

Connect



**Egis in India wins
two prestigious projects:
Mumbai Metro Line 3 &
JNPT Fourth Container Terminal**



June 2015



Jawaharlal Nehru Port Trust (JNPT) engages Egis

As part of development of Jawaharlal Nehru Port, the Port Trust has decided to undertake development of Fourth Container Terminal at JN Port on Design, Build, Finance, Operate and Transfer (DBFOT) Basis. The project is to be implemented in two Phases. i.e Phase –I and Phase –II. The indicative cost of Phase – I of the project is Rs. 4,719 Crores (Rupees Four Thousand Seven Hundred and Nineteen Crores) i.e. approx. USD 940 Million.

As Independent Engineer, Egis shall provide engineering consultancy services towards the development of the port. Egis shall review designs & drawings, construction methodology and monthly progress reports furnished by the Concessionaire. Egis would push for high-quality solutions and implement new state-of-the-art techniques to help the port achieve high efficiency.

Main components of Phase-I of the Fourth Container Terminal Project are:

- 1,000 m long quay (300 m away from existing BPCL jetty)
- Approach trestles
- Reclamation (90 Ha)
- Container stackyard, internal roads, parking area
- Requisite buildings and workshops
- Requisite container handling equipments
- Utilities including IT systems, environmental safeguards etc.
- Capital dredging in manoeuvring area
- Capital dredging in berth pockets
- Up to 6 lane connecting road (4.8 km) up to Nhava Sheva Police Station
- One Rail Container Depot for evacuation by Rail



Egis would push for high-quality solutions and implement new state-of-the-art techniques to help the port achieve high efficiency



Egis to offer General Consulting Services for Mumbai Metro Line 3

Metro Line 3 [Colaba – Bandra – Santa-cruz Electronic Export Processing Zone (SEEPZ)] is 32.50 km long and fully underground with 27 stations. It aims to connect major Central Business Districts (CBDs) of Nariman Point and Bandra-Kurla Complex, Domestic and International Airports with industrial areas of Maharashtra Industrial Development Corporation (MIDC) and SEEPZ. The project also aims to connect the various areas in the city which are not currently served by Suburban Railways i.e. Kalbadevi, Worli, Prabhadevi, Airport area and Andheri (E).

The project is partially funded by Japan International Co-operation Agency (JICA). The balance funding will be made available by Govt. of India, Govt. of Maharashtra/ Mumbai Metropolitan Region Development Authority (MMRDA) in the form of equity and subordinate debt, and funds from Mumbai International Airport Limited (MIAL).

Egis has recently won this prestigious



project as part of a consortium.

Our missions:

The objective of this project is to provide General Consultancy (GC) services for procurement, construction, testing and commissioning of Mumbai Metro Line 3 corridor (MML3) including:

- * All civil engineering structures
- * Tracks
- * Signals
- * Telecom facilities
- * Traction arrangements
- * Air conditioning & ventilation
- * Rolling stock
- * Car depots
- * Stations
- * Operation control centre
- * Offices
- * Station integration areas
- * Underground sections over the project route
- * Integration with other modes of transport etc.

Mumbai Metro Line 3 is 32.50 km long and fully underground with 27 stations



Egis: 'Smart & Sustainable' Cities for Shared Prosperity



Technology change and the shift to urbanization at a global scale have led to focus on investment in urban services and infrastructure at a scale that is unprecedented. The new possibilities to couple the use of technology and infrastructure today, provides a very unique opportunity to shape better future cities.

This year's Climate Change negotiations mark a digression from earlier approaches maintained. This year, inclusivity and ownership characterize the Climate Change Negotiations. For the first time, instead of top-down targets the French ministries have spearheaded the emphasis to shift to individual countries taking the onus to establish their own ambitions, targets and plans for reduction in carbon emissions.

In its pursuit for ambitious development, India has spawned new trajectories of urban development that supports competitiveness, inclusivity and sustainable development as mutually constitutive ob-

jectives (as opposed to the common perception that they are mutually exclusive). Egis in India has been one of the dominant supporters to the government institutions in achieving low carbon Sustainable Infrastructure and Urban Development India at Central, State and Local levels.

