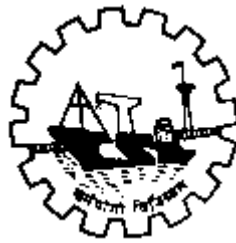


**Cochin Shipyard Limited**



**Request for Proposal (RFP)**

**for**

**Implementation of ERP Solution**

**Volume I- System Integration Services and  
Solution Scope**

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## 1. Introduction

Cochin Shipyard Ltd (CSL) was incorporated in the year 1972 as a fully owned Government of India company. In the last three decades the company has emerged as a forerunner in ship building and ship repair industry. CSL has secured shipbuilding orders from internationally renowned companies from Europe & Middle East and is presently constructing the country's first indigenous Air Defense Ship. CSL is situated adjacent to the port of Cochin in the West Coast of India. This yard can build and repair the largest vessels in India. It can build ships up to 1,10,000 DWT and repair ships up to 1,24,000 DWT. The yard has delivered two of India's largest double hull Aframax tankers each of 95,000 DWT.

Shipyard commenced ship repair operations in the year 1982 and has undertaken repairs of all types of ships including up gradation of ships of oil exploration industry and periodical lay-up repairs and life extension of ships of Navy, rigs of SCI, ONGC, DCI, UTL, Coast Guard, Fisheries and Port Trust besides taking up conversion projects of seismic vessel and turnkey projects for offshore oil & gas fields.

### 1.1 Purpose of this Document

The objective of this document is to solicit proposals from the prospective bidders for providing implementation services to implement the ERP solution at CSL.

### 1.2 Request for Proposal (RFP) Structure

The content of this RFP has been structured as a set of volumes explained below:

#### **Volume I: System Integration Services and Solution Scope**

Volume I of RFP intends to bring out all the details with respect to functional and technical requirements of the ERP solution along with details on scope of work for implementing the solution that CSL deems necessary to share with the potential bidders. Further Volume –I have following annexure:

Annexure I: Functional Requirement Specification

Annexure II: Scripts for demonstration by bidder

#### **Volume II: Commercial and Bidding Terms**

Volume II of RFP brings out all the detail that may be needed by the potential bidders to understand the evaluation criteria, commercial terms and bid process details. Further Volume –I I have following annexure:

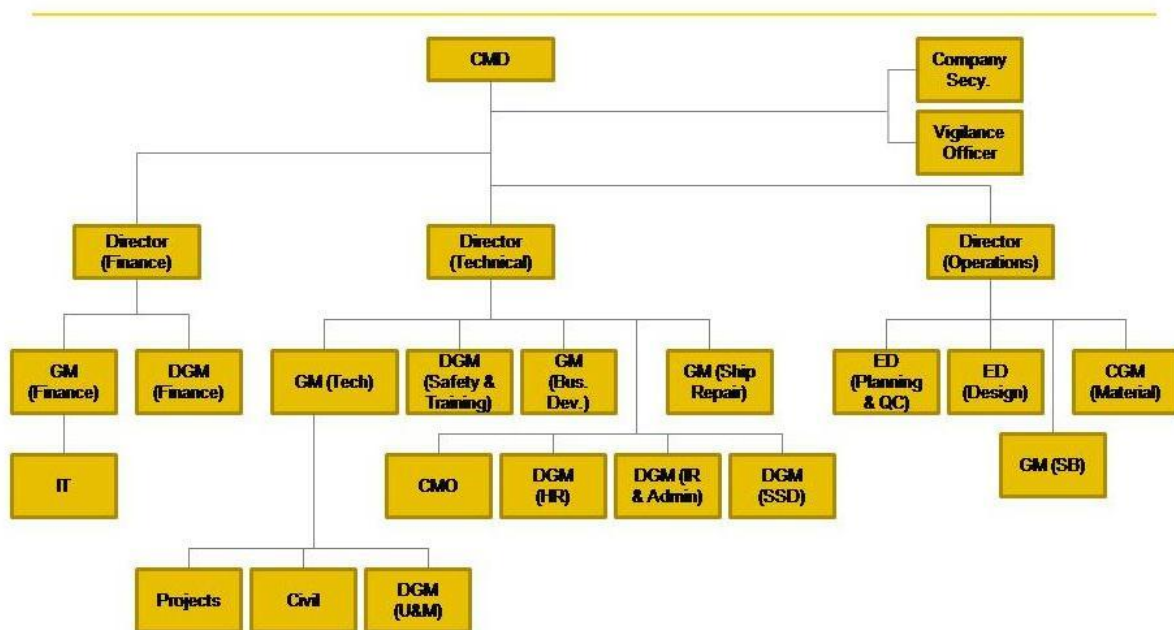
Annexure III: Formats for Bid Submission

## 2. CSL Organization structure & Functions

### 2.1 Organization Structure

CSL is headed by Chairman and Managing Director (CMD), supported by Directors – Finance (DF), Director-Technical (DT), Director-Operations (DO). D(F) heads the Finance and Accounts sections in CSL, supported by General Manager Finance & Dy. General Manager finance. D(T) heads the Training, Marketing/ Business Development, Human resource, Ship Repair, Small Ship Division operations supported by General Managers and Dy. General Managers. Chief medical officer (CMO) directly reports to DT. DO heads Shipbuilding, Planning & QC, Design, and Materials. The figure below depicts the high level organization structure overview at CSL.

### CSL Organization Chart



### 2.2 Functional Structure

The two major business units at CSL are Ship Building and Ship repair. CSL has common human resource and finance department which support all the business units. Overview of operations under each business units, their offered products, various functional departments and major activities performed by each functional department are detailed below:

### 2.2.1 Ship building

Ship building division has dock with a capacity of 110000 DWT, which is supported by a grand assembly area having two Gantry crane (300T & 150T) and two LLT cranes (50T each). CSL has a Steel stockyard aided with two gantry cranes. Hull shop is self contained facility used for fabrication of hull blocks. Hull shop is equipped with major and latest equipments for shipbuilding. The pipe shop is provided with all the necessary equipment for bending, cutting, welding and pickling of pipes. The sheet metal shop handles all the light steel fabrications and trunking. Hull blocks up to 450T can be jumboized in the assembly shop and erected in the building dock using the gantry crane. CSL has its proven expertise to offers a flexible range of products such as: Tankers, Product Carriers, Bulk Carriers, Passenger Vessels, High Bollard Pull Tugs and Air defense Ships.

Following are different departments under Shipbuilding and their major activities:

- **Marketing:** Marketing department is responsible for bringing new business to Shipbuilding & Small ship division. Marketing team manages all the enquiries, prepares quotation & manages contracts. Marketing team also take care of change request management, warranty management, Billing & Invoices.
- **Design:** Design department prepares ship design and drawings, makes design revisions, and creates initial level project structure for planning. Design team also creates Bills of material, material list of fittings, material list of pipes etc. Design department creates indents/ Purchase requisitions as per material & production schedule.
- **Planning:** Planning department creates master construction schedule (for all projects of ship building in CSL) which involves schedule for the production activities, material procurement schedule etc. Every month, monthly master construction schedule is issued to ship building department(s).
- **Material department:** Materials department does procurement of all ship building items & services which includes capital items, stock items etc. Material department handles indent management, enquiry management, purchase management, stores management, supplier management & material control.
- **Production:** Based on the design drawings, Material List of Planning (MLP), Material List of Fitting issued by design department and master construction schedule issued by the Planning department, production activities are carried out in the Hull, Hull erection & outfit divisions of ship building department. Ship building have an exclusive subcontracting cell which takes care of all kind of sub-contract job required for ship building.
- **Quality control:** Quality control (QC) department performs inspection of in-process materials & blocks, inspections of samples, inspection at source (supplier), lab testing services and receipt inspection. QC prepares the inspection & testing plan which are approved by owner, CSL team and other external agencies. Based on the plan QC performs quality survey during various production activities and tracks corrective actions on them. QC

prepares various reports and certificates and issues to various stake holders. Additionally QC in CSL performs Management Representative (MR) works which involves managing audit & review of quality certificates for ISO, OHAS, and EMS and preparation of business reports for management reviews.

