revenue collected to relevant local bodies. TSIIC IALAs perform statutory functions, such as assessment, levy, and collection of property/advertisement tax, sanction of building permits, removal of encroachments, management, and maintenance of civic services in industrial parks.

4.1.6. Exploring alternative untapped sources of financing and using PPPs while locking in performance commitments

As a collection of sub-projects, industrial parks have the potential to appeal to a range of investors. Brownfield nature of operating industrial parks is particularly attractive for several types of investors, provided revenue streams can be optimised to service return-on-investment expectations. For instance, global real estate funds have ~US$324 billion of dry powder to invest. These funds invest in the real-estate company or the operating vehicle of developed properties. Moreover, they have a typical investment horizon of 5-7 years and could be structured as equity or debt or other intermediary products. This is visible in their recent investments in warehousing and industrial infrastructure. Developers and real estate funds take a construction period and off-take risks. They can transfer their operational and income generating assets into Real Estate Investment Trusts (REITs). REITs attract long-term, low-risk, and moderate-return investors, who want assured rental income over a long period of time (often assumed to be perpetuity). They are regulated by Securities and Exchange Board of India (SEBI) and required to distribute at least 90 percent of the rental income to their investors.

Under the Development Financing Institution (DFI) model, the Government of India has set up the National Infrastructure Investment Fund (NIIF) and National Bank for Financing Infrastructure and Development (NaBFID) to channel long-term capital into infrastructure. Infrastructure Debt Funds (IDFs) and Infrastructure Investment Trusts (InvITs) have also been enabled to bring long-term capital into operational infrastructure projects that industrial parks can use to finance their growth plans. Various infrastructure projects that serve industrial parks, if separated from the real estate risk/revenue stream, could be attractive to these funds. The Hindustan Infralog platform is one such DFI model (refer Annexure 50) that has been adopted for financing infrastructure projects in the country.

Sustainability funds are a fast-growing source of capital, with $1.65 trillion of assets globally. In 2020, 505 new ESG funds were launched in Europe, and 253 funds changed their strategy to ESG. As these Funds grow in India, they are likely to align with India's sustainability priorities, including pollution of air, water and ground, improving working conditions in manufacturing sector, and broadening employment opportunities (including for women) in the country. ADB, KfW, World Bank are also actively developing such funds (Annexure- 5.4).

Sustainability funds are a fast-growing source of capital, with US$1.65 trillion of assets globally. In 2020, 505 new Environmental, Social, and Governance (ESG) funds were launched in Europe and 253 funds changed their strategy to ESG. As these funds grow in India, they are likely to align with India's sustainability priorities, including pollution of air, water, and ground; improving working conditions in the manufacturing sector; and broadening employment opportunities (for women too) in the country. ADB, KfW, and World Bank are also actively developing such funds (refer Annexure 4).

Other than the alternative source of financing, PPPs have been in practice in India for developing industrial parks and zones. However, considering the large volume of industrial parks and zones, the relative degree of PPP projects is limited. In India, traditionally PPPs in industrial park development have been implemented through two models: i) Joint Venture (JV) models (under this model, private-sector efficiencies in development and operation of PPP parks are used where land is typically contributed by SIDC as equity in creation of a Special Purpose Vehicle - SPV); ii) O&M concessions (SIDCs at the state level are the nodal agency for development, operation, and maintenance of industrial infrastructure; they face the challenge of operating and maintaining a large inventory of industrial area). To improve the working capital position and bring a competent partner in O&M, such concessions have been adopted in existing parks and zones usually operated through an annuity-based model (refer Annexure 6).

PPPs have been further enabled by innovation in pricing strategies, a differentiated levy of charges, etc. This enabled realisation of enhanced value for money for the SIDC, as well as improved attractiveness for developers. In IPRS 2.0, the areas identified where **PPPs can be further implemented include industrial housing, water management (wastewater), and plug and play facilities** given that there has been limited intervention in these spaces due to the evolving needs of industries in these industrial parks.

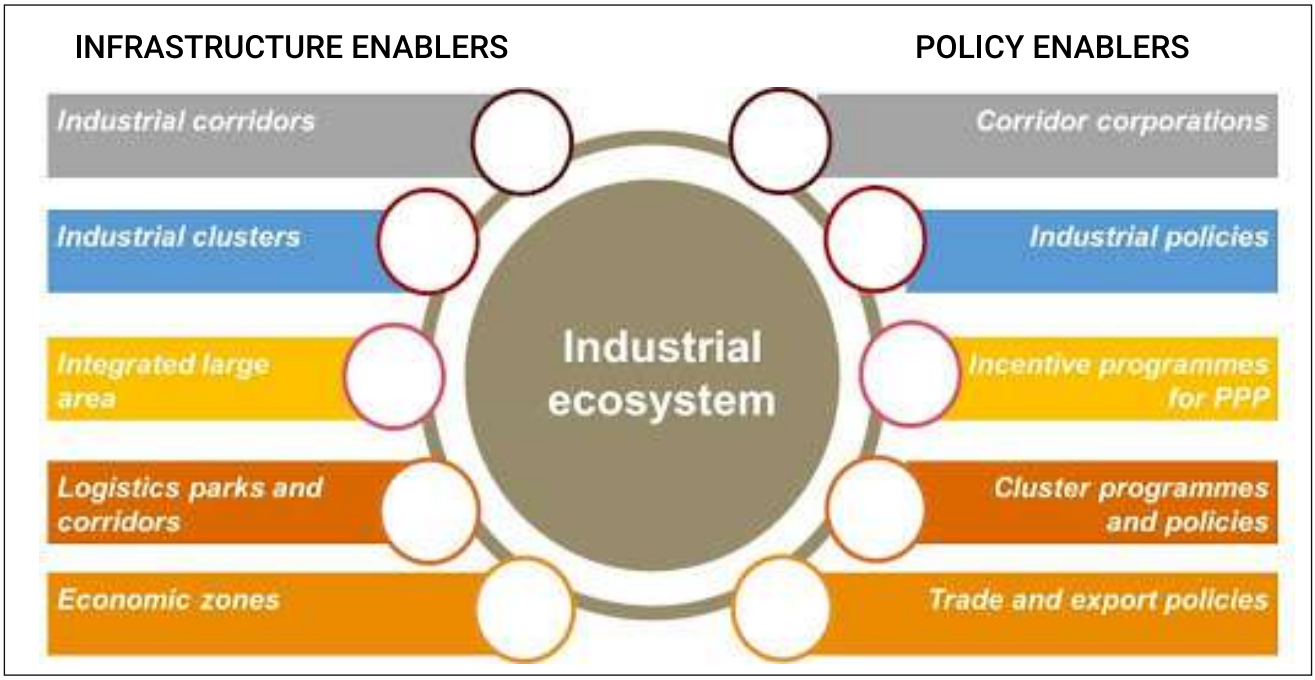
4.2. Way forward from IPRS 2.0

The post pandemic world brought with it new challenges of economic recovery, growth, and development. It presented India with a mammoth task of getting back to normal. The manufacturing and industrial sector demonstrated resilience, but faced an acute challenge of achieving the desired growth trajectory. The **Aatma Nirbhar Bharat Abhiyan and the aggressive vaccination have acted as two pillars for the country in the process of economic recovery.**

For industrial growth, investment in creation of quality and resilient infrastructure is a priority agenda, along with a strong enabling policy environment. This has been demonstrated through progress in various large-scale industrial infrastructure projects (Bharatmala, Sagarmala, Industrial Corridors, etc.) and by way of policy support to industries (PLI for various industries). The **Aatma Nirbhar Bharat Abhiyan recognises IILB and IPRS as key** interventions to provide information of industrial infrastructure across the country while assessing gaps. The renewed focus on net zero and sustainable manufacturing agenda of large manufacturing firms is bringing more focus on exercises such as IPRS.

IPRS is aimed at taking forward the agenda of Aatma Nirbhar Bharat Abhiyan and enabling other national objectives (e.g., achieving 25 percent manufacturing GDP contribution as planned under the National Manufacturing Policy, 2012 and the Make in India initiative, 2014). The IPRS programme has helped identify the best practices and gaps in industrial infrastructure that needs strengthening to enhance competitiveness of industrial parks and zones in the country. Both the central government and the respective state governments have made concerted efforts to strengthen industrial infrastructure enablers under the two key dimensions: (a) infrastructure development and (b) policy support. Various programmes, plans, and schemes have been implemented to support industrial investment and the ecosystem development in India to take forward the agenda of industrialisation.

