Project Information Memorandum

Development of Vizhinjam International Deepwater Multipurpose Seaport through PPP

February 2014

Government of Kerala

Vizhinjam International Seaport Limited
Opportunity overview

Opportunity to develop a port - Vizhinjam Port is unlike any other ports in India

Department of Ports, Government of Kerala (Authority) through its special purpose government company (SPV) - Vizhinjam International Seaport Ltd (VISL), is developing deep water Multipurpose Greenfield Port at Vizhinjam (Project) in Thiruvananthapuram, capital city of Kerala State. The SPV is fully owned by the Government of Kerala (GoK).

The Project is proposed to be implemented as a Landlord port model, where in the land procurement and construction of Break water will be taken up by GoK and private partner will be designing, upgrading, construction, operation, maintenance, and financing the Project.

As part of this endeavour, VISL has prepared a Project Information Memorandum (PIM) for informational purposes to assist prospective parties for broad understanding of the Project.

Why Vizhinjam?
- Proposed site is on the international shipping route connecting Europe, Persian Gulf and the Far East, very close to the east-west shipping axis within 10 nautical miles
- Proposed site is endowed with natural depth of 18-20 m for efficient handling of mother vessels
- Minimal Littoral drift resulting in limited maintenance dredging during the years of operation, thus low O&M costs
- Vessels upto 18,000 TEU are proposed to be berthed
- Vizhinjam is envisaged to be an all-weather port
- Strong will and commitment from both State and Central Government
- Once developed would reduce the reliance on foreign ports

% Share of Transhipment in World Ports

Source: Drewry Shipping Consultants (UK)
Vision & Strategy

Vizhinjam Port has high level support and commitment from both the Government of Kerala and Government of India

**Government’s Vision**

Overarching vision of Government of Kerala is to:
- Develop a modern deepwater port facility to improve the state’s transport infrastructure.
- Facilitate trade and attracting investment in the state.
- Promote private sector participation in port and transport sector.

Government of Kerala (GoK) envisions to develop Vizhinjam as a Deepwater Transhipment hub catering to all types of vessels including Super Post Panamax and provisions for Futuristic Malacca Max Mega Carriers. As Vizhinjam is located in a strategic position close to international shipping routes, the government seeks to tap this potential for a multi-purpose container transhipment hub port in the state.

**Government’s Strategy**

GoK proposes that the private sector be responsible for designing, upgrading, construction, operation, maintenance, and financing of the transhipment port under a long-term concession.

GoK & VISL’s strategy is to:
- Develop an efficient port in a phase-wise manner
  - Container
  - Bulk/General cargo
  - Cruise terminal and passenger facilities
- Offer reliable, efficient cargo handling services and infrastructure at a competitive price
- Forge strategic partnerships with shipping lines, terminal operators, service providers, shippers

**Governments’ commitment**

- Vizhinjam is a priority infrastructure project, receiving bi-partisan support from GoK
- Land procurement completed for development of seaport infrastructure
- Environmental & CRZ clearance obtained from Ministry of Environment & Forest, GoI
- Availability of Support Infrastructure (Power and Water) at doorstep.
- Funding
  - Land Acquisition – Approx. INR 600 cr (USD 100 mn) already expended by VISL, GoK
  - Development of Breakwater infrastructure and provision of Rail and Road Connectivity – Approx INR 1,934 cr (USD 322 mn) shall be funded by VISL, GoK
Location

Proximity to major international sea route and East-West shipping axis

The proposed port at Vizhinjam (Lat 8° 22’ N, Long 76° 57’ E) is located in India in the state of Kerala, at 16 km south of the State Capital, Thiruvananthapuram which falls in close proximity to the international East-West shipping route (within 10 nautical miles).

The port location is selected to tap the potential of development of a deep water international container transhipment port that can handle the largest container vessels serving the East-West shipping route.

The natural water depth available at proposed Vizhinjam port is more than any competing Indian port and more or equal than competing international ports.

Vizhinjam port would be competing with Cochin and Tuticorin for its gateway containerized cargo; however, the port would primarily be competing with international ports like Colombo in Sri Lanka, Salalah in Oman and Singapore for container transhipment traffic.