### 2.2.2 Ship Repair

The ship repair (SR) dock can accommodate ships up to 1,24,000 DWT. It is served by three LLTT cranes, each of capacity 40 T, 60 T and 10T. There are three quays, with service lines of oxygen, acety-lene, compressed air and power connections, of 280 M length with 15 T lifting capacity, 208 M length with 10 T & 5 T lifting capacity and 460 M length with 20 T lifting capacity.

The Engine and Machine Shop is equipped with modern machine tools like Plano -miller (up to 30 T) Bar Boring equipment (up to 300 mm dia), Inside Grinding machine (up to 300 mm dia), Heavy Duty Lathes (up to 12M length), Horizontal Drilling machine ( up to 100 mm boring & 600 mm drilling), Shrinkage equipment (up to 6 M x 900 mm O.D), Cylindrical Grinding machine (630 mm dia x 2 T), Horizontal Boring machine (up to 560 mm dia), Dynamic Balancing machine (up to 3 T) and etc.

CSL has successfully undertaken repairs of more than a thousand ships belonging to a wide variety of clients including Shipping Corporation of India, Indian Navy, Coast Guard, ONGC, Dredging Corporation of India, Union Territory of Lakshadweep Administration, Fisheries Survey of India, Ethiopian Shipping Lines, Transocean Offshore Deepwater Drilling Inc and vessels belonging to various ports of India.CSL is looking more opportunities in the offshore fabrication & installation arena and conversions.

Functional departments of Ship repair and major activities carried by each of the department are as follows:

- **SR Commercials (SRC):** SRC department brings in the new ship repair business to CSL. SRC team manages all the enquiries, prepares quotation & finalizes contracts with ship owners. SRC is also responsible for Invoicing & money realization management, warranty/ guarantee management for repair services.
- **SR Planning & Material (SRP & SRM):** Ship repair planning & materials are the two key departments which take care of planning, co-coordinating and executing ship repair planning and procurement. Major activities performed by SRP are to allocate Repair Specification (RS) to various departments within ship repair and plan for any advance procurement required for material or services. SRP liaises with ship owners regarding the arrival of their vessels at yard, docking/ berthing schedules etc SRP also coordinates and arranges accommodation and other administrative requirements such as office space, entry pass, Travel etc for clients and their representatives. Primary responsibility of SRM is to source & position all material, equipment, etc required for the smooth & timely completion of ship repairs by ensuring supply of quality products within the requisite time and at the most competitive price. SRM prepares the purchase documents; performs supplier settlement and track performance. SRP & SRM works closely to execute planning and material procurement efficiently.

- **SR Operations (SRO):** Based on the repair specification (RS) allocation done by SRP, SRO will prepare a complete project schedule & segregate the work package into different sections, to carry out the repair activities. During its operational activities, at different stages, SRO will raise requests for materials for jobs to be performed outside CSL or by subcontractor within CSL. Quality check (QC) survey requests, Transport & General services, Lab assistance, Ship Building department assistance, Design department assistance, Machine requirements etc... The actual start date, finish date against each activity is recorded by the Executing Officer / Charging Engineer / Project Manager.
- **Offshore Division:** CSL has an exclusive offshore section to deal with all types of offshore Projects. Since its inception in 1996, CSL Offshore section has undertaken a number of offshore Projects.

### 2.2.3 Other supporting departments

Other Supporting departments and their major activities are as follows:

- **Projects:** Projects department takes care of new capital items procurement for all the departments
- **Utility & Maintenance (U&M):** CSL assets are maintained by U&M department and preventive maintenance, breakdown maintenance, calibration of equipments, maintenance of service facilities etc are performed on them based on user request and expenses are tracked.
- **Civil:** Civil sections handle all new construction and maintenance activities in the CSL. This includes construction & maintenance of roads and drains, marine structure, shops, buildings, machinery & crane foundations and infrastructure works.
- **Safety:** Safety department handles Incident reporting & investigation, safety inspection activities & issuing permit of work systems.
- **Financial Accounting:** Finance department is responsible for accounting, auditing, generation of financial statements for external and internal reporting and other MIS reports to different stakeholders. Finance department comprises of various business sections such as Bills section, financial planning & cash section, Central Accounts section, Taxation & invoice Section, Indigenous Aircraft Carrier (IAC) section, Ship building section, Ship repair section, Establishment section.
- **Human Resource:** Human resource department takes care of the activities like Administration, Marine engineering training institute, Promotion & transfer, Time management, Separation, Performance management system, Contract Labor Management, Recruitment, Welfare, Training & Development, Legal Matters, Medical facilities, Security & ISPS, Estate management etc. Functions handled by different sections are detailed in the Functional Scope in section 4.1

## 2.3 Current IT Systems

- Existing IT Systems are as below
  - a. Ramco ERP e-applications ERP (ver 3.1) running on Windows 2000 Enterprise Edition and MS Sqlserver 7.0 for Material Management and Inventory, Financial Accounting, HR and Payroll functions
  - b. Integrated Ship Repair System (ISRS) on Developer Tool (D2K) and Oracle database 9i for Ship Repair activities
  - c. MS Project - network based for Project Planning
  - d. Attendance System –Finger Print Recording (FPR) system from Solus supplied by M/s CMS for attendance recording and management on MS Sqlserver 2000 database
  - e. Tribon M3 software for Ship design and Web application for Material code generation for Pipes and Valves/ Design items.
  - f. Autocad for engineering drawings
  - g. Intranet Webserver (Apache Tomcat) and database (MySQL) for Intranet applications (based on Java, J2EE, JSP on Struts framework) and for publishing of Circulars and other information
  - h. Email server Post Master Enterprise from M/s QLC for local mail collection and routing to and from hosted service provider
  - i. Firewall devices from Cyberoam and Juniper with broad band and Leased line for mail fetching, website hosting and browsing
  - j. FTP server for sharing drawings and other documents with external agencies and customers
  - k. Internet websites ([www.cochinshipyard.com](http://www.cochinshipyard.com) and [www.cochinshipyard.co.in](http://www.cochinshipyard.co.in)) for publishing information
  - l. Alfresco Document Management System for storing data as per functional area with access rights and version control.
  - m. Optical Fiber Cable (OFC) Back bone connecting buildings (Single mode and multimode) and UTP (CAT5 and CAT6) inside buildings
  - n. Server based Antivirus systems from AVG and Symantec

### 3. Enterprise Resource Planning (ERP)

The complex business environment of shipbuilding & ship repair at CSL necessitates standardized business process flows, online reporting, project monitoring with status updates, Project planning & execution, and on time delivery of ships to its owner. CSL has envisaged for implementing integrated ERP solution to meet these complex business requirements.