Figure 64: Illustrative infrastructure and policy enablers for industrialisation in India



Enhanced information transparency and enabling ecosystem approach

The IILB provides users diverse information on industrial infrastructure in the country with various layers, such as road network, rail network, seaport, and airport availability; and urban centres, institutional establishments, and resource availability (agricultural zones, mining zones, etc.) beyond the information on industrial parks and zones. Further, when the IILB is integrated with state-level systems to provide plot-level information to industrial investors, the reform agenda of information transparency is further enhanced and provides an actual one-stop system for information availability.

IILB provides information transparency; that information should be applied to identify avenues of enhancing industrial competitiveness across the country. As established already, IPRS is designed to support various stakeholders, including policymakers (to design schemes and programmes based on the critical support requirement), industrial investors (e.g., identifying suitable investment location), industrial infrastructure developers (e.g., identifying locations for setting up sub-industrial park components viz. plug and play RBF, and logistic terminals), and funding and financing agencies (e.g., providing financing support to parks where investor traction is higher).

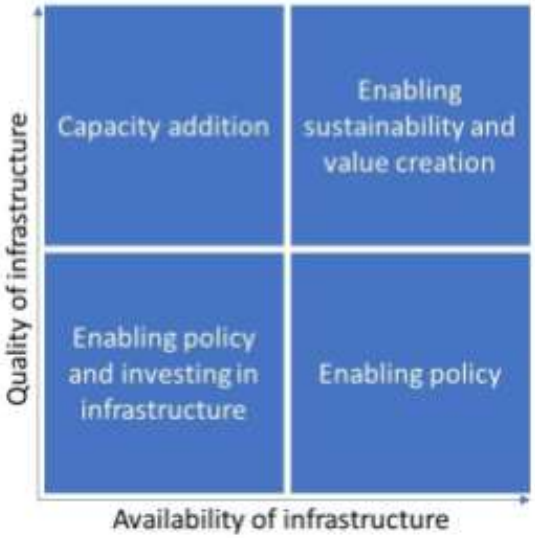
IPRS adopts an ecosystem approach where parks and zones are not seen as a singular island of development and recognised as a production network(s). Given that the current version of IPRS is limited to the supply side inquiry on availability and quality of infrastructure and services, it aims to bring in further enhancement by way of demand-side assessment and coverage of parameters beyond industrial parks/zones.

The findings of IPRS 2.0 identify a substantial space to further enhance the quality of industrial infrastructure. With the evolving needs of industrialisation, infrastructure and policy support should provide adequate assistance both internally and externally – within and outside the park/zone premises.

IPRS 2.0 has received several recommendations and suggestions from the programme steering committee and other stakeholders, including SIDCs and various central departments and ministries during development. **While DPIIT has adopted several recommendations and suggestions for implementing IPRS 2.0, it shall consider other recommendations for IPRS 3.0.**

As part of the ecosystem approach, IPRS aims to further enhance information transparency and availability across the dimensions of sustainability, transport, and logistics infrastructure, cost of doing business, gender participation, etc. IPRS Steering Committee's recommendations across these dimensions are proposed to be adopted in IPRS 3.0 and further provide the demand-side assessment. For instance, sustainability being a major agenda for industrialisation, aspects of water management, resilience (health, environment, and resource efficiency), and health and safety (gender emphasis) will be adopted in IPRS 3.0.

Figure 65: Framework for assessing infrastructure competitiveness



Convergence of schemes and programmes to fund industrial infrastructure

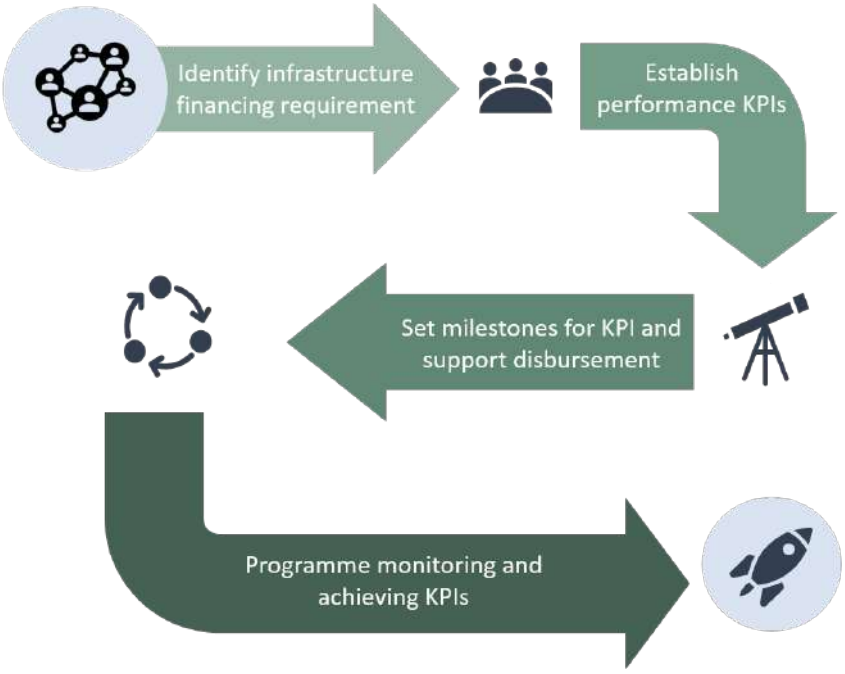
DPIIT aims at creating convergence across various central ministries and departments that have launched programmes and schemes to support enhancement of industrial infrastructure in the country, along with schemes and programmes that are run by various state governments. The common objective of these schemes and programmes is to provide world-class infrastructure to industrial investors. The graphic alongside provides a view on some central schemes and programmes.

The concerned department/ministry independently operate most of these schemes and programmes. Bringing in convergence across these schemes and programmes is important to provide targeted financial support to industrial infrastructure development. Thus, IPRS aims to provide insights to policymakers to enable effective and efficient use of financial support. Further, performance-based financing and support is another key consideration for the creation of an efficient industrial ecosystem.

Figure 66: Select schemes of Central Government for industrial development

Multilaterals such as ADB are considering performance-based financing as a tool to support world-class infrastructure creation across industrial corridors, industrial nodes, industrial parks, etc. This can be further aligned with frameworks, such as eco-industrial parks and international guidelines for industrial development designed and developed by UNIDO. The DPIIT will periodically review gaps identified in IPRS 2.0, while the ministry will work out mechanisms to overcome the gaps and support in programme management over the next few years.

Figure 67: Example of adoption of performance-based financing



Paving way for IPRS 3.0

IPRS 2.0 was limited to the supply-side assessment of availability (by way of developer response) and quality (by way of tenant feedback) of infrastructure and services within the park/zone. IPRS 3.0 will aim to bring in further qualitative assessment while widening the coverage to external factors of the industrial ecosystem, including logistics and transport infrastructure, urban development aspects (that have an impact on industrialisation), and demand-side assessment (that evaluates performance of industries within the park/zone).

The development of a framework for IPRS 3.0 has been initiated and will lay a greater emphasis on aspects of productivity, sustainability, resilience, ease of doing business, and cost of doing business.

Annexures

5.1. Annexure 1: Members of the Steering Committee constituted for IPRS 2.0

1. **Chairperson – Ms. Sumita Dawra,** Additional Secretary, Department for Promotion of Industry and Internal Trade
2. **Mr. Rajeev Kher,** Indian Administrative Services (IAS) (Retired) Former Secretary, Department of Commerce
3. **Mr. Maheshwar Sahu,** IAS (Retired), Former Additional Chief Secretary, Government of Gujarat
4. Secretary, Department of Commerce
5. Secretary, Ministry of MSME
6. Secretary, Ministry of Textiles
7. Secretary, Ministry of Food Processing Industries
8. Secretary, Department of Heavy Industry
9. **Mr. Ishtiyaque Ahmed,** Advisor, NITI Aayog
10. Director General, National Productivity Council
11. **Dr. Rene Van Berkel,** UNIDO Representative in India
12. Chairman, Institute for Studies in Industrial Development (ISID)
13. Director General, National Council of Applied Economic Research (NCAER)
14. Director, Institute of Economic Growth (IEG)
15. Director and Chief Executive, Indian Council for Research on International Economic Relations (ICRIER)
16. Director General, Confederation of Indian Industry (CII)
17. Secretary General, Federation of Indian Chambers of Commerce & Industry (FICCI)
18. Secretary General, Associated Chambers of Commerce and Industry of India (ASSOCHAM)
19. Director General & Chief Executive Officer (CEO), Federation of Indian Export Organisations (FIEO)
20. Secretary General, Federation of Indian Micro and Small and Medium Enterprises (FISME)
21. Secretary General, PHD Chamber of Commerce and Industry
22. **Mr. Dushyant Thakor,** Vice President, Invest India

