KRS Infra Ventures Pvt. Ltd.

KNOWLEDGE PAPER

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Indian Opportunities in Infrastructure Sector

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From Director Desk

Dear Friends,

The next 25 years vision of Government of India is focusing on modernization of Indian Infrastructure for future ready.

Each Infrastructure sector managing there development plan with more private participation & long term joint operation to make projects viable and growth oriented. And must attract Financial Partners to fund such Projects.

We herewith explain section wise vision and opportunities to our global partners.

Keshav Gandhi
Executive Director,
KRS Infra Ventures Private Limited

Highlights

Aviation-Indian Government has allocated INR Rs. 31.13 billion, which includes INR Rs. 30.27 billion to revive 50 additional airports, heliports waterdromes, and advances landing grounds to improve regional air connectivity. Indian Government has decided to privatize the Netaji Subhash Chandra Bose International Airport in Kolkata. MOCA has prepared a list of 25 airports to be privatised across the country. The terms and conditions for bidding are in the process of being finalised. The airports that will be privatised in the second phase include Chennai Airport, Varanasi Airport and smaller airports such as Indore, Jabalpur & Kushinagar. As a part of this privatisation plan, a large airport could be clubbed with a smaller one, following which a bidding process will be initiated soon.

Ports & Shipping-Ministry of Ports, Shipping & Waterways (MoPSW) has allocate a budget estimate of INR Rs. 22.19 billion. Govt of India has set a target of INR Rs. 67 billion from asset monetization in the ports and shipping sector for financial year 2023-24. Key projects include INR s 20 billion berth at the Deendayal Port (Kandla, Gujarat)., INR Rs 9.8 billion container terminal at the Haldia Dock Complex of Shyama Prasad Mookerjee Port (Kolkata, West Bengal) and a INR Rs. 3.6 billion dry Dock in Vadinar (Gujarat). Govt has managed to raise around INR Rs. 50 billion from asset monetisation in the last year.

Waterways Development-IWAI has 44 projects for a total investment of INR Rs. 229 billion till 2024-25. Government will develop 23 river systems for cargo and passenger vessel movement, aiming for greater use of inland waterways as a cheaper mode of transport. To promote inland water transport in the country, 111 waterways have been declared as National waterways Act. As per reports, India is aiming for an investment of INR Rs. 350 billion by 2047 to create a network of waterways in the country. The plan, to be implemented over the next 25 years, will include the development of waterways and jetties to improve the navigable capacity of Indian rivers.

Power-Indian Government allocated INR Rs. 206.71 billion for current budget & in addition The Ministry of Renewable Energy has been allocated INR Rs. 102.22 billion. The budget is focused on green growth.
Indian Government has approved an estimated investment of INR Rs. 318.76 billion for the 2880 MW Dibang multipurpose project in Arunachal Pradesh. The project will be developed & executed by NHPC Ltd. The approved investment includes budgetary support of INR Rs. 61.59 billion towards a flood moderation component, and INR Rs. 5.56 billion towards enabling infrastructure such as roads and bridges connecting the construction site offer various opportunities for contractors.

Railways-Indian Government allocation of INR Rs. 2412.67 billion to Indian Railway. The Govt has also proposed to manufacture 35 hydrogen fuel-based trains, 4500 newly designed automobile carrier coaches with side entry, 5000 Linke Hofmann Busch coaches and 58000 wagons.

Introduction-Railways

The National Rail Plan (NRP) is a roadmap for the creation of single future ready railway system in India by 2030 and the development of capacity ahead of demand to cater to the future growth till 2050. It also aims to increase the share of Railways in freight operations to 45%. A subcomponent of the NRP Vision 2024 aims to accelerate the implementation of critical projects, achieve 100% electrification, upgrade the train speeds on the key routes and eliminate all level crossings on selected routes by 2024.

The freight business, Indian Government Mission 3000 MT was launched, whereby Indian Railways intends to double its cargo loading capacity to 3000 MT by 2027 as against 1416 MT in last financial year.