#### 3.1 Objectives & Benefits

CSL has decided to implement best in breed ERP solution which suites all its business needs. CSL envisages the following benefits from implementing ERP across its business units:

- a. Provide seamless integrated flow of information and incorporate the industry leading practices in the areas of shipbuilding, ship repair, project based manufacturing and design to deliver.
- b. Standardize entire business functions.
- c. Provide support to all their existing lines of business and future ventures.
- d. Provide strong support for CSL's current & future business strategies.
- e. Provide ease of support interfaces, maintenance and upgradeability of systems.
- f. Improve production reliability, optimize inventory and employee efficiency.
- g. Monitor key performance indicators of the organization on a real time basis by the CSL management.
- h. Automate day to day functional operations using work-flows and electronic approval processes, document management system, management reporting and dashboard.

#### 3.2 Strategy for ERP solution and implementation

##### 3.2.1 Solution Strategy

The strategic considerations for ERP solution at CSL are:

**Future expansion** – The ERP solution will be used for automating all the business functions of CSL and to meet the future expansions in terms of locations, scale of operations and new product lines/business.

**Global Standards** – As CSL embarks on its ambitious plans of expanding its businesses and building collaborative ventures with global players, CSL intends to adopt the best of global practices in design, ship building, quality, costing, enquiry & order management, ship repairs, safety and risk management.

**Protection of investments** – CSL has made investments in modern computer Aided design / ship building design applications, CSL intends to deploy ERP solutions which facilitate the protection of these investments.

**Integration** – To protect the current investments in the Design system and time management system, CSL intends to integrate them with the ERP Solution. To ensure this, one of the key elements

of the solution strategy is to ensure having solution with open standards for integration of different applications/solutions

**Proven Solution** – The processes of CSL are moderately unique in the areas of finance, HR, Payroll etc. as compared to general businesses, but similar to the ones in public sector units in India. Similarly the processes covering the core business operations are similar to the ones in heavy engineering industries. Keeping this uniqueness and maturity of the processes in mind, CSL will use ERP solutions which have been successfully implemented in the leading heavy engineering companies around the world.

### 3.2.2 Implementation Strategy

CSL has decided to opt for a big bang approach to implement ERP for all business divisions which have following functional sections.

#### 3.2.2.1 Business Coverage

Business Vertical	Core Departments/Functions
Ship Building	Marketing
	Design
	Project planning & monitoring
	Production (HULL, HULL Erection , Outfit, SBOC and S&C)
	Materials
	Quality
	Small Ship Division
Ship Repair	Commercial
	Project Planning
	Operation
	Material

Support Functions
Utility & maintenance

Safety
Civil
Infrastructure Project management
Information System Division

<b>Corporate Functions</b>
Finance
Human Resource
CMD's office & Company Secretariat

## 4. Scope of Work

The "Scope of Work" for System Integrator (SI) under this RFP would be following:

### 4.1 Functional Scope

#### 1. Marketing/ Business Development

Key processes	Sub Processes/Activities
<b>a. Enquiry Management</b>	<ul style="list-style-type: none"> <li>• Enquiries recording, Customer Creation</li> <li>• Classification of enquiries</li> <li>• Tracking response and status of Enquiries</li> </ul>
<b>b. Quotation Management</b>	<ul style="list-style-type: none"> <li>• Cost estimation as per SFI index/ Japanese index</li> <li>• Record Budgetary offers from partners, Search historical data</li> </ul>
<b>c. Contract Management/ Change Request Management</b>	<ul style="list-style-type: none"> <li>• Enquiries are obtained through tenders / mails from the customers</li> <li>• Critical (hot pursuits) enquires are maintained in a file with file number</li> <li>• Sales Order/Variation order Creation &amp; Customer Contract Review</li> </ul>

	<ul style="list-style-type: none"> <li>• PO Acceptance</li> <li>• Create Invoice</li> <li>• Customer bill processing</li> <li>• Contract closure</li> </ul>
<b>e. Billing &amp; Invoice</b>	<ul style="list-style-type: none"> <li>• Milestone billing</li> <li>• Raising invoice to the customer/ owner</li> </ul>
<b>f. Warranty Management</b>	<ul style="list-style-type: none"> <li>• Tracking warranty expiry</li> <li>• Capture the actual expense incurred.</li> <li>• Track &amp; compare the warranty expense for every ship</li> </ul>

## 2.Design

Key processes	Sub Processes/Activities
<b>a. Preparation &amp; Maintenance of design drawing</b>	<ul style="list-style-type: none"> <li>• Preparation of design drawings</li> <li>• Issues &amp; maintain design drawings</li> <li>• Revision control of drawings &amp; Design Documents through Document Management System(DMS)</li> </ul>
<b>b. Creation of Bill of Material/MLF/MLP</b>	<ul style="list-style-type: none"> <li>• Preparation of Bill of Materials(BOM)</li> <li>• Preparation of MLP&amp;MLF</li> <li>• Issue &amp; approval of BOM, MLP &amp; MLF</li> </ul>
<b>c. Indenting of materials by Design Team</b>	<ul style="list-style-type: none"> <li>• Raising indents/ purchase requisition of materials against the project</li> <li>• Tracking of materials (arrival, consumption quantity &amp; remaining quantity etc.)</li> </ul>
<b>d. Creation of Production schedules &amp; MLF</b>	<ul style="list-style-type: none"> <li>• Prepare high level activity break up for ship building</li> <li>• Prepare fitment plan and link drawings/indents and other reference</li> <li>• Issues drawing and high level production instruction</li> </ul>

## 3.Project Planning and Control

Key processes	Sub Processes/Activities
<b>a. Project creation</b>	<ul style="list-style-type: none"> <li>• Feasibility study, considering dock availability, after receiving an enquiry.</li> </ul>

<b>b. Project Planning</b>	<ul style="list-style-type: none"> <li>• Preparation of Master construction schedule – it includes schedule for all the projects running in the yard</li> <li>• Monthly schedule (for all projects) is circulated to Ship Building operations department(s)</li> <li>• Build Strategy is prepared and circulated to concerned departments with target dates for design drawing requirement, material requirement, etc.</li> <li>• Preparation of schedules at various stages of production from steel cutting to delivery.</li> </ul>
<b>c. Project monitoring</b>	<ul style="list-style-type: none"> <li>• Ensure ship building activities are running as per the schedule &amp; get the confirmation of the activities done</li> <li>• Update the schedule based on any change request</li> <li>• Propose corrective actions in case of slippages and criticality in activities</li> </ul>
<b>d. Project Closure</b>	<ul style="list-style-type: none"> <li>• After final invoice to the customer, project will be closed.</li> <li>•</li> </ul>