5.2. Annexure 2: IPRS 2.0 questionnaire

Questionnaire for industrial parks

Pillar	Sr.	Parameter	Questions for Developer (Domestic Tariff Area - DTA)
Internal Infrastructure: Utilities (11 percent)	1	Power	Uninterrupted power supply is available at the park for its tenants (availability of alternate supply in the input substation).
	2	Power	All the power distribution lines in the park are underground.
	3	Water Supply	Park provides industrial water and drinking water supply at least equal to the demand quantity by the tenants.
	4	Water Supply	Park prohibits the extraction of ground water for use by industries.
	5	Gas for Industrial Use	Park provides gas pipeline infrastructure.
Internal Infrastructure: Common Infra (22 percent)	6	ICT Infrastructure	Park has OFC connectivity for its tenants.
	7	Internal Roads	Park provides fully paved internal roads.
	8	Utility corridors	Park provides utility corridor up to plot level to connect all utilities to the industry and avoid road damages.
	9	Sewage Treatment	Park provides sewage collection network and treatment facility (centralised / de-centralised).
	10	Effluent Treatment	Park provides effluent collection network and treatment facility (centralised / de-centralised).
	11	Storm Water	Park has covered storm water drainage infrastructure for safe disposal of rainwater and rainwater harvesting system is adopted.
	12	Street Lighting	Park has operational street lighting throughout the park.
	13	Solid Waste Disposal	Park provides solid waste management facility through segregation at source.

Pillar	Sr.	Parameter	Questions for Developer (Domestic Tariff Area - DTA)
	14	General Park Operation and Maintenance	Park performs monitoring of utilities and facilities (power, water, waste water etc.) through command control center through technologies like SCADA/ DSC.
	15	General Park Operation and Maintenance	Park follows Periodical Maintenance of common infrastructure.
Internal Infrastructure: Value Added Infrastructure (9 percent)	16	Plug and Play Industrial Space	Park provides Ready Built Factory (RBF) and Plug & Play space.
	17	Logistics Infrastructure	Park offers logistics infrastructure within the premises including designated truck parking, warehousing and storage space (covered/ open/ cold storage).
	18	Logistics Infrastructure	Park offers a dedicated railway siding within the premises.
	19	Industrial Housing	Park provides industrial housing and dormitories within the premises in compliance with international and/or Indian standards.
External Infrastructure & connectivity (4 percent)	20	Public Transport	Park has public transport linkage for workforce movement.
	21	External Road Connectivity	Park has last mile connectivity (access road) with 4-lane or above.
Environment, Safety and Sustainability (34 percent)	22	Information availability and transparency	Plot availability and price details along with application process are made available online.
	23	Support Service	Park provides a commercial center (including facilities like restaurant, canteen, shops etc.).
	24	Support Service	Park provides banking support service by way of availability of bank branch.
	25	Support Service	Park provides operational weighbridges for cargo and freight within the premises.
	26	Support Service	Park maintains a skill development center.

Pillar	Sr.	Parameter	Questions for Developer (Domestic Tariff Area - DTA)
	27	Support Service	Park offers a common facilitation center (CFC) accommodating various business facilities services (such as testing labs, certification centers, conference venue, auditorium etc.).
	28	Business Facilitation	Park offers Single Window Services and One Stop Support services.
	29	Business Facilitation	Park maintains Customer Relationship Management (CRM) System.
	30	Business Facilitation	Park offers support to its tenants for R&D, patenting, product commercialisation, market access and similar services.
	31	Environmental Clearance	Requisite category of environmental clearance is obtained by the park and documentation is available.
	32	Disaster Management	Park provides disaster management infrastructure for safety including public announcement systems (fire/ flood/ other natural disaster/manmade disasters) and maintains regular compliance for disaster response (mock drills, etc.).
	33	Environment monitoring	Park regularly monitors the air and water quality within the premises.
	34	Waste Management	Park regularly monitors the air and water quality within the premises.
	35	Waste Management	Park adopts polluter pay principle to levy charges to manage pollution within the park.
	36	Hazardous Waste	Park offers hazardous waste treatment services.
	37	Security	Park offers CCTVs and other security systems.
	38	Security	Park has a continuous boundary wall to prevent trespassing and manage park safety.
	39	Health and Safety Plan	Park has a health and safety management plan for preparedness against health disasters.
	40	Health Infrastructure	Park provides PHC/CHC/ESI Dispensary/25 Bed Hospital within the premises.

Pillar	Sr.	Parameter	Questions for Developer (Domestic Tariff Area - DTA)
	41	Energy Audit	Park regularly performs annual energy audit for common utilities and facilities.
	42	Mobility and Safety	Park ensures safe internal movement of pedestrians and bicycles and displays safety measure throughout the park premises (In form of hoardings, banners, notices etc.).
	43	Green Spaces	Park has adequate green spaces in compliance with applicable regulations and guidelines.
	44	Renewable Energy	Park uses captive renewable energy for common infrastructure (street lighting/ pumping etc.).
	45	Certification of Quality	Park usually ensures to obtain certification like ISO 9001, 14000, 50001, 26000, Stakeholder Engagement Standard Certifications (ISO AA1000AS) and other international certifications for its quality management.

Questionnaire for special economic zones

Pillar	Sr.	Parameter	Questions for Developer (SEZ)
Internal Infrastructure: Utilities (12.5 percent)	1	Power	Uninterrupted power supply is available at the zone for its tenants.
	2	Power	All the power distribution lines in the zone are underground.
	3	Water Supply	Zone provides industrial water and drinking water supply at least equal to the demand quantity by the tenants.
	4	Water Supply	Zone prohibits the extraction of ground water for use by industries.
	5	Gas for Industrial Use	Zone provides gas pipeline infrastructure.
	6	ICT Infrastructure	Zone has OFC connectivity for its tenants.
	7	Internal Roads	Zone provides fully paved internal roads.

Pillar	Sr.	Parameter	Questions for Developer (SEZ)
Internal Infrastructure: Common Infra (25 percent)	8	Utility corridors	Zone provides utility corridor up to plot level to connect all utilities to the industry and avoid road damages.
	9	Sewage Treatment	Zone provides sewage collection network and treatment facility (centralised / de-centralised).
	10	Effluent Treatment	Zone provides effluent collection network and treatment facility (centralised / de-centralised).
	11	Storm Water	Zone has covered storm water drainage infrastructure for safe disposal of rainwater and rainwater harvesting system is adopted.
	12	Street Lighting	Zone has operational street lighting throughout the premises.
	13	Solid Waste Disposal	Zone provides solid waste management facility.
	14	General zone Operation and Maintenance	Zone performs monitoring of utilities and facilities (power, water, waste water etc.) through command control center through technologies like SCADA/ DSC.
	15	General zone Operation and Maintenance	Zone follows Periodical Maintenance of common infrastructure.
Internal Infrastructure: Value Added Infrastructure (5 percent)	16	Plug and Play Industrial Space	Zone provides Ready Built Factory (RBF) and Plug & Play space.
	17	Logistics Infrastructure	Zone offers logistics infrastructure within the premises including designated truck zoning, intermodal transfer services, warehousing and storage space (covered/ open/ cold storage).
External Infrastructure & connectivity (5 percent)	18	Public Transport	Zone has public transport linkage for workforce movement.
	19	External Road Connectivity	Zone has last mile connectivity (access road) with 4-lane or above.
	20	Support Service	The zone facilitates permissible businesses in non-processing area to support processing area activities.

Pillar	Sr.	Parameter	Questions for Developer (SEZ)
Business support services (15 percent)	21	Support Service	The zone provides necessary support to units for necessary approvals and grievance redressal from DC/ customs /UAC/ BOA.
	22	Support Service	Zone provides operational weighbridges for cargo and freight within the premises.
	23	Business Facilitation	Zone offers Single Window Services and One Stop Support services.
	24	Business Facilitation	Zone maintains Customer Relationship Management (CRM) System.
	25	Business Facilitation	Zone has made adequate provision in terms of physical infrastructure for custom operation.
Environment, Safety and Sustainability (37.5 percent)	26	Environmental Clearance	Requisite category of environmental clearance is obtained by the zone and documentation is available.
	27	Disaster Management	Zone provides disaster management infrastructure for safety including public announcement systems (fire/ flood/ other natural disaster/manmade disasters) and maintains regular compliance for disaster response (mock drills, etc.).
	28	Environment monitoring	Zone regularly monitors the air, water, effluent and wastewater quality within the premises.
	29	Waste Management	Zone ensures adoption and implementation of zero emission and discharge policy.
	30	Waste Management	Zone adopts polluter pay principle to levy charges to manage pollution within the zone.
	31	Hazardous Waste	Zone offers hazardous waste treatment services.
	32	Security	Zone offers CCTVs and other security systems.
	33	Security	Zone has a continuous boundary wall to prevent trespassing and manage zone safety along with access control through designated entry exit points.
	34	Health and Safety Plan	Zone has a health and safety management plan for preparedness against health disasters.