Vizhinjam port will be able to capture the increasing trend of larger container vessels which none of the existing Indian ports can service, due to which majority of containers destined or generated from India are being transhipped or double-handled from competing international ports, resulting in higher import/export cost for Indian citizens.

Vizhinjam Port Location with respect to International East-West Shipping Route
Site conditions

Key advantage of the proposed site location is availability of naturally deep water

The proposed port location is just south to the existing fishery harbour of Vizhinjam. The key advantage of the proposed site location is availability of naturally deep water and proximity to the East-West shipping channel.

An overview of the bathymetry reveals that the seabed covering the water front of the proposed port and the approach channel is gently sloping down towards south west.

The site is characterized by naturally available deep water depths with 20m contour located at a distance of less than 800m from the shore.

Topography along the shore is very steep with weathered rock patches and high land areas. General topography of the port back-up land right behind the shoreline varies from +5m to up to +35m. Mulloor Naga Temple is on the south-east point of the site.

Vizhinjam port location in the Kerala

Existing Bathymetry & Topographic map

Source: DPR, AECOM, 2013
Access

Adequate links to national/regional network and future connectivity (upgrades & new) already master planned

Road Connectivity
NH 47 and NH 47 Bypass are in close proximity (NH at 10 km & Bypass at 3 km). NH 47 connects Salem to Kanyakumari and is connected to Cochin Port through NH 47A. From Cochin to further north it is connected to Mumbai through NH 17. NH 47 is connected to Chennai and the rest of the country through NH 7 and NH 4.

New alignment connecting Thiruvananthapuram to Kanyakumari is also proposed by National Highway Authority of India (NHAI).

Rail Connectivity
A railway line runs parallel to the NH 47 and connects to Thrissur, Palakkad, Kollam and Alappuzha. The existing railway line runs North-South and connects to Mumbai through Konkan Railway.

Neyyatinkara and Balaramapuram railway stations are about 10 Km (aerial distance) from the project site. It is a broad gauge single line running between Thiruvananthapuram and Kanyakumari.

Rail connection to the port has been planned for electrified lines with container handling facilities.
Leverage on the unique advantages to be offered to clients based on unique selling propositions

**Opportunities**
Given the strengths, Vizhinjam Port is expected to offer high productivity, sufficiently large additional capacity, ability to take larger vessels, and ability to negotiate tariffs without external control.

The larger volume of ships calling at Vizhinjam Port because of its transshipment hub status will encourage the growth of ancillary industries, e.g., ship chandlery and bunkering, which will increase economic activities and generate employment opportunities that otherwise would not exist.

The port shall be capable of attracting large share of the container transhipment traffic which is now being diverted to hub ports like Colombo, Singapore and Dubai.

Today 45% of India’s trade is transhipped over hub ports like Colombo, Salalah and Jebel Ali (Dubai), out of which South India’s accounts for 25%. These trade happens at much higher costs both to the shipping line as well as to the importer/exporter.

Post commissioning of Vizhinjam Port, many of this cargo in South and other parts of India will no longer need to use feeder route and find their way directly to Vizhinjam Port via road, rail or coast.

Vizhinjam Port is envisaged to reduce shipping lines operational costs considerably and make the business a lot more profitable and enabling shipping lines to reduce feeder cost.

| Container Vessels Movement Analysis (East to/from West movement) |
|-----------------|------------------|------------------|-----------|
| Vessel Size (TEU) | Vessels stopping at Colombo | Vessels not stopping at Colombo | Total |
| >+10000 | 20 | 50 | 70 |
| 8001-9999 | 41 | 54 | 95 |
| 6001-8000 | 40 | 38 | 78 |
| 4001-6000 | 189 | 64 | 253 |
| 2001-4000 | 112 | 20 | 132 |
| 1000-2000 | 62 | 57 | 119 |
| <1000 | 40 | 39 | 79 |
| All | 504 | 322 | 826 |

Source: JOC Sailings Website and other secondary research
Port traffic potential

Total container traffic is expected to increase from 0.15 MTEUs in FY14 to 2.8 MTEUs in FY44

At present, India’s port capacity (12 major Indian ports) is a meagre 4.61 million TEUs/annum compared with China’s capacity of 50 million TEUs, almost 11 times that of India’s.