Redevelopment of Railway Station

Under the Railway Station Redevelopment Programme, IR intends to redevelop a total of 400 stations. As of Dec 2022, redevelopment on 48 stations is in progress. 1275 small stations have been identified for redevelopment under the newly launched Amrit Bharat Station Scheme. Along with construction, station redevelopment opens up prospects for facility management and commercial monetisation.

High Speed Trains Under Vande Bharat

Government aim of launching 400 Vande Bharat trains by 2025, Indian Railways is venturing into a new era of semi-high-speed mobility. Designs for Vande Bharat 3.0, which can operate at 220 km per hour, have also been finalised. All coaches of the train are equipped with new age features such as automatic doors, audio visual passenger information systems and 32 inches infotainment screens.

Opportunities for Private Participation

Indian Government is working on PPP route for freight corridors, station redevelopment and development of GCTs. Soon Government Policy explaining mire briefly terms & conditions will be approved & shared and RFQ will be issued.

Railways Future Plans

The Government's current Budget focus on manufacturing 35 hydrogen fuel based trains, 4500 newly designed automobile carrier coaches with side entry, 5000 LHB coaches and 58000 wagons. It is expected that hydrogen trains will entail an investment of INR Rs. 800 million per train and ground infrastructure of INR Rs. 700 million per route on various heritage / hill routes.

Under the revised coach production programme for 2023-24, Indian Railways is aiming to roll-out 6978 coaches. Of these, 3549 will be from ICF, 1762 from the Rail Coach Factory Kapurthala and 1667 from the Modern Coach factory Raebareli. Further, Production of 1190 electric locomotives is also planned under the locomotive production plan for 2023-24. Going forward, with the govt increasing its focus on becoming self reliant, indegeneous production of rolling stock is expected to gain traction.

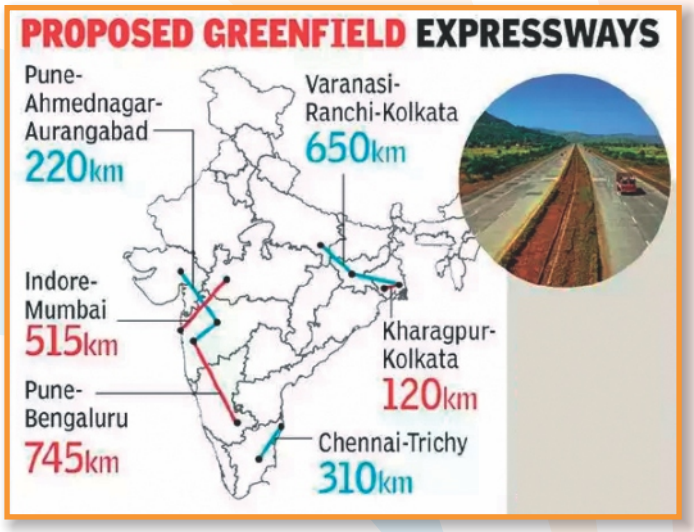
Indian Railway is planning to deploy AI (Artificial Intelligence) with a view to increasing the overall operational efficiency of the railway sector.

Under this scheme, a total of 1275 railway stations have been identified for development in the country, including in border areas. The redevelopment of railway stations across the country is expected to have a multiplier effect on the economy, increasing job creation and improving economic growth. It will open up opportunities not only for construction but also for facility management and commercial monetisation.

Roads & Highways

Govt targets building 5000 km greenfield roads and expressway under Bharatmala phase 2, recently Government of India approved INR Rs. 3 trillion approved for Bharatmala 2.0 by the centre The second phase of India's Highway development under Bharatmala 2.0, in 5,000 km of roads planned in second phase, the Six expressways and 17 access-controlled corridors with a combined length of over 8,100 km were originally envisioned as part of Bharatmala Pariyojana Phase II, with a total capital expenditure of about INR Rs. 3.66 trillion. The National Highways Authority of India (NHAI), the Government implementing agency will publish tenders for the construction of some sections of the roads under Phase-2 as early as the first half of FY24 to ensure that a sizable portion of these expressways and highways is operational in time for the remaining Phase-1 projects, which are now expected to be finished by 2027.