Pillar	Sr.	Parameter	Questions for Developer (SEZ)
	35	Health Infrastructure	Zone provides adequate healthcare infrastructure within the premises.
	36	Energy Audit	Zone regularly performs annual energy audit for common utilities and facilities.
	37	Mobility and Safety	Zone ensures safe internal movement of pedestrians and bicycles and displays safety measure throughout the zone premises (In form of hoardings, banners, notices etc.).
	38	Green Spaces	Zone has adequate green spaces in compliance with applicable regulations and guidelines.
	39	Renewable Energy	Zone uses captive renewable energy for common infrastructure (street lighting/ pumping etc.).
	40	Certification of Quality	Zone usually ensures to obtain certification like ISO 9001, 14000, 50001, 26000, Stakeholder Engagement Standard Certifications (ISO AA1000AS) and other international certifications for its quality management.

5.3. Annexure 3: Sector mapping of the industrial parks and SEZs nominated for rating

State	Park	Region	Type of park (IP/SEZ)	Sector
Andhra Pradesh	Apache SEZ Developement India Pvt.Limited	South	SEZ	Leather
	ATCHUTAPURAM_APSEZ	South	SEZ	Mixed
	Block - F	South	IP	Metals
	BPSEZ, Annangi(V)	South	SEZ	Construction
	BRANDIX INDIA APPAREL CITY P LTD.	South	SEZ	Textiles
	DIVIS SECTOR SPECIFIC SEZ (PHARMA)	South	SEZ	Pharmaceuticals
	DR.REDDY'S SECTOR SPECIFIC SEZ FOR APIs & PHARMADEUTICALS	South	SEZ	Pharmaceuticals
	GROWTH CENTRE BOBBILI	South	IP	Metals
	HETERO INFRASTRUCTURE SEZ LIMITED	South	SEZ	Pharmaceuticals

State	Park	Region	Type of park (IP/SEZ)	Sector
	IDA-PARAWADA	South	IP	Mixed
	IDP Kadapa	South	IP	Mixed
	IP Attivaram	South	IP	Metals
	IP IC PUDI	South	IP	Mixed
	IP Naidupeta	South	IP	Metals
	IP PYIDIBHIMAVARAM	South	IP	Mixed
	IP_GAMBHEERAM	South	IP	Mixed
	IP-AMMAVARIPALLI	South	IP	Mixed
	IP-ERRAMANCHI	South	IP	Automobiles
	IP-GAJULMANDYAM	South	IP	Mixed
	IT SEZ HILL 2	South	SEZ	Metals
	IT SEZ HILL 3	South	SEZ	Metals
	IT_PARK_MANGALAGIRI	South	IP	Metals
	Model_Industrial_Park	South	IP	Mixed
	Parry Infrastructure Company Private Limited	South	SEZ	Food Processing
	PEDDAPURAM-UDL	South	IP	Mixed
	RAMKY PHARMACITY INDIA LINITED SEZ	South	SEZ	Pharmaceuticals
	SEZ Naidupeta	South	SEZ	Metals
	Sri City-EMC	South	IP	Electronics Hardware
	SRICITY SEZ	South	SEZ	Mixed
	State Food Park	South	IP	Food Processing
	Vikruthamala EMC-2	South	IP	Metals
	Visakhapatnam Special Economic Zone	South	SEZ	Mixed
Arunachal Pradesh	Industrial Growth Centre, Niglok-Ngorlung	North East	IP	Mixed
	Tippi Industrial Estate,Bhalukpong	North East	IP	Mixed
Assam	Export Promotion Industrial Park	North East	IP	Mixed
	IGC Chaygaon (Jambari)	North East	IP	Metals
	IGC, Balipara	North East	IP	Metals