According to the Maritime Agenda 2020 of the Ministry of Shipping, by 2020 India will have to more than triple the cargo handling capacity at its ports to meet the growing maritime demands.

Based on estimates from Drewry Shipping Consultants, container volumes at Vizhinjam Port are expected to reach 8,22,256 TEUs by the end of Phase-1, 1,685,212 TEUs by the end of Phase-2 and 2,823,449 TEUs by the end of Phase-3.

With a proposed capacity of 3.35 million TEU/annum, Vizhinjam is expected to be the port of choice for at least 50% of the nearly 20,000 ships that pass through the Suez Canal every year.

### Traffic Projection for Vizhinjam Port

<table>
<thead>
<tr>
<th>Base Case Scenario</th>
<th>Phase-1 (FY14-20)</th>
<th>Phase-2 (FY21-30)</th>
<th>Phase-3 (FY31-44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateway Container Traffic (TEUs)</td>
<td>138,459</td>
<td>392,371</td>
<td>768,904</td>
</tr>
<tr>
<td>Transshipment Container Traffic (TEUs)</td>
<td>683,798</td>
<td>1,292,842</td>
<td>2,054,545</td>
</tr>
<tr>
<td>Total (TEUs)</td>
<td>822,256</td>
<td>1,685,212</td>
<td>2,823,449</td>
</tr>
</tbody>
</table>

Source: Drewry Traffic Analysis (2010)
Port planning

Extensive studies has enabled to develop a sustainable master plan and address key development factors such as market, technical, environmental and social

According to the master plan, the total site area required for the port development is estimated at 238 hectares. As per the master plan, the port will be developed in three phases. Once fully developed, the port is envisioned to have:

- Breakwaters of total length 4,100m to be developed in 3 phases
- Total container berth length of 2,000m to be developed in 3 phases
- Container yard to be developed in 3 phases
- Fish landing center with a total berth length of 500m in Phase 1

- Cruise berths of 500m to be developed in 2 phases (Phase-1 & 3)
- Port craft berth of 100m and Coast Guard berth of 120m length in Phase-1.
- Berthing facilities for Coast Guard and Indian Navy with berth length 500m in Phase 1
- External road connectivity to NH 47 in Phase-1
- Rail line to port and the railway yard in Phase-2

The breakwater & related infrastructure will be developed in Phase-1 by GoK through EPC basis.
Port infrastructure

World class infrastructure to offer high productivity and ability to take larger vessels

The port infrastructure works component is designed to accommodate vessels with a total of five, 400m each container berths and draught of 18m. It will be created by constructing a major new breakwater to the north & west of the proposed site. The shape/ layout of the northern breakwater have been designed in such a way that bunkering vessels can also be berthed in future.

The port design is made futuristic by considering 18,000 TEU vessels as the design vessel in Phase-1 itself with a turning circle of 700m diameter, to cater to tug assisted rotation of even futuristic vessels of 400+ m length. Considering that about 18m draft is naturally available at Vizhinjam, currently the biggest 18,000 TEU vessels (like MAERSK EEE class) shall also be able to berth.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Phase - 1</th>
<th>Phase - 2</th>
<th>Phase - 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Terminal Area (acre)</td>
<td>80</td>
<td>119</td>
<td>197</td>
</tr>
<tr>
<td>Dredged Depth</td>
<td>18.4</td>
<td>18.4</td>
<td>18.4</td>
</tr>
<tr>
<td>Total Berths</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Container Berth Details</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Berth Length (m)</td>
<td>800</td>
<td>1200</td>
<td>2000</td>
</tr>
<tr>
<td>Average Berth Length (m/berth)</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>Max. Vessel Size</td>
<td>18000 TEU</td>
<td>18000 TEU</td>
<td>18000 TEU</td>
</tr>
<tr>
<td>Quay Crane Type and Numbers</td>
<td>8QC</td>
<td>12QC</td>
<td>20QC</td>
</tr>
<tr>
<td>Berth Length (m) per Quay Crane</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Estimated Throughput ('000 TEU)</td>
<td>900</td>
<td>1,800</td>
<td>3,350</td>
</tr>
</tbody>
</table>