#### 4. Materials

Key processes	Sub Processes/Activities
<b>a. Indent Management</b>	<ul style="list-style-type: none"> <li>• Indents are raised by all user departments (such as design, civil, and U&amp;M department) where materials are required for CSL operations.</li> <li>• Indents for Stock control items are raised by Materials dept</li> <li>• Indents will go through multiple approval process.</li> </ul>
<b>b. Enquiry Management</b>	<ul style="list-style-type: none"> <li>• Preparing &amp; Releasing of tender</li> <li>• Bid evaluation &amp; Preparation of comparative statement.</li> <li>• Price negotiation &amp; approval.</li> </ul>
<b>c. Purchase Management</b>	<ul style="list-style-type: none"> <li>• Purchase order management: Indigenous (Within India), Import purchase (Outside India), Cash purchase, Annual Contracts, Capital goods procurement, sub contract items, Guarantee claims for ships</li> <li>• Bank Guarantee &amp; LC tracking.</li> <li>• Processing Insurance claims, transporter &amp; 3rd party bills.</li> </ul>

<b>d. Stores Management</b>	<ul style="list-style-type: none"> <li>• Material Receipt &amp; Issue</li> <li>• Stock movement/ transfer</li> <li>• Stock Tracking &amp; Scrap disposal</li> </ul>
<b>e. Supplier Management</b>	<ul style="list-style-type: none"> <li>• Supplier evaluation</li> <li>• Sourcing of supplier</li> <li>• Registration of supplier</li> </ul>
<b>f. Material control</b>	<ul style="list-style-type: none"> <li>• Material planning</li> <li>• Monitoring of consumption pattern</li> <li>• Inventory valuation &amp; Reporting</li> <li>•</li> </ul>
<b>g. Material coding standardization</b>	<ul style="list-style-type: none"> <li>• There are currently existing 3 systems ( Ramco ERP, ISRS, Design Material coding system)</li> <li>• Uniform standard coding system to be adopted across the Yard in the new ERP system</li> <li>• The material master is to be converted to the new format of material coding after data cleansing</li> </ul>

## 5. Production (Shipbuilding and Ship Repair)

<b>Key processes</b>	<b>Sub Processes/Activities</b>
<b>a. Production operations</b>	<ul style="list-style-type: none"> <li>• Ship building: Shipbuilding activities are carried out, based on the design drawings issued by design department, across departments like Hull shop, Hull erection, Outfit as per the master schedule provided by planning department.</li> <li>• The major jobs being executed across the departments of SB include Steel preparation, block fabrications, pipe fabrication, Block outfitting, painting (block and onboard), Erection, consolidation, outfit, commissioning, sea trials and delivery.</li> <li>• Ship repair: Quotations are submitted based on Repair specifications by SRC department.</li> <li>• SRO executes the job against Repair Specification (RS) . The jobs are segregated to various sections and allocated to various agencies (departmental and</li> </ul>

	<p>external) for execution.</p> <ul style="list-style-type: none"> <li>• Work Completion Certificate (WCC) is created with a list of activities carried out onboard the vessel. Contractor Bills settlement, cost accounting, invoice management are also done based on WCCs created against each project.</li> </ul>
<b>b. Closing the production activity</b>	<ul style="list-style-type: none"> <li>• All activities are completed in Production/ work orders for closure</li> </ul>

## 6. Inspection and Quality Control

Key processes	Sub Processes/Activities
<b>a. Inspection &amp; Quality Control</b>	<ul style="list-style-type: none"> <li>• Production/In Process Inspections</li> <li>• Incoming material Inspections</li> <li>• Sample Inspections</li> <li>• Supplier/Source Inspection (Pre Dispatch)</li> <li>• Lab Testing Services</li> </ul>
<b>b. Production inspection &amp; Quality Assurance</b>	<ul style="list-style-type: none"> <li>• Prepare Inspection &amp; testing Plan</li> <li>• Conduct quality check &amp; reports if there are any deficiencies</li> </ul>
<b>c. Lab services</b>	<ul style="list-style-type: none"> <li>• Lab testing</li> <li>• Sample testing</li> <li>• Calibration of equipments</li> <li>• Storage of consumables &amp; lab equipments</li> </ul>

## 7.A Financial Accounting (Central Accounts)

Key processes	Sub Processes/Activities
<b>a. Material Accounting &amp; Scrap accounting</b>	<ul style="list-style-type: none"> <li>• Inventory valuation - weighted average method</li> <li>• Expense accounting, Stock accounting, Scrap accounting</li> <li>• Work in progress (WIP) valuation</li> </ul>

<b>b. Fixed Asset accounting</b>	<ul style="list-style-type: none"> <li>• Defining asset type, depreciation rate &amp; Asset register maintenance</li> <li>• Asset capitalization of different kinds of items</li> </ul>
<b>c. Compilation of cost information &amp; cost ledger</b>	<ul style="list-style-type: none"> <li>• New cost center/ budget code creation,</li> <li>• Account code mapping to cost center</li> <li>• Budget code mapping to account codes</li> <li>• Analysis mapping to account codes</li> <li>• Expenses &amp; revenue Accounting</li> <li>• Cost center &amp; job cost center accounting.</li> <li>• Costing of Direct Materials , Direct Expenses , Subcontract, Direct Labour, Overheads etc</li> </ul>
<b>d. Budgeting</b>	<ul style="list-style-type: none"> <li>• The following budgets are prepared by the central accounts section on an annual basis</li> <li>• Capital budget</li> <li>• Revenue budget</li> </ul>
<b>e. Finalization of accounts</b>	<ul style="list-style-type: none"> <li>• The various closing activities carried out are as follows:</li> <li>• Generation of Profit &amp; Loss account for limited review audit</li> <li>• Provisions</li> <li>• Depreciation on tools &amp; fixed assets</li> <li>• Finalizing annual accounts</li> <li>• Segment wise reporting</li> <li>• Material consumption</li> <li>• List of non moving stock</li> </ul>
<b>f. Audit of accounts</b>	<ul style="list-style-type: none"> <li>• The central accounts section arranges required files and information for various audits like statutory audits, C&amp; AG audit, etc.</li> </ul>

## 7.B Financial Accounting (Bills)

<b>Key processes</b>	<b>Sub Processes/Activities</b>
<b>a. Purchase order (PO) based payments</b>	<ul style="list-style-type: none"> <li>• The payments will be based on PO conditions. Various payments are given below: <ul style="list-style-type: none"> <li>• Advance payment to supplier</li> <li>• Payment after delivery</li> <li>• Freight</li> <li>• Clearance charges</li> <li>• Insurance</li> <li>• Installation &amp; commissioning charges</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• Customs duty, etc...</li> </ul>
<b>b. Bank Guarantee (BG)</b>	<ul style="list-style-type: none"> <li>• BG clause will be checked as per the PO conditions.</li> <li>• The safe custody of BG is taken care by Cash department and gives a consecutive control number for tracing out the BG from safe custody.</li> </ul>
<b>c. Letter of credit (LC)</b>	<ul style="list-style-type: none"> <li>• LC will be raised with bank after ensuring whether BG is opened for the amount as specified in Purchase Order</li> </ul>
<b>d. Advance payments</b>	<ul style="list-style-type: none"> <li>• Advance payment entry will be made upon receipt of debit advice from the bank after the payment is made in the case of LC/Foreign telegraphic transfer (TT)</li> </ul>
<b>e. Goods Receipt Voucher (GRV)</b>	<ul style="list-style-type: none"> <li>• Goods valuation is done by adding the following components to the per unit value</li> <li>• Additional charges</li> <li>• Freight charges</li> <li>• Inspection charges</li> <li>• Other charges</li> <li>• VAT (only for indigenous procurement), Service tax, etc... will be accounted separately through credit note</li> </ul>
<b>f. Bill of Entry</b>	<ul style="list-style-type: none"> <li>• Bill of entry received from customs department will be forwarded to Bank for 100% value of goods.</li> </ul>
<b>g. Debit Notes</b>	<ul style="list-style-type: none"> <li>• Debit Note will be raised in case of any of the following scenarios:</li> <li>• Expenses incurred by CSL on behalf of supplier</li> <li>• Liquidated damages</li> <li>• Rejection</li> </ul>
<b>h. Emergency purchases</b>	<ul style="list-style-type: none"> <li>• In exceptional cases, goods are purchased by materials department supported by indent from user on emergency requirement.</li> </ul>