State	Park	Region	Type of park (IP/SEZ)	Sector
	IGC, Matia	North East	IP	Metals
	IIDC Nalbari	North East	IP	Mixed
	IIDC Rangia	North East	IP	Mixed
Bihar	EPIP Hajipur	East	IP	Mixed
	Fatuha Industrial Area	East	IP	Mixed
	Hajipur Industrial Area	East	IP	Mixed
	Industrial Area Muzaffarpur	East	IP	Mixed
	Industrial Area Pandoul	East	IP	Mixed
	Industrial Estate Muzaffarpur	East	IP	Mixed
	Industrial Growth Center Maranga Purnea	East	IP	Mixed
	Large Industrial Estate Barari	East	IP	Mixed
	PATLIPUTRA INDUSTRIAL AREA	East	IP	Mixed
	Sikandarpur Industrial Area	East	IP	Mixed
Chandigarh	Rajiv Gandhi Chandigarh Technology Park (RGCTP)	North	IP	IT and ITeS
Chattisgarh	Bhanpuri-Rawabhata Industrial Area	Central	IP	Mixed
	Electronic Manufacturing Cluster, Naya Raipur	Central	IP	Electronics Hardware
	Engineering Park Bhilai	Central	IP	Mixed
	Heavy Industrial Area, Bhilai	Central	IP	Mixed
	Industrial Area, Silpahari	Central	IP	Mixed
	Industrial Area, Tifra	Central	IP	Mixed
	Industrial Estate Bhilai	Central	IP	Mixed
	Industrial Growth Centre, Borai	Central	IP	Mixed
	Industrial Growth Centre, Siltara	Central	IP	Mixed
	Industrial Growth Centre, Sirgitti	Central	IP	Mixed
	Industrial Growth Centre, Urla	Central	IP	Mixed
	Integrated Industrial Development Centre, Birkoni	Central	IP	Mixed
	Integrated Industrial Development Centre, Nayanpur, Girwarganj	Central	IP	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
	Light Industrial Area, Bhilai	Central	IP	Mixed
	Metal Park, Rawabhata	Central	IP	Mixed
Dadra & Nagar Haveli	Government Industrial Estate, Khadoli	West	IP	Mixed
	Government Industrial Estate, Masat.	West	IP	Mixed
Delhi	Badli	North	IP	Mixed
	Bawana	North	IP	Mixed
	Narela	North	IP	Mixed
	Patparganj	North	IP	Mixed
Goa	Bethora	West	IP	Mixed
	Bicholim	West	IP	Mixed
	Canacona	West	IP	Mixed
	Colvale	West	IP	Mixed
	Corlim	West	IP	Mixed
	Cuncolim	West	IP	Mixed
	Honda	West	IP	Mixed
	Kakoda	West	IP	Mixed
	Kundaim	West	IP	Mixed
	Madkaim	West	IP	Mixed
	Mapusa	West	IP	Mixed
	Margao	West	IP	Mixed
	Pilerne	West	IP	Mixed
	Pissurlem	West	IP	Mixed
	Sancoale	West	IP	Mixed
	Sanguem	West	IP	Mixed
	Shiroda	West	IP	Mixed
	Tivim	West	IP	Mixed
	Tuem	West	IP	Mixed
	Verna	West	IP	Mixed
Gujarat	Aatmiya Brookfields	West	IP	Mixed
	Aatmiya-2 Industrial Park (Snehdeep)	West	IP	Automobiles
	Adani Ports and Special Economic Zone Ltd.	West	SEZ	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
	Ahmedabad Foundry & Engineering & Cluster	West	IP	Mixed
	Anuradha Realty Pvt Ltd	West	IP	Mixed
	Contrans Logistic Park Private Limited	West	IP	Mixed
	Dahej SEZ	West	SEZ	Mixed
	Dahej_II	West	IP	Mixed
	Dahej_III	West	IP	Mixed
	Dahod(Kharedi)	West	IP	Mixed
	Damanganga Industrial Park	West	IP	Mixed
	Fanidhar Mega Food Park Pvt Ltd	West	IP	Food Processing
	Gallops Industrial Park ï¿‚ï¾– 1	West	IP	Mixed
	Gallops Industrial Park-2	West	IP	Mixed
	Gujarat Agro Infrastructure Mega Food Park Pvt. Ltd	West	IP	Mixed
	Halol Expansion	West	IP	Mixed
	Halol_I	West	IP	Mixed
	Hamraz Food Products Pvt Ltd	West	IP	Mixed
	Hindva Builders LLP	West	IP	Mixed
	Horizon Industrial Park	West	IP	Mixed
	Japanese Park (Mandal)	West	IP	Mixed
	Jubilant Infrastructure Limited	West	SEZ	Chemicals
	KANDLA SPECIAL ECONOMIC ZONE	West	SEZ	Mixed
	Mascot Infrastructure Gujarat LLP	West	IP	Mixed
	Ratanakar Estate Developer	West	IP	Mixed
	Reliance Jamnagar SEZ, Jamnagar	West	SEZ	Chemicals
	Romanovia Industrial Park	West	IP	Automobiles
	Sanand	West	IP	Mixed
	Savli	West	IP	Mixed
	Sayakha	West	IP	Mixed
	Siddhi Industrial Infrastructure Park	West	IP	Mixed
	SPECIAL ECONOMIC ZONE SURAT	West	SEZ	Mixed
	Sterling SEZ	West	SEZ	Mixed
	Vision Industrial Park	West	IP	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
	Welspun Anjar SEZ Limited	West	IP	Mixed
	Zydus Pharma SEZ	West	SEZ	Pharmaceuticals
Haryana	IMT Faridabad & Sector 59	North	IP	Mixed
	Industrial Estate Karnal	North	IP	Mixed
	Industrial Estate Kundli	North	IP	Mixed
	Industrial Estate Manakpur	North	IP	Metals
	Industrial Estate Rai	North	IP	Automobiles
	Industrial Estate, Bahadurgarth	North	IP	Leather
	Industrial Estate, Barhi	North	IP	Mixed
	Industrial Growth Centre, Saha	North	IP	Mixed
	Industrial Model Township, Bawal	North	IP	Mixed
	Industrial Model Township, Manesar	North	IP	Automobiles
	Industrial Model Township, Rohtak	North	IP	Automobiles
	Udyog Vihar, Gurugram	North	IP	Automobiles
Himachal Pradesh	Gagret Phase I & II	North	IP	Chemicals
	Gondpur Phase I	North	IP	Chemicals
	Gwalthai Phase II	North	IP	Chemicals
	Jharmajri Phase I	North	IP	Chemicals
	Jharmajri Phase II	North	IP	Chemicals
	Kala Amb	North	IP	Chemicals
	Kandrori Phase I	North	IP	Chemicals
	Lodhimajra	North	IP	Chemicals
	Mehatpur	North	IP	Chemicals
	Pandoga	North	IP	Chemicals
	Sansarpur Phase III	North	IP	Chemicals
	Shamshi	North	IP	Chemicals
	Shoghi	North	IP	Chemicals
	Tahiwal Phase I & II	North	IP	Chemicals
Jammu & Kashmir	Electronic Complex Rangreth, Budgam J&K SIDCO	North	IP	Mixed
	IE Bari-Brahmana J&K SIDCO	North	IP	Mixed
	IGC ,Lassipora, Pulwama J&K SIDCO	North	IP	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
	IGC Samba Phase I-II J&K SIDCO	North	IP	Mixed
	IGC Samba Phase-III	North	IP	Mixed
	Industrial Estate Ghatti, Kathua J&K SIDCO	North	IP	Mixed
	Industrial Estate, Khunmoh, Phase I, II & III	North	IP	Mixed
Jharkhand	Adityapur Industrial Area (6th Phase)	East	IP	Mixed
	Adityapur Industrial Area (7th Phase)	East	IP	Mixed
	Adityapur Industrial Area Phase 2	East	IP	Mixed
	Balidih Industrial Area Phase - IV	East	IP	Mixed
	Jasidih Industrial Area Phase 2	East	IP	Mixed
	Patratu Industrial Area-I	East	IP	Mixed
	Tatisilwai Industrial Area Phase 1	East	IP	Mixed
Karnataka	AEQUS SEPECIAL ECONOMIC ZONE	South	SEZ	Defence and Aerospace
	Antharasanahalli Industrial Area, 1st Phase & II Phase	South	IP	Manufacturing
	Baikampady	South	IP	Mixed
	Bangalore IT Park, Defence and Aerospace Park & Aerospace SEZ	South	IP	Mixed
	Belur Industrial Area	South	IP	Engineering
	Bidadi 1st Phase & II phase	South	IP	Automobiles
	BIOCON SPECIAL ECONOMIC ZONE	South	SEZ	Mixed
	BOMMASANDRA 1ST, 2ND, 3RD & 4TH PHASE	South	IP	Biotechnology
	Bommasandra Jigni link Road	South	IP	Engineering
	Doddanekunddi, sadarmangala EPIP	South	IP	Automobiles
	Electronic city Phase - 2	South	IP	Electronics Hardware
	Harohalli 1st & 2nd Phase IA	South	IP	Electronics Hardware
	Hassan Growth Centre Industrial Area	South	IP	Mixed
	Hebbal industrial area	South	IP	Mixed
	Kadakola Industrial Area	South	IP	Mixed
	MANGALORE SPECIAL ECONOMIC ZONE	South	SEZ	Automobiles

State	Park	Region	Type of park (IP/SEZ)	Sector
	IGC Samba Phase I-II J&K SIDCO	North	IP	Mixed
	IGC Samba Phase-III	North	IP	Mixed
	Industrial Estate Ghatti, Kathua J&K SIDCO	North	IP	Mixed
	Industrial Estate, Khunmoh, Phase I, II & III	North	IP	Mixed
Jharkhand	Adityapur Industrial Area (6th Phase)	East	IP	Mixed
	Adityapur Industrial Area (7th Phase)	East	IP	Mixed
	Adityapur Industrial Area Phase 2	East	IP	Mixed
	Balidih Industrial Area Phase - IV	East	IP	Mixed
	Jasidih Industrial Area Phase 2	East	IP	Mixed
	Patratu Industrial Area-I	East	IP	Mixed
	Tatisilwai Industrial Area Phase 1	East	IP	Mixed
Karnataka	AEQUS SEPECIAL ECONOMIC ZONE	South	SEZ	Defence and Aerospace
	Antharasanahalli Industrial Area, 1st Phase & II Phase	South	IP	Manufacturing
	Baikampady	South	IP	Mixed
	Bangalore IT Park, Defence and Aerospace Park & Aerospace SEZ	South	IP	Mixed
	Belur Industrial Area	South	IP	Engineering
	Bidadi 1st Phase & II phase	South	IP	Automobiles
	BIOCON SPECIAL ECONOMIC ZONE	South	SEZ	Mixed
	BOMMASANDRA 1ST, 2ND, 3RD & 4TH PHASE	South	IP	Biotechnology
	Bommasandra Jigni link Road	South	IP	Engineering
	Doddanekunddi, sadarmangala EPIP	South	IP	Automobiles
	Electronic city Phase - 2	South	IP	Electronics Hardware
	Harohalli 1st & 2nd Phase IA	South	IP	Electronics Hardware
	Hassan Growth Centre Industrial Area	South	IP	Mixed
	Hebbal industrial area	South	IP	Mixed
	Kadakola Industrial Area	South	IP	Mixed
	MANGALORE SPECIAL ECONOMIC ZONE	South	SEZ	Automobiles