Source: AECOM, TEU – Twenty-foot Equivalent Unit, Maximum vessel size as per Emma Maersk Class container ship calls
Investment Plan

Phased investments for developing commercially viable infrastructure development

The phase wise development of the project necessitates that the capital cost incurred for each phase to be estimated separately. Tabulated below are the detailed cost estimates of the different components, estimated at 2014 prices.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Phase - 1</th>
<th>Phase - 2</th>
<th>Phase - 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Preliminaries and Site Development</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Dredging and Reclamation</td>
<td>71</td>
<td>21</td>
<td>52</td>
</tr>
<tr>
<td>Breakwaters</td>
<td>144</td>
<td>13</td>
<td>36</td>
</tr>
<tr>
<td>Berths</td>
<td>101</td>
<td>24</td>
<td>55</td>
</tr>
<tr>
<td>Buildings</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Container Yard</td>
<td>22</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td>Equipments</td>
<td>118</td>
<td>49</td>
<td>98</td>
</tr>
<tr>
<td>Utilities and Others</td>
<td>30</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Port Crafts and Aids to Navigation</td>
<td>21</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Gates Complex &amp; Road Development</td>
<td>9</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Road Connectivity</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rail Connectivity</td>
<td>0</td>
<td>58</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous (Contingencies, IDC, Financing Cost etc)</td>
<td>264</td>
<td>80</td>
<td>539</td>
</tr>
<tr>
<td>Total</td>
<td>788*</td>
<td>264**</td>
<td>818</td>
</tr>
</tbody>
</table>

Source: Master Plan Report, May 2013 by AECOM
USD/INR:60

*VISL, GoK shall fund approx USD 255 Mn towards development of Breakwater & associated berths and approx USD 10 Mn for provision of Road connectivity in Phase 1

**VISL, GoK shall fund approx USD 58 Mn towards provision of Rail connectivity in Phase 2
Project structure & Agreement terms

Project structure is based on Landlord model with a long term concession to the private partner.

**Projected Structure**
The project structure is based on the Landlord Port Model and the role of VISL and private partner is as follows:

- **Role of VISL**
  - Provide land to the private partner for long term concession
  - Prepared a long term Port Master Plan & Detailed Project Report*
  - Obtained Environmental Clearance*
  - Procured 99% of essential land for Port Infrastructure*
  - Selecting a EPC partner for development of break water and associated berths

- **Role of Private Partner (Port Operator & Developer)**
  - Dredging & Reclamation, Container berths, Super Structure Development and Equipment

---

**Concession Agreement**
- Concession agreement will be entered into between GoK/VISL and SPV formed by the Concessionaire
- Concessionaire will responsible for designing, upgrading, construction, operation, maintenance, and financing of the Project

---

*Till date

Development of Vizhinjam Port on PPP | Project Information Memorandum
Procurement process & Pre-qualification requirements

**Procurement Process**
The Authority has adopted a two-stage open competitive bid process for selection of the private partner for award of the project.

The first stage known as ‘Request for Qualification (RFQ)’ involves pre-qualification of interested parties/consortia that make an application in accordance with the provisions mentioned in qualification document. At the end of this stage, Authority will announce a shortlist of suitable pre-qualified applicants who shall be eligible for participation in the second stage i.e ‘Request for Proposal (RFP) Stage’. The RFQ stage has already commenced and the document has been issued in public on 3rd December 2013.

In the RFP stage, the pre-qualified applicants will be called upon to submit the bid/ details of their technical competence and financial offers in accordance with the provisions mentioned in bid document. The financial bid parameter for this stage would be Total Grant required or alternatively the Premium that bidders were willing to pay to the GoK. The private partner will be chosen on the basis of the lowest Grant required or highest Premium payable to the Authority on the award of concession.