## 7.C Financial Accounting (Establishment)

Key processes	Sub Processes/Activities
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<p><b>a. Payroll calendar &amp; pay dates</b></p>	<ul style="list-style-type: none"> <li>• The schedule of payroll processing is as follows:</li> <li>• Payroll runs: 5 days before the payroll payment</li> <li>• Tax process: To include current month tax</li> <li>• Payroll run to consider tax effect</li> </ul>
<p><b>b. Categories of employees included in Payroll</b></p>	<ul style="list-style-type: none"> <li>• The categories of employees are: <ul style="list-style-type: none"> <li>• Regular employee</li> <li>• Trainees</li> <li>• Contract</li> </ul> </li> <li>• For regular employees the salary can be processed in 3 ways</li> <li>• Regular pay: last working day of month</li> <li>• Supplementary Pay : 15th of every month (medical reimbursement, leave encashment, Any overtime data that is missed, trainees incentive, TA settlement, leave regularization etc is included)</li> <li>• Additional Payroll: This is run anytime during the month if required, for adhoc payments. This is applicable only for regular employees.</li> <li>• Currently adhoc pay run can be initiated only if ADPAY for all the previous period have been run</li> <li>• Salaries are credited to employee's bank account</li> </ul>
<p><b>c. Assignment of employees to pay set</b></p>	<ul style="list-style-type: none"> <li>• At the time of joining the employee will be assigned to 4 pay sets as mentioned below as applicable:</li> <li>• Regular pay (REPAY)</li> <li>• Supplementary Pay (SUPAY)</li> <li>• Additional Pay (ADPAY)</li> <li>• Contract Payroll (COPAY)</li> <li>• The Mode of payment for salary is either by a cheque or directly transferred to the account.</li> </ul>
<p><b>d. Provident fund &amp; pension scheme</b></p>	<ul style="list-style-type: none"> <li>• PF is 12% of basic, DA and FDA</li> <li>• When employee attains the age of 58yrs he is entitled for pension</li> </ul>
<p><b>e. PF Trust accounting</b></p>	<ul style="list-style-type: none"> <li>• CSL operates PF Trust in-house and manages the PF accounting for its direct employees including investments and fund management</li> </ul>
<p><b>f. Gratuity</b></p>	<ul style="list-style-type: none"> <li>• Gratuity is paid to all employees completing continuous service of 5 years or in event of death of those employees even not completing 5 years</li> </ul>

<b>g. Professional tax (PT)</b>	<ul style="list-style-type: none"> <li>Twice in a year PT is deducted from the salary of all employees except for permanently disabled employees and Ex-servicemen based on the slabs notified by the Govt. of Kerala.</li> </ul>
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**7.D Finance – Taxation & Invoice**

<b>Key processes</b>	<b>Sub Processes/Activities</b>
<b>a. Income Invoicing</b>	<ul style="list-style-type: none"> <li>The different types of invoicing/receipts in CSL are as follows:               <ul style="list-style-type: none"> <li>Lab invoices</li> <li>Testing/calibration charges</li> <li>Scrap sale with TCS u/s 206C</li> <li>Scrap sale without TCS</li> <li>Packing material sale to employees</li> <li>Ship repair invoicing</li> <li>Ship building invoicing</li> <li>General engineering</li> <li>Sale of tender forms</li> <li>Subsidy income</li> <li>Rent income</li> <li>Miscellaneous income</li> <li>Sale of stock/other items</li> </ul> </li> </ul>
<b>b. Taxation</b>	<ul style="list-style-type: none"> <li>The different types of taxation in CSL are as follows:               <ul style="list-style-type: none"> <li>Works Contract Tax (KVAWCT)/ KVAT</li> <li>Service tax</li> <li>Excise duty</li> <li>VAT</li> <li>CST with C form</li> <li>CST without C form</li> <li>Income tax</li> <li>TDS</li> </ul> </li> </ul>
<b>c. Filing of monthly/quarterly/half yearly and annual returns</b>	<ul style="list-style-type: none"> <li>CSL files KVAT/ CST/Central Excise return &amp; Service tax return.</li> <li>Challan details will be incorporated after tax payment is made.</li> </ul>

<b>d. Insurance</b>	<ul style="list-style-type: none"> <li>• CSL takes insurance on the following: <ul style="list-style-type: none"> <li>• Medical insurance</li> <li>• Builder’s risk insurance</li> <li>• Ship repairer’s liability insurance</li> <li>• Public liability insurance</li> <li>• Stock insurance</li> <li>• Directors liability policy</li> <li>• Fire &amp; special perils policy for factory assets</li> <li>• Cash insurance</li> <li>• Transit insurance</li> </ul> </li> </ul>
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**7.E Finance – Indigenous Aircraft Carrier (IAC)**

<b>Key processes</b>	<b>Sub Processes/Activities</b>
<b>a. Fund forecast for cost plus/ infrastructure scope of work</b>	<ul style="list-style-type: none"> <li>• The Funds requirement for the coming financial year is forecasted by taking into account the Purchase orders raised by the Materials department and other expenditure requirement gathered from various other departments</li> </ul>
<b>b. Accounting of advance received from CDA (NAVY)</b>	<ul style="list-style-type: none"> <li>• The advance will be transferred to the CSL bank account by CDA (NAVY) based on the fund forecast report &amp; upon submission of the following documents by CSL: <ul style="list-style-type: none"> <li>• Proforma invoice</li> <li>• Indemnity bond</li> <li>• Release note from IN – DNP ( Department of Naval Plan)</li> </ul> </li> </ul>
<b>c. Adjustment of expenditure against advance received from CDA (NAVY)</b>	<ul style="list-style-type: none"> <li>• The expenditure incurred for IAC will be adjusted against the advance receipt from CDA (NAVY) upon payment of the bills.</li> </ul>
<b>d. Accounting of stage payments received from CDA (NAVY)</b>	<ul style="list-style-type: none"> <li>• The stage receipts are accounted upon the receipt of certificate from WOT (K) on the milestone achievement.</li> <li>• Direct invoice will be raised by IAC – finance to CDA (NAVY) and amount will be transferred from IAC bank account to other CSL bank account.</li> </ul>

<b>e. Recognition of Income</b>	<ul style="list-style-type: none"> <li>Income is recognized based on the production tonnage received from Production, Planning &amp; Controlling (PPC) department.</li> </ul>
<b>f. Accounting of interest credited by bank</b>	<ul style="list-style-type: none"> <li>Interest will be credited by bank on the funds in IAC bank account</li> <li>The interest credited by bank will be treated as advance received from Navy.</li> </ul>
<b>g. Adjustment of scrap sales</b>	<ul style="list-style-type: none"> <li>5% processing charge is treated as income from IAC on scrap sale.</li> </ul>
<b>h. IAC Asset treatment</b>	<ul style="list-style-type: none"> <li>Infrastructure assets are procured using the Navy fund</li> <li>These are not capitalized in CSL books and are treated as 'Advance against Customer Financed Asset'.</li> <li>Asset register is maintained without depreciation.</li> </ul>