State	Park	Region	Type of park (IP/SEZ)	Sector
	Nanjangud Industrial area	South	IP	Mixed
	narasapura industrial area	South	IP	Automobiles
	Obedanahalli IA (Doddaballapur 3rd Phase IA)	South	IP	Mixed
	Raichur Growth centre	South	IP	Engineering
	Sompura 1st and 2nd Stage(Dabaspet 3rd Phase) Industrial Area	South	IP	Engineering
	Vasanthanarasapura 1st Phase	South	IP	Mixed
	vemgal industrial area	South	IP	Pharmaceuticals
Kerala	COCHIN SPECIAL ECONOMIC ZONE	South	SEZ	Mixed
	Development Area , Edayar	South	IP	Mixed
	Development Area, Ananthapuram	South	IP	Mixed
	Development Area, Veli	South	IP	Mixed
	Development Plot, Ananthapuram	South	IP	Mixed
	industrial estate, ollur	South	IP	Mixed
	KINFRA Film And Video Park (KFVP),Kazhakuttom,Trivandum	South	IP	Handicrafts
	KINFRA Hi-Tech Park,Kalamassery, Kochi	South	IP	Capital Goods
	KINFRA Integrated Industrial And Textile Park,Kanjikode,Palakkad	South	IP	Chemicals
	KINFRA Mega Food Park,Kozhipara, Palakkad	South	IP	Food Processing
	KINFRA Small Industries Park (KSIP),Mazhuvannur,Ernakulam	South	IP	Capital Goods
	KSIDC - Industrial Growth Centre, Kinalur, Kozhikode	South	IP	Mixed
	KSIDC - Industrial Growth Centre, Valiyavelicham, Kannur	South	IP	Mixed
	KSIDC -Mega Food Park	South	IP	Food Processing
	KSIDC-INDUSTRIAL GROWTH CENTRE, PALLIPURAM, CHERTHALA	South	IP	Mixed
	sidco industrial estate, ettumanoor	South	IP	Mixed
	SIDCO INDUSTRIAL ESTATE,kollakadavu	South	IP	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
Madhya Pradesh	Malanpur-Ghirongi	Central	IP	Mixed
	Acharpura Industrial Area	Central	IP	Mixed
	Badiakhedi	Central	IP	Mixed
	Bagroda	Central	IP	Mixed
	Banmore	Central	IP	Mixed
	Dewas Sector 2 & 3	Central	IP	Mixed
	Electronic Complex	Central	IP	Mixed
	Food Park Babai	Central	IP	Food Processing
	Hargarh Jabalpur	Central	IP	Mixed
	IID Bina	Central	IP	Mixed
	IID Jaderua	Central	IP	Mixed
	IID Pratappura	Central	IP	Mixed
	Industrial Growth Centre (IGC) Borgaon	Central	IP	Engineering
	Industrial Growth Centre (IGC) Maneri	Central	IP	Mixed
	Lamtara	Central	IP	Mixed
	Maksi	Central	IP	Mixed
	Mandideep	Central	IP	Mixed
	Meghnagar	Central	IP	Mixed
	Pilukhedi	Central	IP	Mixed
	Pithampur Industrial Area - Sector 1 & 2	Central	IP	Mixed
	Pithampur Industrial Area - Sector 3 & 4	Central	IP	Mixed
	Readymade Garment Complex	Central	IP	Mixed
	Sidhguwan Phase-I	Central	IP	Mixed
	Smart Industrial Park Near NATRIP	Central	IP	Mixed
	Special Economic Zone, Indore	Central	SEZ	Mixed
	Stone Park Gwalior	Central	IP	Construction
	Udyog Vihar Rewa	Central	IP	Mixed
	Udyoggiri Purena	Central	IP	Mixed
	Umariya Dungariya Phase-I	Central	IP	Mixed
Maharashtra	Baramati Industrial Area	West	IP	Mixed
	Butibori Industrial Area	West	IP	Mixed
	Kagal Hatkanangale Five Star Industrial Area	West	IP	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
	Nanded Industrial Area	West	IP	Mixed
	Pimpri Industrial Area	West	IP	Mixed
	Ranjangaon Industrial Area	West	IP	Mixed
	T.T.C. Industrial Area	West	IP	Mixed
	Taloje Industrial Area	West	IP	Mixed
	Tarapur Industrial Area	West	IP	Mixed
	Waluj Industrial Area	West	IP	Mixed
	Additional Ambernath Industrial Area	West	IP	Mixed
	Additional Amravati (Textile Zone) Industrial Area	West	IP	Mixed
	Ambad (Nashik) Industrial Area	West	IP	Mixed
	Chakan Industrial Area PH-I	West	IP	Mixed
	Chakan Industrial Area PH-II	West	IP	Mixed
	Chakan Industrial Area PH-III	West	IP	Mixed
	Chakan Industrial Area PH-IV	West	IP	Mixed
	Indapur Industrial Area (Loni Devkar)	West	IP	Mixed
	Kalmeshwar Industrial Area	West	IP	Mixed
	Khandala Phase-I (Kesurdi) SEZ Industrial Area	West	IP	Mixed
	Latur Industrial Area	West	IP	Mixed
	Lote Parshuram Industrial Area	West	IP	Mixed
	Mahad Industrial Area	West	IP	Mixed
	MIDC PHALTAN SEZ	West	SEZ	Engineering
	MIHAN SEZ	West	SEZ	Mixed
	Phaltan Industrial Area	West	IP	Mixed
	Rajiv Gandhi IT Park-II Industrial Area	West	IP	Mixed
	Rajiv Gandhi IT Park-III Industrial Area	West	IP	Mixed
	Roha Industrial Area	West	IP	Mixed
	Santacruz Electronics Export Processing Zone	West	SEZ	Mixed
	Satpur Industrial Area	West	IP	Mixed
	SERUM BIO PHARMA PARK	West	SEZ	Biotechnology
	Shendra Five Star Industrial Area	West	IP	Mixed
	Talegaon Industrial Area	West	IP	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
Manipur	Food park Nilakuthi	North East	IP	Food Processing
	Kuraopokpi Industrial Estate	North East	IP	Mixed
	Takyel Industrial Estate	North East	IP	Mixed
	Tera Urak Industrial Estate	North East	IP	Mixed
Nagaland	New Industrial Estate	North East	IP	Mixed
	Old Industrial Estate	North East	IP	Mixed
Odisha	Alluminium Park	East	IP	Metals
	EMC Park, Infovalley, Bhubaneswar	East	IP	Electronics Hardware
	GrouthCenter Manamunda	East	IP	Mixed
	I.E Balgopalpur	East	IP	Mixed
	I.E Bhagabanpur	East	IP	Mixed
	I.E Bolangir-GC-Phase-II	East	IP	Mixed
	I.E Chhatabar	East	IP	Mixed
	I.E Choudwar	East	IP	Mixed
	I.E Food Park Khurda	East	IP	Mixed
	I.E Gothapatna	East	IP	Mixed
	I.E Gundichapada	East	IP	Mixed
	I.E IID Rayagada	East	IP	Mixed
	I.E Jagatpur_New	East	IP	Mixed
	I.E Jharsuguda G.C	East	IP	Mixed
	I.E Kalunga	East	IP	Mixed
	I.E Khurda	East	IP	Mixed
	I.E Mancheswar	East	IP	Mixed
	I.E Mandiakudar	East	IP	Mixed
	I.E Matkambeda	East	IP	Mixed
	I.E Rairangpur	East	IP	Mixed
	I.E Ramdaspur	East	IP	Mixed
	I.E Sarua	East	IP	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
	I.E Somnathpur	East	IP	Mixed
	I.E Talcher	East	IP	Mixed
	IT Park Chandaka/Infocity-I	East	IP	IT and ITeS
	SEZ, Infovally, Bhubaneswar	East	IP	IT and ITeS
	VEDANTA LIMITED SEZ	East	SEZ	Mixed
Punjab	Hi Tech Cycle Valley	North	IP	Mixed
	IFP CHANALON	North	IP	Mixed
	IFP Dera Bassi	North	IP	Mixed
	IFP Goindwal Sahib Phase II	North	IP	Mixed
	IFP HOSHIARPUR	North	IP	Mixed
	IFP KHANNA	North	IP	Mixed
	IFP Moga	North	IP	Mixed
	IFP Mohali Phase 8 A and B	North	IP	IT and ITeS
	IFP Mohali Phase-VII	North	IP	IT and ITeS
	IFP NABHA NEW	North	IP	Mixed
	IFP NAWANSHEHAR	North	IP	Mixed
	IFP Sangrur	North	IP	Mixed
	IGC Bathinda	North	IP	Mixed
	IMUI Kapurthala	North	IP	Mixed
	Industrial Focal Point, Kotakpura	North	IP	Mixed
	Industrial Focal Point, Ludhiana, Phase-IV	North	IP	Mixed
	Industrial Focal Point, Patiala	North	IP	Mixed
	Jalandhar (Expn.)	North	IP	Mixed
	Jalandhar Old	North	IP	Mixed
	Leather Complex, Jalandhar	North	IP	Mixed
	Mandi Gobindgarh	North	IP	Mixed
	MOHALI PHASE 9	North	IP	IT and ITeS
	MOHALI PHASE 9 EXPANSION	North	IP	IT and ITeS
Rajasthan	Agro Food Park, Boranada	West	IP	Food Processing
	BAGRU EXT.PHASE II	West	IP	Engineering
	Bhiwadi	West	IP	Mixed
	Boranada Phase-IV	West	IP	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
	E.P.I.P. Neemrana	West	IP	Mixed
	EPIP, Boranada	West	IP	Engineering
	EXPORT PROMOTION INDUSTRIAL PARK	West	IP	Mixed
	GROWTH CENTER PHASE-II	West	IP	Mixed
	Growth Centre , Jhalawar	West	IP	Mixed
	INDUSTRIAL AREA PRAHLADPURA	West	IP	Mixed
	Industrial area Sitapura Ph.- III	West	IP	Mixed
	Industrial Neemrana Phase-II	West	IP	Mixed
	IPIA,KOTA	West	IP	Mixed
	Kaharani(Bhiwadi Ext.)	West	IP	Mixed
	KALADWAS(EXTN.)	West	IP	Mixed
	KAROLI	West	IP	Mixed
	Khara Industrial Area	West	IP	Mixed
	KISHANGARH-IV PHASE	West	IP	Mixed
	Mahindra World city (Jaipur) Ltd	West	SEZ	Mixed
	MANDA PHASE - I	West	IP	Mixed
	MIA EXTENSION, ALWAR	West	IP	Mixed
	MIA UDAIPUR	West	IP	Mixed
	Neemrana Phase-I	West	IP	Mixed
	New Industrial Complex (Majrakath) Neemrana	West	IP	Mixed
	Punayata	West	IP	Textiles
	RIICO I/A BALOTRA PH.-I,II,III & III extn.	West	IP	Textiles
	RIICO INDUSTRIAL AREA CHOPANKI	West	IP	Mixed
	RIICO INDUSTRIAL AREA KHUSKHERA	West	IP	Mixed
	RIICO INDUSTRIAL AREA TAPUKARA	West	IP	Automobiles
	RIICO INDUSTRIAL AREA, GHILOTH (ALWAR)	West	IP	Mixed
	SEZ-II, Jaipur	West	SEZ	Gems and Jewellery
	SKS Reengus	West	IP	Mixed
Tamil Nadu	ASPEN PARK INFRA COIMBATORE PVT LTD	South	SEZ	Engineering
	Chennai Free Trade Zone	South	SEZ	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
	Cheyyar SEZ Developers Pvt Ltd	South	SEZ	Leather
	FLEXTRONICS TECHNOLOGIES (INDIA) PRIVATE LIMTED	South	SEZ	Electronics Hardware
	LARSEN & TOUBRO LIMITED SEZ	South	SEZ	Engineering
	Mahindra World City Chennai	South	IP	Mixed
	MAHINDRA WORLD CITY DEVELOPERS LIMITED	South	SEZ	Automobiles
	MEPZ SPECIAL ECONOMIC ZONE	South	SEZ	Mixed
	OneHub Chennai	South	IP	Mixed
	SIDCO Industrial Estate, Guindy	South	IP	Engineering
	SIDCO INDUSTRIAL ESTATE, KAKKALUR	South	IP	Mixed
	SIDCO Industrial Estate, Thirumazhisai,	South	IP	Mixed
	SIDCO INDUSTRIAL ESTATE, THIRUMUDIVAKKAM MAIN	South	IP	Mixed
	SIDCO INDUSTRIAL ESTATE, Thirumullaivoyal WIP	South	IP	Mixed
	SIPCOT HI-TECH SEZ ORAGADAM	South	SEZ	Electronics Hardware
	SIPCOT INDUSTRIAL COMPLEX HOSUR (Phase I & II)	South	IP	Mixed
	SIPCOT INDUSTRIAL COMPLEX THOOTHUKKUDI (Phase I)	South	IP	Engineering
	SIPCOT INDUSTRIAL COMPLEX, BARGUR	South	IP	Mixed
	SIPCOT INDUSTRIAL COMPLEX, CHEYYAR (Phase I &II)	South	IP	Mixed
	SIPCOT INDUSTRIAL COMPLEX, GUMMIDIPOONDI (I & II)	South	IP	Mixed
	SIPCOT INDUSTRIAL COMPLEX, RANIPET (Phase I, II & III)	South	IP	Leather
	SIPCOT INDUSTRIAL GROWTH CENTER - SEZ	South	SEZ	Engineering
	SIPCOT INDUSTRIAL GROWTH CENTER, GANGAIKONDAN	South	IP	Mixed
	SIPCOT INDUSTRIAL GROWTH CENTER, PERUNDURAI	South	IP	Textiles
	SIPCOT INDUSTRIAL GROWTH CENTRE, ORAGADAM	South	IP	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
	SIPCOT INDUSTRIAL PARK SRIPERUMBUDUR	South	SEZ	Electronics Hardware
	SIPCOT INDUSTRIAL PARK, IRUNGATTUKOTTAI	South	IP	Automobiles
	SIPCOT INDUSTRIAL PARK, VALLAM-VADAGAL	South	IP	Automobiles
	SIPCOT TRANSPORT ENGINEERING SEZ GANGAIKONDAN	South	SEZ	Engineering
Telangana	Aerospace_SEZ_Adibatla	South	IP	Mixed
	Chandanvelly	South	IP	Biotechnology
	E_CITY_SEZ	South	IP	Electronics Hardware
	FABCITY SPV	South	SEZ	Renewable Energy
	Financial District IT Park	South	IP	IT and ITeS
	Hardware Park	South	IP	Electronics Hardware
	Hyderabad Knowledge City	South	IP	IT and ITeS
	IP Agro Processing Park Bandamaylaram	South	IP	Biotechnology
	IP CHERLAPALLY PHASE I to V	South	IP	Mixed
	IP Kakatiya Mega Textile Park	South	IP	Textiles
	IP MANKAL	South	IP	Mixed
	IP Rampur	South	IP	Biotechnology
	IP Sultanpur General Park/ Medical Devices	South	IP	Mixed
	IP_Madikonda	South	IP	Mixed
	IP_Toopran	South	IP	Mixed
	IT Park Madhapur - HiTech City	South	IP	IT and ITeS
	Jeedimetla Phase I to V	South	IP	Mixed
	Pashamylaram Phase I to IV and EPIP	South	IP	Mixed
	SEZ JADCHERLA	South	SEZ	Pharmaceuticals
	TIF/TSIIC	South	IP	Mixed
	TSIIC_Jedcharla_GIP	South	IP	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
Tripura	Bodhjungnagar Industrial Area	North East	IP	Mixed
	R.K.Nagar Industrial Area	North East	IP	Mixed
Uttar Pradesh	Arshiya Northern FTWZ Ltd.	North	SEZ	Mixed
	ECOTECH1-EXTN1	North	IP	Mixed
	ECOTECH-I	North	IP	Mixed
	ECOTECH-XII	North	IP	Mixed
	SECTOR - 33	North	IP	Mixed
	SECTOR-16	North	IP	Mixed
	Sector-81	North	IP	Mixed
	Surajpur Site-V	North	IP	Mixed
	TALANAGRI INDUSTRIAL AREA	North	IP	Metals
	ECOTECH-01-EXTN	North	IP	Mixed
	ECOTECH-II	North	IP	Mixed
	ECOTECH-III	North	IP	Mixed
	ECOTECH-VI	North	IP	Mixed
	Noida Special Economic Zone	North	SEZ	Mixed
	Phase-II	North	IP	Mixed
	SECTOR - 29	North	IP	Mixed
	Sector-1	North	IP	Mixed
	Sector-63	North	IP	Mixed
	Sector-67	North	IP	Mixed
	Sector-68	North	IP	Mixed
	Sector-80	North	IP	Mixed
	Sector-84A	North	IP	Mixed
Uttarakhand	Balbahadurpur	North	IP	Mixed
	Bhimtal	North	IP	Mixed
	ESIPL	North	IP	Mixed
	Government Industrial Estate, Kashipur	North	IP	Mixed
	Government Industrial Estate, Sitabpur	North	IP	Mixed
	Govt. IE, Patelnagar	North	IP	Mixed
	IIE Haridwar	North	IP	Mixed