Creating Sub-National Territories: Large Scale Urban & Regional Infrastructure Projects. The Urban Transition in India has demanded the creation of sub-national territories. Mega-regions such as the Delhi Mumbai Industrial Corridor Region and the Bengaluru Mumbai Economic Corridor Region have been conceived by the Ministry of Trade & Commerce towards the ambitious generation of 100 million new jobs and the making of about a 100 new towns. These sub-national territories are planned with regional level trunk infrastructure and development of industrial new towns including: Freight Corridors, high speed expressways that cater to large scale logistics and truck traffic; high speed rail for mobility of goods and pas-

sengers; expansion of ports and creation of new airports; multi-modal logistics hubs attracting trans-shipment economy; large scale water infrastructure that link source of water to sites of manufacturing which are often located in arid areas and so on. Smart Cities and new industrial nodes and clusters in these regions, cover a size between 100 and 250 sqkm, requiring world class infrastructure to support efficiency, long term inflow of investment.

As large scale infrastructure projects that span mega regions and sub national territories, it is inevitable they pose threats of environmental degradation. In this context, while the vision for the development of these mega-regions and industrial nodes dominates the current development paradigm the Department for Industrial Policy & Promotion has ensured the development paradigm is rooted in sustainable development. Design of low carbon large scale trunk infrastructure is a pre-requisite and projects mandate investors in green infrastructure and clean industrial activity.

Egis's approach addresses the core concerns of the Indian Government:

How concerned should we be about our environment? Or how much environmental degradation should we tolerate if it allows us to have a higher GDP? In a context where resources are limited and development is essential how can we establish trade-offs between parameters of growth for social cohesiveness? Egis relentlessly pursues technology enabled planning and development of cities that are both 'Smart & Sustainable', 'Inclusive & Competitive'.

Sustainable Development in Egis Group Globally, Egis is a pioneer in sustainable

designs. Egis's focus is to design environmental friendly projects. Through consistent collaboration between Egis's offices in France and India, several state-of-the art technologies have been adapted to development in the Indian context. In turn, innovations from India have been shared with Egis's counterparts in France in order to support sustainable development in the developing countries that Egis in France is engaged with.

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Egis Green Innovations:



Egis's urban infrastructure projects cut across multiple sectors, scales and stakeholders. In Egis, we adopt an inte-

grated, iterative 'whole-to-part' and 'part to-whole' approach in promoting Environment-friendly, Sustainable & Green development. Egis's own technology enabled tool, Tendem Empreinte, ensures decision making for low carbon sustainable development not only for the final output but also through every stage of project implementation. GIS based methods for assessing land capability ensures mitigation of possible adverse impacts of urban development on environment, ensure optimal uses of resources, conserve & protect environment and identify appropriate eco-friendly locations for Urban and Infrastructure development.

Other state of the art knowledge transfer includes methodologies such as Life Cycle Analysis for the built structures and buildings enables Egis to determine production systems for infrastructure with the least amount of green house gas emissions. Metabolism and Resilis, developed by Egis team in France are other assessments that enables Egis to innovate 'Productive Infrastructure', wherein engineering designs for one form of infrastructure incorporates production of resources for another; for example, the optimal use of physical infrastructure for generation of renewable energy. Design of trunk infrastructure for road, rail and water incorporate design elements that address measures required for disaster risk mitigation arising from climate change. Technology enabled sustainable engineering design coupled with tactile qualitative intervention characterizes Egis's infrastructure practice. All Regional & Urban Planning and Design projects handled by Egis follow the above-mentioned process. The Perspective Plan for the Bengaluru Mumbai Economic Corridor Region is an apt example.