## 7.F Finance – Ship Building

<b>Key processes</b>	<b>Sub Processes/Activities</b>
<b>a. Ship Building</b>	<ul style="list-style-type: none"> <li>Ship Building finance section deals with payments relating to subcontract works awarded by following departments: <ul style="list-style-type: none"> <li>Civil department</li> <li>SBOC department</li> <li>U&amp;M department</li> <li>Planning department</li> <li>Project department</li> <li>I&amp; QC department</li> </ul> </li> </ul>
<b>b. Recoveries</b>	<ul style="list-style-type: none"> <li>CSL is the Principal employer and contract employee deductions like PF, ESI and labour welfare will be facilitated</li> <li>Hire charges will be recovered based on the list of tools, space hired to contractor</li> <li>Rent is recovered based on the contractor wise monthly statement</li> </ul>
<b>c. Civil – Capital and Maintenance</b>	<ul style="list-style-type: none"> <li>Financial concurrence on the estimate &amp; approval of comparative statement</li> <li>Accounting of bills based on the percentage of work completed as stage payments described in the work</li> </ul>

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<b>d. Maintenance – Utilities &amp; Maintenance</b>	<ul style="list-style-type: none"> <li>• The various sections in U&amp;M are as follows: <ul style="list-style-type: none"> <li>• Electrical section</li> <li>• Electronics section</li> <li>• Mechanical section</li> <li>• Transport service</li> <li>• Service</li> <li>• Main Receiving station (MRS)</li> </ul> </li> </ul>
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**7.G Finance – Ship Repair**

<b>Key processes</b>	<b>Sub Processes/Activities</b>
<b>a. Ship Repair</b>	<ul style="list-style-type: none"> <li>• The various activities involved in Ship Repair section are: <ul style="list-style-type: none"> <li>• Repair</li> <li>• Up gradation</li> <li>• Conversion</li> <li>• Remote repairs</li> </ul> </li> </ul>
<b>b. Types of materials</b>	<ul style="list-style-type: none"> <li>• The different types of materials included in a ship repair contract are given below:</li> <li>• Materials as part of Repair Specification (RS)/ Additional Work Requirement Form (AWRF) which is included in tariff</li> <li>• Materials procured extra as per owner’s requirement on which mark up will added.</li> </ul>
<b>c. Payment to suppliers of materials</b>	<ul style="list-style-type: none"> <li>• The following are the payment options: <ul style="list-style-type: none"> <li>• Advance payment</li> <li>• Payment against delivery</li> </ul> </li> </ul>
<b>d. Subcontract</b>	<ul style="list-style-type: none"> <li>• The types of subcontract work handled at CSL are given below: <ul style="list-style-type: none"> <li>• a)Onsite</li> <li>• b)Offsite</li> </ul> </li> </ul>

**7.H Finance – Financial Planning & Cash**

Key processes	Sub Processes/Activities
a. Cash & Bank	<ul style="list-style-type: none"> <li>• The various activities involved in Cash &amp; Bank are:               <ul style="list-style-type: none"> <li>• Cash transactions</li> <li>• Cheque payments</li> <li>• Cash/ Bank receipts</li> <li>• Bank Reconciliation</li> </ul> </li> </ul>
b. Financial Planning & Forex	<ul style="list-style-type: none"> <li>• The various activities involved in Financial Planning &amp; Forex are:               <ul style="list-style-type: none"> <li>• Fund transfers</li> <li>• Forex – hedging</li> <li>• Investments</li> <li>• LC tracking</li> <li>• Bank Guarantees</li> <li>• Loans</li> </ul> </li> </ul>

## 8. Personnel and Administration

Key processes	Sub Processes/Activities
a. Administration	<ul style="list-style-type: none"> <li>• Office space allocation and reservation</li> <li>• Procurement of Printing &amp; Stationary</li> <li>• Procurement of courier &amp; postal services</li> <li>• Allotment of quarters</li> <li>• Private security</li> <li>• Landline &amp; Broad Band communication</li> <li>• Housekeeping contract &amp; Payment processing</li> <li>• Travel &amp; Ticketing</li> </ul>
b. Marine Engineering Training Institute (METI)	<ul style="list-style-type: none"> <li>• Prepare different schedules for training</li> <li>• Provide resident training for Marine engg. trainees</li> <li>• Training for external candidates for courses accredited by statutory bodies and classification societies.</li> </ul>
c. Promotion & Transfer	<ul style="list-style-type: none"> <li>• Transfer/promotions/rotational Transfer</li> </ul>
d. Time Management	<ul style="list-style-type: none"> <li>• Leave management</li> <li>• Shift Management</li> <li>• Overtime work management</li> <li>• Business trip, tours &amp; training management</li> <li>• Attendance Regularization</li> </ul>

	<ul style="list-style-type: none"> <li>• Attendance based allowances</li> </ul>
<b>e. Separations</b>	<ul style="list-style-type: none"> <li>• Retirement date</li> <li>• Credit liability &amp; vigilance clearance</li> <li>• Relieving letter &amp; separation</li> </ul>
<b>f. Performance management system</b>	<ul style="list-style-type: none"> <li>• Self appraisal</li> <li>• Annual performance appraisal</li> <li>• Performance related payments</li> </ul>
<b>g. Contract Labor Management</b>	<ul style="list-style-type: none"> <li>• Issue work order</li> <li>• Issue of worker passes</li> <li>• Payment</li> </ul>
<b>h. Recruitment</b>	<ul style="list-style-type: none"> <li>• Manpower planning</li> <li>• Advertisement &amp; Receipt of application</li> <li>• Selection process</li> <li>• Release offer letter &amp; conduct induction programme</li> <li>• Probation</li> </ul>
<b>i. Welfare</b>	<ul style="list-style-type: none"> <li>• Canteen management</li> <li>• Supply of uniform liveries</li> <li>• Compensation for industrial accidents</li> </ul>
<b>j. Training &amp; Development</b>	<ul style="list-style-type: none"> <li>• Planning &amp; budgeting for training activities (Including apprentice training)</li> <li>• Training evaluation process</li> <li>• Attendance &amp; time management.</li> <li>• Issue of Training certificate</li> </ul>
<b>k. Legal Matters</b>	<ul style="list-style-type: none"> <li>• Reporting of misconduct</li> <li>• Enquiry on misconduct</li> <li>• Appointment of legal advisers</li> </ul>
<b>l. Medical Facilities</b>	<ul style="list-style-type: none"> <li>• Based on CSL policy eligible employees are covered under medical scheme</li> <li>• A rate is fixed by CSL for hospital/ doctor/ lab testing</li> </ul>
<b>m. Security &amp; ISPC</b>	<ul style="list-style-type: none"> <li>• CSL has 3 levels of security.</li> <li>• All visitors have to get the gate pass &amp; security check</li> </ul>

<b>n. Estate Management</b>	<ul style="list-style-type: none"> <li>• Collection of lease rent, for CSL's leased out property</li> <li>• Allocation of company quarters to employees &amp; adjusting rent in their salary</li> </ul>
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## 9. Utility and Maintenance