In order to facilitate trade between important economic centres, Bharatmala Phase-2 seeks to improve connectivity to a number of infrastructure projects, including multi-modal logistics parks (MMLPs) and under-construction expressways. The development of highways, decongested roads around significant industrial hubs, and bypasses. The creation of six important expressways with a combined length of 2,560 km would be the main focus of this large-scale undertaking. This will include 120 km long Kharagpur-Kolkata expressway that would also provide connectivity with an eastern dedicated freight corridor, 220 km Pune-Ahmednagar-Aurangabad expressway, 310 km Chennai-Tiruchirappalli expressway, 515 km Indore-Mumbai expressway that would also connect with under-construction Mumbai-Delhi expressway, 650 km Varanasi-Ranchi-Kolkata expressway and 745 km long Pune-Bengaluru expressway that would provide the longest expressway link via Delhi-Mumbai Corridor.



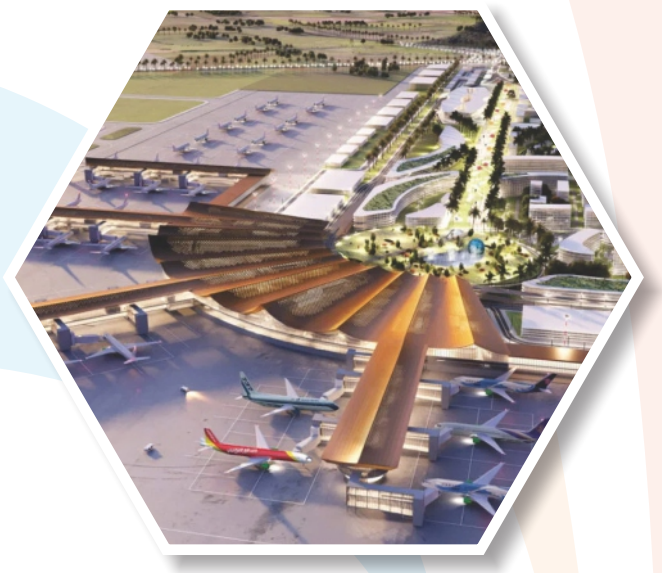
The preparation of detailed project reports (DPRs) for various projects under Bharatmala Phase-2 has been initiated so the process of tendering for construction of projects could be completed at the earliest. DPRs for several of the projects have already been done by NHAI while a few others would be available over the very soon.

Aviation

India has emerged as the 3rd largest domestic aviation market in the world. The Indian Aviation market contributes about 5% of the country's GDP. India's civil aviation industry is now focusing on achieving sustainability and net-zero carbon emissions which is the need of the hour.

India's airports are adopting green energy in order to fulfil their commitment of net zero emissions. The Indian Govt has set a target of making 90 airports carbon-neutral by 2024. Indian Government focusing on building infrastructure with the support of the private sector to make it more feasible through collaborations. Many new greenfield airport projects are in the pipeline in the country. Sustainability, carbon dioxide emissions and power generation disposal are important metrics for green field airports. The govt is aiming to make most India Airports carbon-neutral by Dec 2024, and achieve net-zero emission by 2030.

India has outlined plans to invest billions of dollars in airports and aircrafts, as the world's fastest growing economy seeks to meet booming air travel demand. By 2026, the Indian Govt intends to spend around US$1.83 billion on expanding airport infrastructure and aviation navigation services. This growth will include new airports, more regulators and air traffic controllers, and new flying schools. Civil aviation infrastructure and capabilities need to be in place for the country to be able to support a US$20 trillion economy by 2047.