**Indicative Procurement Timelines**

<table>
<thead>
<tr>
<th>Bid Process</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFQ Stage</td>
<td>December’13</td>
<td>February’14</td>
</tr>
<tr>
<td>RFP Stage</td>
<td>February’14</td>
<td>May’14</td>
</tr>
</tbody>
</table>

**Pre-qualification requirements**
The pre-qualification of interested parties/consortia at RFQ stage will be based on following criteria (each of them to be evaluated separately):

- **Technical Criteria**
  - Eligible experience shall be from the following categories:
    - Category 1- Project Experience in Ports Sector
    - Category 2- Project Experience in Core* sector
    - Category 3- Construction Experience in Ports Sector
    - Category 4- Construction Experience in Core* sector
  - such that the sum total of the above is more than **Rs. 5,000 crore (the “Threshold Technical Capacity”)**.
  - Experience score of the Applicant would be calculated after multiplying with the assigned weight/factor
  - Minimum equity stake of 26% is required for claiming experience
  - Total capital costs of the eligible projects to be around **Rs. 250 crores**.

- **Financial Criteria**
  - Minimum Net Worth (the “Financial Capacity”) of **Rs. 1,000 crore** at the close of the preceding financial year.
  - Applicant also need to furnish Net Cash Accruals of preceding five years

*VISL is entitled to modify the tender timelines*
### Primary contacts

Please direct all communications regarding the transaction through VISL

#### Vizhinjam International Seaport Limited (VISL)

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sri. A. S. Suresh Babu</td>
<td>Managing Director &amp; CEO</td>
<td><a href="mailto:ceo@vizhinjamport.in">ceo@vizhinjamport.in</a></td>
</tr>
<tr>
<td>Sunil Kumar A</td>
<td>Project Manager</td>
<td><a href="mailto:sunilkumar@vizhinjamport.in">sunilkumar@vizhinjamport.in</a></td>
</tr>
</tbody>
</table>

#### Financial & Transaction Advisors – Ernst & Young, LLP

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abhaya Krishna Agarwal</td>
<td>Partner</td>
<td><a href="mailto:abhaya.agarwal@in.ey.com">abhaya.agarwal@in.ey.com</a></td>
</tr>
<tr>
<td>Prashant Gupta</td>
<td>Senior Vice President</td>
<td><a href="mailto:prashant1.gupta@in.ey.com">prashant1.gupta@in.ey.com</a></td>
</tr>
<tr>
<td>Anshuman Srivastava</td>
<td>Associate Vice President</td>
<td><a href="mailto:anshuman.srivastava@in.ey.com">anshuman.srivastava@in.ey.com</a></td>
</tr>
</tbody>
</table>

#### Legal Advisors – HSA Advocates

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemant Sahai</td>
<td>Partner</td>
<td><a href="mailto:hemant.sahai@hsalegal.com">hemant.sahai@hsalegal.com</a></td>
</tr>
<tr>
<td>Pranav Singh</td>
<td>Designated Partner</td>
<td><a href="mailto:pranav.singh@hsalegal.com">pranav.singh@hsalegal.com</a></td>
</tr>
<tr>
<td>Smita Agarwal</td>
<td>Associate</td>
<td><a href="mailto:smita.agarwal@hsalegal.com">smita.agarwal@hsalegal.com</a></td>
</tr>
</tbody>
</table>

#### Technical Advisors - AECOM

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.S.P Sinha</td>
<td>Executive Director</td>
<td><a href="mailto:ssp.sinha@aecom.com">ssp.sinha@aecom.com</a></td>
</tr>
<tr>
<td>Vijay Agarwal</td>
<td>Technical Director</td>
<td><a href="mailto:vijay.agarwal@aecom.com">vijay.agarwal@aecom.com</a></td>
</tr>
<tr>
<td>Manish Agarwal</td>
<td>Associate</td>
<td><a href="mailto:manish.agarwal@aecom.com">manish.agarwal@aecom.com</a></td>
</tr>
</tbody>
</table>