Key processes	Sub Processes/Activities
<b>a. Asset / Equipment Maintenance Cycle</b>	<ul style="list-style-type: none"> <li>• Periodic maintenance of equipments/ machines, with prior intimation to other departments</li> <li>• Asset Retirement/ disposing to scrap, which are accounted in Finance</li> </ul>
<b>b. Preventive Maintenance</b>	<ul style="list-style-type: none"> <li>• Maintenance scheduling plan, with checklist</li> <li>• Maintenance activities are done against the checklist &amp; are confirmed after the maintenance task is done.</li> <li>• Spare parts are issued from the store, if required.</li> </ul>
<b>c. Breakdown Maintenance</b>	<ul style="list-style-type: none"> <li>• Maintain &amp; record Break down activities for major equipment in a register</li> <li>• Mobilize resources to carry out the repair work</li> <li>• Spare parts issued</li> </ul>
<b>d. Planned Maintenance</b>	<ul style="list-style-type: none"> <li>• Creation of Maintenance plan &amp; Schedules</li> <li>• Publish or Communicate schedules</li> <li>• Release of Planned maintenance work</li> </ul>
<b>e. Maintenance of Services Facilities – Consumables</b>	<ul style="list-style-type: none"> <li>• Request to provide consumables</li> <li>• Note meter readings for consumption recording /Monitoring</li> </ul>
<b>f. Maintenance of Services Facilities – Transportation management</b>	<ul style="list-style-type: none"> <li>• Issue Transportation equipment (Cars, forklifts, Cranes etc)</li> </ul>
<b>g. Calibration/ Statutory Testing</b>	<ul style="list-style-type: none"> <li>• Receive requests for Calibration</li> <li>• Sub contractor equipments calibration services</li> </ul>

## 10. Documents Management System

Key processes	Sub Processes/Activities
<b>Design Documents Management</b>	<ul style="list-style-type: none"> <li>• Change Management &amp; Revision control of Design Documents</li> <li>• Design Document retrieval through ERP system by all stakeholders</li> <li>• Provision for Seamless Integration with design software(Tribon) and ERP</li> </ul>
<b>Office Document management</b>	<ul style="list-style-type: none"> <li>• All documents created in ERP and relevant for Offline office works should be retrieved through DMS.</li> <li>• Approval, Issue and publishing of circulars, Memo File or Notes(with Workflow)</li> <li>• Board Meeting Documents to be circulated and Managed</li> <li>• Documents Retrieval based on meeting agenda, Actions points, Date, Attendees</li> </ul>
<b>Management Representative</b>	<ul style="list-style-type: none"> <li>• Documents Related to QMS system (ISO, OHSAS, EMS) such as Certifications, Audit reports, Minutes of Meeting should be managed.</li> </ul>

### 4.1.1 Integration/Development Requirement:

Sr. No.	Function	Software Application	Application Usage	Interface/Development Requirements
1	Payroll & Time management	Solus-ID Card & Finger print read	Used for calculating the over time (OT) as per the shift and CSL rules for OT.  Based on attendance HR should process payroll.	Interface Type- Batch/online Mode.  Data required for calculating the payroll, such as entry time, exit time, with employee details will be made available from Solus which has to be uploaded in the ERP for further processing

Sr. No.	Function	Software Application	Application Usage	Interface/Development Requirements
2.	Payroll self-service application for Kiosk	NA	NA	CSL is planning to have a self service Kiosk of all employees to view their payslip, Attendance, Leaves balance and personnel Information. This application may be if required be developed outside ERP and should be interfaced in a batch/offline mode
3.	Self service application for Production	NA	NA	CSL has planned to have a self service application for all worker below officer grade for declaring their production Jobs, overtime booking linking to attendance. This application may be if required developed outside ERP and should interface with ERP in a batch/offline mode.
4.	Design	Tribon- Design software(M3SP2)	Used for preparing various designs & drawings for ship building and detail engineering for shipbuilding	Interface Type- Batch Mode/online Material List of Fitting (MLF), Bills of Materials and drawing has to be interfaced in ERP for Production, Materials and project planning process.
5	Weigh Bridge	Avery Weigh bridge Software application	Recording weightment information	Interface Type-online Weigh bridge should push the information directly to ERP.

#### **4.1.2 ERP Associated Application:**

- a. Enterprise Portal for Internet / Intranet applications with following systems
  - i. e-recruitment
  - ii. On-line file hosting & approvals
  - iii. Accessing required services online etc.
  - iv. Publishing of Circulars and other information in the portal
- b. Visitor Management System with provision for storing details like Passport, Visa and other compliance documents
- c. Complaint handling System for IT, U & M and Civil department
- d. Contract Labour Management system generated attendance reports

#### **4.2 Geographical scope**

Geographic scope will be limited to Cochin in Kerala as our main office and shipyard is located here, however future expansion plan will be considered during the solution design phase.

#### **4.3 Scope of services for SI**

The scope of services for the system Integrator (SI) is as follows:

- a. Procurement and Supply of ERP software product licenses and associated software solution components from Genuine OEM.
- b. Hardware /Infrastructure estimation & seizing
- c. ERP Implementation Services till Go-Live
  - i. Project Preparation
  - ii. Training and Change Management
  - iii. Business Design
  - iv. Configuration / Customization
  - v. Testing
  - vi. Data Migration
  - vii. Training and Change Management
  - viii. Documentation
  - ix. Cutover and Go-Live
- d. Post Go Live Stabilization Support
- e. Warranty Services
- f. Operations and Maintenance Support

##### **4.3.1 Procurement and Supply of ERP product licenses and associated software solution components.**

CSL desires to implement ERP solution that will cater to 350 (Three hundred and fifty only) approximate named users.

Initially 50 Licenses including 5 development licenses to be supplied for configuration/ customization/ development/ testing and another 300 license prior to Go-live. In case of requirement of additional user licenses, each additional user license needs to be provided at the rate equal to or lower than the supplied user license rate and valid till end of O & M period. ERP solution also has to be implemented to cater payroll for 5000 employees and out of these 5000 employees, 500 employees will need the self-service portal for availing the HR services.

The offered ERP product shall meet all requirements as specified in the RFP. SI will also supply any other related software/accessories required to make the offered ERP solution complete.

SI will take responsibility of following:

- a. Procure and Supply user licenses for transaction, technical and system administration for the offered ERP product.
- b. The SI shall quote the license fees of the ERP solution from Genuine OEM. Supply tools, accessories and documentation. Tools and accessories shall be part of the offered solution.
- c. Product documentation to include hard copies and soft copies (two sets each ) to be supplied along with ERP product licenses and associated software solution and shall include but not limited to the following:
  - i. Technical manuals.
  - ii. Installation guides.
  - iii. User manuals.
  - iv. System administrator manuals.
  - v. Toolkit guides and Troubleshooting guides.

All documents mentioned above or any other standard documentation for the product will be included in the cost of the license. SI should refer sections 4.3.3.8 for detail document submission.