State	Park	Region	Type of park (IP/SEZ)	Sector
	IIE Kotdwar	North	IP	Mixed
	IIE Pantnagar	North	IP	Mixed
	IIE Pharmacity Selaqui	North	IP	Pharmaceuticals
	IIE Sitarganj, Phase II	North	IP	Mixed
	IT Park	North	IP	IT and ITeS
	Mini Industrial Area Kaleshwar	North	IP	Mixed
	SIDC Bahadrabad	North	IP	Mixed
	SIDC Jasodharpur	North	IP	Mixed
	FALTA SPECIAL ECONOMIC ZONE	East	SEZ	Mixed

5.4 Annexure 4: Examples of real estate and infrastructure investors in industrial parks

Industrial park	Financing
Subic Bay Freeport Zone, Philippines	USD 40 million loan from World Bank, serviced over 20 years from revenues from 700 investors located in the zone.
Embassy Industrial Park, India	USD 700 million acquisition by Blackstone Realty of the warehousing space joint venture of Warburg Pincus and Embassy[46]
Al-Ain Industrial City, Abu Dhabi	ZonesCorp Infrastructure Fund, United Arab Emirates (UAE): Investments in infrastructure and related assets located in industrial and commercial zones, predominantly in Abu Dhabi; projects are anticipated to be largely greenfield; attracted over USD 8 billion worth of investments from local and international companies into its economic zones[47]