The Govt is aiming for private investment in the aviation sector. It is using the PPP model to privatise 25 airports under the National Monetisation Pipeline. The PPP modalities include clubbing 2 airports – one large and one small – in the same state or region, so as to make them more attractive for bidding. The airports identified are Nagpur, Varanasi, Dehradun, Trichy, Indore, Chennai, Calicut, Coimbatore, Bhuvaneshwar, Patna, Mdhurai, Tirupati, Rachi, Jodhpur, Raipur, Rajamudhri, Vadodara, Amritsar, Surat, Hubli, Imphal, Agartala, Udaipur, Bhopal & Vijayawada. The Govt's vision is to privatise around 35 airports owned by the AAI by 2025. This offer various opportunities for Airport Operators, Aviation Product developers and suppliers.

Mining Sector-Introduction

India has vast mineral reserves and the mining industry plays a vital role in supporting the country's economy. It also serves as one of the major sectors for employment generation and is crucial for making India "Atmanirbhar". The Govt has been focusing on reforms in the mining industry. These reforms are anticipated to revive the industry and enhance its contribution to the overall economic growth.

There is huge opportunity and potential for growth in the mining sector in India. The major focus should be on improving production in a sustainable manner. Indian Government has set a target of increasing the mining sector's contribution to GDP to 2.5% by 2026-27. It plans to come up with investor and industry friendly norms for the sector. The Govt and the Private sector need to work together to achieve the set target.

Indian Government plan by 2030, to triple the amount of its renewable energy capacity. However,

while the coal production is being increased to meet the rising energy demand, state support for renewable energy projects is still a fraction of that for fossil fuel based projects. India generates far more electricity from carbon based sources than the global average.

Global best practices, especially in terms of the use of technologies such as AI in exploration and mining, need to be studied and deployed in the mining sector of India. The country needs to be fully conscious of the environmental aspects of fossil fuels. Even though coal mining is regarded as detrimental to the environment, it is essential for fostering growth and development. While the production of coal is not expected to reduce in the near future, the long term production is expected to reduce, which will bring down coal mining as well.

Government exploring mining sector staring using Artificial Intelligence (AI) and this offer opportunities to technologies based company to work in Mining Sector.

Oil & Gas

India is the 3rd largest energy and oil consumer in the World & 4th largest importer of liquefied natural gas (LNG). Indian government is making efforts to encourage foreign investments in the sector by reducing trade barriers and providing concessions to the companies. The Indian Government has also introduced many schemes to allow foreign investments in this sector. The oil demand in India is expected to grow multiple times the projected 11 million barrels per day by 2045. The diesel demand in India is expected to rise to 163 MT by 2029-2030; it is expected that both diesel and gasoline will cover almost 28% of India's demand by 2045. On the other hand India there are chances that the consumption of natural gas in India is expected to grow by 25 billion cubic metres (BCM). Henceforth, there is a great opportunity that these numbers may rise in the near future as the demand and the number of industries are also increasing.

India has set a target to raise the share of natural gas in the energy mix to 15% by 2030 from about 6.7% now. The current natural pipeline of 22,335 km is operational and about 12,995 km of the gas pipeline is under construction as of December 2022. Government Target to increase the pipeline coverage by ~54% to 34,500 km by 2024-25 and to connect all the states with a trunk pipeline by 2027.

The Growth in Indian Oil & gas sector on fast pace. The estimated US$ 58 billion dollar estimated opportunities in the petroleum sector in current year & US$ 60 billion dollars will be invested in the natural gas infrastructure by 2024. Moreover, India holds natural gas reserves at 1.37 TCM. In view of consumption increase in natural gas which forecasted to 12% increase estimated to 550 MCMPD by 2030. Hence these factors are signs of opportunities for global players to invest in this Oil & Gas sector.

Power Sector

India's power sector is one of the most diversified in the world. Sources of power generation range from conventional sources such as coal, lignite, natural gas, oil, hydro and nuclear power, to viable non-conventional sources such as wind, solar, agricultural and domestic waste. Electricity demand in the country has increased rapidly and is expected to rise further in the years to come. In order to meet the increasing demand for electricity in the country, massive addition to the installed generating capacity is required. Indian Government focus on attaining 'Power for all' has accelerated capacity addition in the country.

India was ranked fourth in wind power, fifth in solar power and fourth in renewable power installed capacity, as of 2020.