Productive Low Carbon Infrastructure: The Perspective Plan for the BMEC Region:

At the mega-regional scale, Egis's project with the Department of Industrial Policy & Promotion, the Perspective Plan for Bengaluru Mumbai Economic Corridor Region spearheads a Green Vision through building productive infrastructures. The Green vision for the BMEC Region promotes design of integrated infrastructure that not only optimizes on consumption of energy but also generates energy, and supplies it to the main grid, thereby economizing utilization of power for industrial purpose. Among other projects, the BMEC Perspective Plan also embeds technologies for optimizing water consumption for better Economy, Energy, and Environment. Egis's solutions address energy efficiency vis a vis water optimization. Egis's projects illustrate treatment and harvesting of wastewater utilities, industrial water coupled with optimization of agrarian water through innovative-irrigation systems, both technology and engineering driven and some suitable to local practices such as harnessing water through through the construction of series of small check dams as opposed to large structures that subsume rural ecologies. These strate-



gies and proposals demonstrate Egis's concern for social responsibility and access to water for marginalized people.

A Sustainable, Inclusive and Competitive City: Development Plan Greater Mumbai 2034

Strategies for 'Greening the Grey' as in the Development Plan for Greater Mumbai 2034 promotes renewal of hard edged concrete drainage systems to softer engineering technologies that permit greater degrees of permeability and growth of riparian vegetation along urban drainage channels. Egis's proposals for water sanitation in Mumbai addresses multiple facets of urban development including provision of infrastructure for slum settlements thereby addressing livability for the marginalized, coupled with design of green streets that function as filters for surface run off, before they enter the drainage systems. In the face of flooding that has periodically affected Mumbai, policies and implementation mechanisms formulated in our work, that fosters ubiquitous water harvesting for all buildings shows how design of water utilities for cities helps adaptation to climate change. Enhancing bio-diversity and safeguarding ecology is inherent in the regulatory conditions at macro and micro levels. Further, Transit Oriented Development that supports integration of multi-modal public transporta-

tion (road, rail and water based) as the major mode of commute supported by soft mobility characterizes the proposals for the DP 2034 for Greater Mumbai.

Egis in France is actively involved in working in developing countries across the world. Collaborative efforts with Egis in France on sustainable design for inclusive slum renewal projects have meant sharing innovations ushered by Egis in India on this project. Policy and regulatory innovations on promotion of low carbon built form in Greater Mumbai has served as a benchmark for Egis internationally.

Offering support to Government of India for establishing National Climate Change Action

The Egis Group has been working as part of Task Force with the Department of Industrial Policy & Promotion, in providing advisory services towards the development of smart and sustainable, low carbon, cities. With its vast experience internally and in India that cuts a in the domains of green transportation, water and energy networks in urban & regional development, Egis is best positioned to support the Government of India towards preparation of National plans for Action from 2020 onwards for Climate Change Adaptation and Mitigation.



Egis aims planning and development of cities that are both 'Smart & Sustainable', 'Inclusive & Competitive'

Egis at 'Civil Aviation in India: Vision 2020' Conference

Civil Aviation industry in India has experienced exponential growth in the last decade. In spite of the downturn in 2008 and continued economic pressure in 2012, the growth in all aspects of aviation sector, mainly the airlines, MRO and airports industries, is expected to perform well in the next few years as well. The 'Conference on Civil Aviation in India - Vision 2020', held on 21 May 2015 addressed pertinent issues that will act as a catalyst to further stimulate the growth of aviation sector. The conference was inaugurated by Dr. Mahesh Sharma, Minister of State for Tourism, Aviation and Culture.

During the conference, Sudhir Rajeshirke, Head of Department - Aviation, at Egis in

India, presented his views, as a speaker, on the key challenges facing the airports businesses in finance, regulatory and infrastructure support aspects. He provided views on challenges in seeking debt for airport projects, which compete with the funding for other types of infrastructure projects such as roads and highways, power etc. Further he stressed the issue of delays in land acquisition and environmental issues which often hinder new airport projects. Finally, as airport is an ecosystem of various modes of transportation and supporting infrastructure, he emphasized the importance of role of the nodal agency in coordinating various connectivity and sustainability related projects.



An airport is an ecosystem of various modes of transportation and supporting infrastructure

Official opening of the Bordeaux stadium, in south west France

Egis was responsible for engineering of technical work packages and environmental engineering of the new Bordeaux stadium, officially opened on May 18th, after more than 2 years of work.

Situated towards the north of the city in the lake district, this multi-functional new generation enclosure, dedicated to sport and culture, provides a modular seating capacity for up to 42,000.