Industrial park	Financing
Sriperumbudur Industrial Park – Chennai, India	Brookfield asset management acquired an 80 percent stake in the build-to-suit industrial and warehousing park developed by Embassy Group[48].The project involves construction of an industrial park on ~90 hectares with a total investment of USD 85 million.[49]
Ulsan Industrial Complex – Republic of Korea	Investment into industrial symbiosis project (steam pipeline highway) through a PPP to boost energy efficiency within an industrial park; a 6.2-kilometer-long pipeline consisting of several entrances and exits, facilitating steam networking amongst companies in the area; the public sector invested USD 22 million in this PPP through the Korea Industrial Complex Corp (KICOX); the private sector contributed USD 5.5 million to participate in the network development and connect their own facilities.[50]
Renewable Energy Project Financing - MIRA	Macquarie Infrastructure and Real Assets (MIRA) has raised USD 1.93 billion to invest in a range of portfolios, including wind and solar projects in western Europe, the US, Japan, Taiwan, Australia, Canada, Mexico, and New Zealand. The initial fund has been allotted in a stake acquisition of Gwynt y Môr offshore windfarm (UK).
Mega Food Park – Buggapadu, Telangana	Investment secured from NIIF, GoI Grant-in-aid, and National Bank of Agriculture and Rural Development (NABARD) loan to set up four primary processing centres at Karimnagar, Warangal, Nalgonda, and Khammam; about 30-35 food processing units are proposed for direct and indirect employment generation (about 30,000) from this sector; TSIIC will implement the project.

46. Blackstone Press Release – 10 May 2021 (https://www.blackstone.com/press-releases/article/black-stone-real-estate-acquires-premium-industrial-and-logistics-assets-helping-reinforce-position-as-one-of-indias-top-investors/)
47. https://www.mondaq.com/investment-strategy/616582/new-investments-of-dh51m-in-al-ain-industrial-city
48. https://economictimes.indiatimes.com/wealth/personal-finance-news/brookfield-picks-up-80-in-chennai-industrial-park/articleshow/48705938.cms
49. https://www.marketresearch.com/Timetric-v3917/Embassy-Brookfield-Sriperumbudur-Industrial-Park-11180377/
50. https://openknowledge.worldbank.org/bitstream/handle/10986/24921/Mainstreaming00020150event0in0Seoul.pdf?sequence=5&isAllowed=y

Industrial park	Financing
Trans Ganga Hi-Tech City – Unnao, UP	Investment is secured from NIIF to complete Common Effluent Treatment Plant (CETP) and Sewage Treatment Plant (STP) installations in a hi-tech city. The total project capacity is 1,151 acre.

5.5 Annexure 5: Case examples of alternate financing sources

Development finance institutions - Hindustan Infralog Pvt Ltd. (HIPL) platform can be used to finance industrial infrastructure projects

HIPL is a US$ 3 billion JV between NIIF and DP World, a global port terminal operator. HIPL operates as a ports and logistics investment platform to acquire and scale up stable businesses. In 2018, HIPL acquired a 90 percent controlling stake in Continental Warehousing Corporation (Nhava Seva) Limited (CWCNSL) that provides warehousing, private freight terminals, and container freight depot services. Additionally, the JV has announced INR 1,000 crore (US$ 135 million) investment in the Nhava Sheva Business Park (NSBP) Free Trade Zone (FTZ).

Impact fund - Agencies such as UNIDO has adopted sustainability as a theme to finance both demand and supply side interventions in industrial park projects

The United Nations Industrial Development Organisation (UNIDO) and Vietnam's Ministry of Planning and Investment's programme to transform industrial zones in Vietnam into eco-industrial park initiative for sustainable industrial zones in Vietnam was implemented between 2017 and 2019. The programme focuses on diffusion of clean technologies as well as practices to minimise hazardous waste, carbon emission, and water pollutants. One of the important elements of the programme was inclusion of eco-industrial parks in appropriate government policies. During May 2018, the programme was successfully able to integrate the eco-industrial park concept that prescribes the conditions and requirements for recognising eco-industrial parks in Vietnam. The interventions identified under the eco-industrial park framework were implemented with collaboration of 73 companies located in four industrial zones – Khanh Phu IZ and Gian Khau IZ (Ninh Binh), Hoa Khanh IZ (Da Nang), and Tra Noc 1 and 2 IZs (Can Tho).

Source: https://www.unido.org/news/unido-and-imfino-mobilize-finance-innovations-help-achieve-sustainable-development-goals

mpact fund - Industrial infrastructure sustainability is one of the central themes across the globe for economic recovery in the post COVID-19 world

In response to the economic downturn caused by COVID-19, the Republic of Korea (ROK) government launched the Korean New Deal in July 2020. Investment worth US$135 billion in green and digital projects is now being funded with $96.3 billion from the treasury, US$21.2 billion from local governments, and US$17.3 billion from the private sector. In rolling out the financial package to support the programme, the Korea Development Bank and credit guarantee schemes, such as the Korea Credit Guarantee Fund and the Korea Technology Finance Corporation, will inject US$86.2 billion through loans and guarantees. Apart from a plan to invest in advanced technology initiatives to create jobs, the Korean New Deal has a green component, known as the Green New Deal. It will invest a projected US$1.5 billion to finance green Small and Medium Enterprises (SMEs), support technology development for environmental and energy SMEs, and build green industrial clusters. The whole Green New Deal is worth US$61.9 billion. It aims to create 319,000 jobs by 2022 and 659,000 by 2025. In addition to helping green SMEs in the ROK overcome barriers to finance, these efforts can provide useful insights for other countries in Asia and the Pacific as they formulate their own economic roadmaps for sustainable recovery after COVID-19.

Ref: Asian Development Outlook (ADO) 2021 - FINANCING A GREEN APRIL AND INCLUSIVE RECOVERY (ADB April 2021) (https://www.adb.org/sites/default/files/publication/692111/ado2021-theme-chapter.pdf)

5.6 Annexure 6: Case examples of PPP in industrial parks in India

PPP Model	Relevant projects	Project authority	Salient feature
Operations and maintenance	Narela Industrial Estate-Redevelopment	Delhi State Industrial and Infrastructure Development Corporation (DSIIDC)	Operations and maintenance under the Build-Operate-Transfer (BOT) concession model PPP signed for 15 years
Build-own-operate-transfer	Logistics Hub (Pawarkheda) Project	SPV - Kesar Multimodal Logistics Ltd.	• Logistics terminal to be equipped with a private freight terminal with rail siding, warehousing complex, multi-modal cargo handling • About 88.3-acre land developed for logistics hub • Concession agreement with MP state agricultural marketing board
Build-operate-transfer	Development of Exhibition cum Convention Centre at Sitapur Industrial Area, Jaipur	JV - Diligent Pinkcity Centre Pvt Ltd; Bhaskar Industries Ltd; RIICO	Lease of ~42-acre area developed in Sitapur
Lease operating model	Multimodal Logistic Park (Visakhapatnam)	Container Corporation of India Limited (CONCOR)	• Land allotment to CONCOR by Visakhapatnam Port Trust (VPT) • About 98-acre land taken on lease
Build-own-operate-transfer	Setting up a multi service SEZ in Gandhinagar	Gujarat International Finance Tec-City Company Limited (GIFTCL); Kalyani Group	• Formation of GIFTCL – A JV between Gujarat Urban Development Company (GUDC) and Infrastructure Leasing & Finance Services (IL&FS) • GIFTCL – Development and implementation of project

PPP Model	Relevant projects	Project authority	Salient feature
Joint development model	Multi-product SEZ (Sinnar) project	SPV - Indiabulls Industrial Infrastructure Ltd	Indiabulls authorised to set up a multi -product SEZ in Sinnar
Joint development model	Mahindra World City (MWC), Jaipur project	Mahindra Lifespace Developers Ltd. And RIICO	MWC – A 74:26 joint venture between Mahindra Lifespace Developers Ltd. (MLDL) and the Rajasthan State Industrial Development and Industrial Corporation (RIICO)
Annual concession (lease model)	Development of 425 acres of food processing special economic zone at Tuticorin	CCCL and Tamil Nadu Industrial Development Organisation (TIDCO)	• Investment in infrastructure development and other facilities done by CCCL • Processing facility set up by CCCL in 294-acres
Build-own-operate-transfer	IT/ITES SEZ (Imarat Kancha) project	J T Holdings Private Limited	
Build-own-operate-transfer	Eldeco SIDCUL Industrial Park (ESIP)	SPV - Eldeco Infrastructure and Properties Ltd. (EIPL), SIDCUL	• About 1096-acre land under development under the PPP model • Houses large-scale industrial activity in the auto component, food processing, and capital goods sectors

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