Indian Government approve 100% FDI in the power sector in India is allowed for generation from all sources (except atomic energy), transmission and distribution of electric energy, and Power Trading under the automatic route.

Renewable Energy

India stands 4th globally in Renewable Energy Installed Capacity (including Large Hydro), 4th in Wind Power capacity & 4th in Solar Power capacity *(as per REN21 Renewables 2022 Global Status Report)*.

The country has set an enhanced target at the COP26 of 500 GW of non-fossil fuel-based energy by 2030. This has been a key pledge under the Panch-amrit. This is the world's largest expansion plan in renewable energy.

India was the second largest market in Asia for new solar PV capacity and third globally (13 GW of additions in last fiscal year).

India's installed renewable energy capacity has increased 396% in the last 8.5 years and stands at more than 174.53 Giga Watts (including large Hydro), which is about 42.5% of the country's total capacity (as of February 2023). India saw the highest year on year growth achieved in renewable energy additions of 9.83% last year.

India has set a target to reduce the carbon intensity of the nation's economy by less than 45% by the end of the decade, achieve 50 percent cumulative electric power installed by 2030 from renewables, and achieve net-zero carbon emissions by 2070. Low-carbon technologies could create a market worth up to US$80 billion in India by 2030.

India's target is to produce five million Tonnes of green hydrogen by 2030. Green Hydrogen target is set at India's electrolyzer manufacturing capacity is projected to reach 8 GW per year by 2025. The cumulative value of the green hydrogen market in India could reach US$8 billion by 2030 and India will require at least 50 gigawatts (GW) of electrolyzers or more to ramp up hydrogen production.

To achieve targeted capacities, Government of India approved 59 solar parks of aggregate capacity 40 GW, Wind Energy has an offshore target of 30 GW by 2030 with 3 potential sites identified for installation and DPR will be prepared soon.

In current year Budget Indian Government identified Green Growth one of the nodes in the SAPTARISHI (7 priorities). And allocated US$2.4 billion National Hydrogen Mission for production of 5 MMT by 2030. US$36 million additional in Budget, 4 GWh Battery Energy Storage Systems supported through Viability Gap Funding , Pumped Storage Projects has received a push with a detailed framework to be formulated soon, US $1.02/2.5 billion Central Sector Support for ISTS infrastructure for 13 GW Renewable Energy from Ladakh.

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KRS MARKETING Partnership Proposal

Marketing Requirements

Handling business opportunities in India require various steps and Marketing Partnership will help you to understand the practice and management to work in India. Considering the promotion before official participation in business, few steps like promotion, introducing own product range to manage the requirement development accept our standard products or services, advance preparation of participation in Indian Opportunities, management of local vendor team, if required for joint participation, handling tenders, offers, negotiations, contract management support etc., the list is ongoing and KRS Infra Ventures Pvt. Limited ensure that our experience being in this trade from last three decades offer you wider experience base in INDIA.

Marketing Proposal

The KRS Group herewith introduce KRS Infra Ventures Pvt. Limited herewith offers the marketing partnership to your organization to promote you and yours associates interest in Indian Infrastructure Sector with following ways:

- Informing Business Opportunities in India for business scope of your organization.
- Promoting your organization with introducing and presenting details to various clients in Government and Private Sector and follow-up for acquisition formalities (tendering process, finalization of business, all assistance during implementation & after sales etc.)
- Informing the current scenario of market in view of Government Policies, Procurements plans etc.
- Advising the strategies required during promotion for successful business opportunities .

The partnership terms will require discussions to finalize, which will be second step after receiving your principal approval and suggest you to work on following options for understanding:

- Marketing Partnership Joint Venture-which means "KRS Infra Ventures" will be offering all Marketing support in India and your organization handle the technical & commercial need of the projects targeted and rest terms & conditions of arrangement will decided after in principal approval of partnership.
- Exclusive Agent in INDIA-KRS will be offered exclusive Agency Agreement for 3 years minimum to develop and managing business opportunities for your organization and terms & conditions of this agreement will be discuss after principal approval of working.

KRS Infra Ventures Private Limited

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