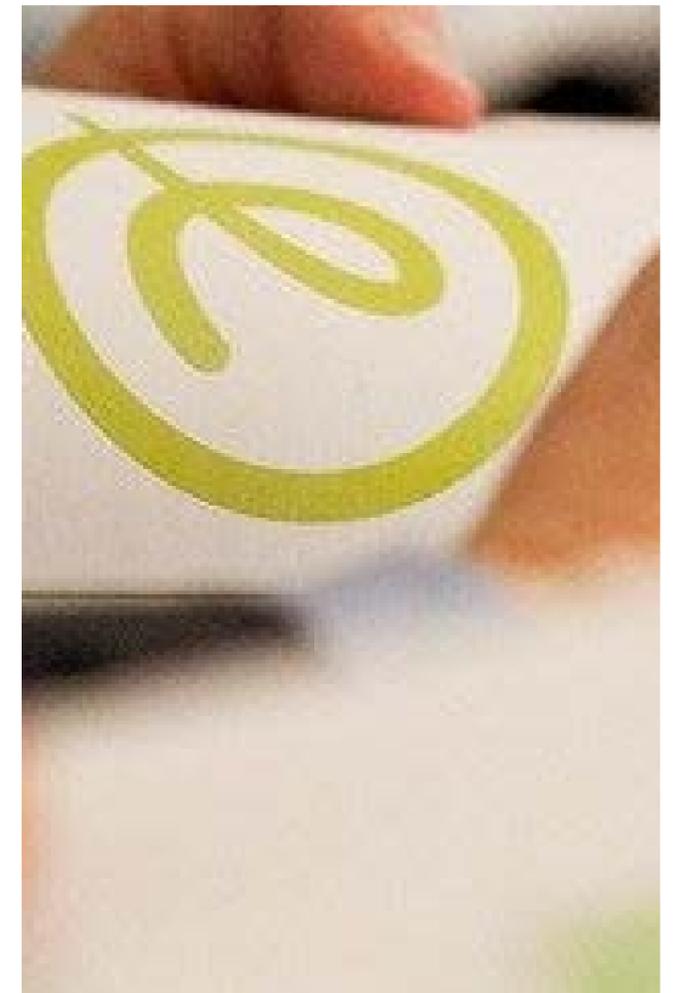
As part of a public-private partnership, the association «Stade Bordeaux Atlantique», bringing together Vinci Concessions and the Fayat group, will be responsible for financing, design, construction, maintenance and commercial operation of the new Bordeaux stadium until 2045.

With its one thousand steel posts evoking the pine forests of the Landes region, the unique design of this stadium can be attributed to its two architects Jacques Herzog and Pierre de Meuron.

Technical work packages and environmental engineering of the new Bordeaux stadium undertaken by Egis

Egis awarded EPCM contract for heating and cooling network of the ZAC Saint-Jean Belcier in Bordeaux

The public development authority of Bordeaux Euratlantique (EPA) and the Bordeaux urban community authority are responsible for developing a large heating and cooling network which will service the Saint-Jean Belcier district in Bordeaux. Egis will undertake design and EPCM of the network, on behalf of Mixener and Idex infra, who has been awarded this public works contract.



Paris Habitat has renewed its association with Egis for heating facilities throughout its properties

Egis has worked alongside Paris Habitat (largest administrator of public housing in Paris) for more than 15 years. It's within this framework that Paris Habitat has renewed its confidence by attributing to Egis an advisory services contract with regards heating facilities throughout its property portfolio including more than 120,000 residential units.



Egis awarded reconstruction of two former Lourcine Army buildings in Paris

The team made up of Chartier Dalix architects, Egis teams and Acoustb, was awarded the reconstruction of two 19th century buildings destined to accommodate research and teaching facilities, including a library, and the creation of a large amphitheatre in the precinct of an underground parking station situated in a third building.

Egis building team will be involved with structural elements, fluids, electricity, internal finishings, on aspects of HEQ (High Environmental Quality), D&H SARL on the landscaping and Acoustb on acoustics.

The project will need to take into consideration the technical constraints inherent with older buildings, but also the proximity to historic monuments and in addition the fact that the building is partially occupied with residential student accommodation.



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