#### **4.3.2 Hardware /Infrastructure estimation & sizing**

SI will be responsible for server, storage and network sizing for the ERP application at CSL. The sizing needs to be done based on CSL's requirement for performance, optimized power usage and scalability. Following are the required services which SI needs to provide to CSL:

- a. SI would be responsible to conduct necessary site visits to prepare bill of material and all specifications for required IT / Non-IT infrastructure, Data Center (DC) and Disaster Recovery (DR) site for proposed ERP system.
- b. SI should study the existing network already laid out in CSL as well as additional network laying as required for connecting all the business units of CSL with redundant connectivity including CSL yard and offices that would be using proposed ERP system.
- c. SI would have to identify infrastructure requirement specification including networking & printers and disaster recovery site.
- d. SI should provide a power planning recommendations for the envisaged solution.
- e. SI needs to provide proposed n/w architecture after the study with necessary inputs and to support the preparation of H/W and N/W infrastructure RFP which CSL intends to procure on its own.

- f. SI, if required can propose staggered delivery of hardware/ network components as per the implementation plan with required procurement lead time.
- g. SI will help CSL in checking the goods during delivery of the same.

### 4.3.3 ERP Implementation Services till Go-Live

The SI will be responsible for providing full range of services for implementation of offered ERP product including integration and supporting the operation for the proposed solution during implementation. These services should include, but not be limited to, the following:-

#### 4.3.3.1 Project Preparation

Project charter including detailed project plan, indicating all activities with resources required, their roles and responsibilities and time schedule of deliverables should be prepared at the start of the project and submitted to CSL for approval.

- a. The project charter should also contain brief project description, approach and methodology, milestones, project organization, project risks and mitigation plans, and dependencies
- b. The project charter should include a detailed program for installing and implementing the ERP solution covered under this RFP. The program shall be in the form of a bar chart/master network identifying key phases in various stages of the project.
- c. The SI shall form a project team comprising the following key positions and minimum numbers as mentioned:

Se No	Project Team	Minimum Number
1	Project Manager	1
2	Functional Leads(L) & Consultant (C)	9L+15C
a.	Financial Accounting and Costing	1L+3C
b.	Shipbuilding & Ship repair Operation	1L+2C
c.	HR & Payroll	1L+2C
d.	Utility and Maintenance	1L+2C
e.	Materials Management	1L+2C
f.	Quality Management	1L+1C
g.	Documents Management	1L

Se No	Project Team	Minimum Number
h.	Projects Planning & Execution(Ship building, Ship repair, Civil , Infra)	1L+1C
i.	Business Development and Sales Management	1L+2C
3	<b>Industry expert(Design to Order)/ Subject Matter Expert</b>	<b>2</b>
4	<b>Technical lead (L) &amp; Consultant (C)</b>	<b>3L+6C</b>
a.	System Administrator	1L+1C
b.	Development lead/Programmer(2lead+5con)	2L+5C

- d. All project team should be deployed onsite until completion of stabilization period.
- e. The SI shall not change any member of the Project Team during the course of the project. However, in the unlikely event of a change being required SI shall abide by the undertaking as per format in Form 18 of Annexure III.

#### 4.3.3.2 Business Design

Business Design Objective, approach and methodology should ensure the following four steps:

**Simplification and Standardization of Processes:** The processes of all divisions need to be studied and simplified into logical steps at first. All processes need to be depicted into simple flow diagrams with clear linkages. This will help in reviewing some of the old manual practices in view of the integrated system scenario of the future. SI also needs to explore the standardization of processes across all lines of businesses/divisions.

**Elimination of Redundant and Non Value Adding Processes:** After simplifying the processes, all processes are to be reviewed to eliminate the redundant steps and practices. Non availability of information across the departments results in repetitive and redundant activities in a manual work environment.

**Value Addition:** After eliminating the redundant processes, reengineering of processes need to be done keeping in view the standard best available processes/ practices available in the proposed enterprise solution software. The primary objective of this step is to enhance functional efficiency and process performance.

**Automation:** Configuring the To-Be processes in the system should be able to address all the defined requirements in the As-Is, To-Be and the Gap documents.

SI will perform following services as part of business design scope:

- a. SI will perform a current business study to define all the business process currently followed in CSL as per the scope with process definition, sub process, dependencies, activities, flow charts, MIS & reporting requirement and Functional roles. The output of this stage will be a detailed “As-Is” document.
- b. SI will map all the As-Is process identified during the current business study to the ERP functionalities and arrive at the “To-Be” process document with required process definition, flow diagrams, process enhancements and gap-fitment analysis to map all business requirements of CSL in the ERP solution. The output of this stage will be a detailed “To-Be” & “Gap-Analysis” document.
- c. SI will provide initial functional training as described in section 4.3.3.7 to all the CSL project team to facilitate understanding of ERP functionalities of proposed solution. This training will help CSL to analyze and assess the changes recommended by SI in “To-Be” and “Gap-Analysis” Documents.
- d. SI is expected to conduct workshops, give detailed presentations on the Business Blueprint, which will include the gap analysis, way forward to fill the gap and specific recommendations for adoption of new improved business processes by CSL.
- e. CSL has constituted a project governance structure with adequate representation from all the stakeholders to review the recommendations of the SI and accord necessary approval for the Business Design Report and the new improved business processes to be adopted.

#### 4.3.3.3 Configuration / customization

The SI shall be responsible for installation of ERP software, database, tools, and any other component (together referred as ERP solution) required for making the ERP solution successfully operational as per CSL requirement. The system is to be a single-instance; centralized installation servicing the entire organization.

- a. SI shall conduct a study of the CSL’s technical and functional requirements with process owners and then make the required system configuration & design modifications to implement the requirement in order to achieve the desired functionality. However the same must be tested, accepted and approved by CSL.
- b. CSL intends to implement standard ERP functionalities and the leading practices available in the offered solution, as far as practically possible.
- c. SI is required to undertake customization that may be needed in line with the changed, improved or specific business processes requirement prepared during Business Design phase of the ERP implementation.
- d. The numbers of custom objects are 500 (Five Hundred) that are part of the scope.SI will ensure that the costing of custom objects are included in quoted Implementation cost. Custom objects will include Forms, Reports, Interfaces, Conversions, workflow and Enhancement to be developed by the SI.
- e. CSL reserves the right to seek customization to meet its unique requirements and validate the design or findings suggested as custom development by the system integrator.
- f. CSL reserves the right to get the functional specifications and effort reviewed by an external consultant.
- g. CSL team to be fully associated for the configuration/customisation of the system for enabling complete knowledge transfer

h. Following consideration will be given for custom development:

**Objects not considered as Custom Developments**

The below list of items developed or changes to standard items shall be considered as “Configuration” and not as “Customisation”. SI shall not expect or propose any additional charges for developing following objects.

1. Use of ERP provided Customer/ User Exits to achieve specific process requirements/ expectations
  2. Configuration/personalization of Field selection and Screen Layouts
  3. Definition and assignment of User Defined statuses for various objects
  4. Definition of Authorisation Controls and Assignment
  5. Configuration of standard Workflows
  6. Seamless integration across all ERP modules, ERP add-on components
  7. Reports developed in functional area using Report Writer/ Report painter/Report Developer
  8. Standard Reports and Variants Change to standard reports/ information systems to define and enable User Specific Variants
  9. Change to ERP standard forms to incorporate standard texts and CSL logo.
  10. Conversion Programs developed for migrating Master Data and Open Data for Go-Live from existing applications.
- i. All custom developments should be carried out in a controlled and planned manner with adherence to ERP prescribed Coding Standards and Naming Conventions.
- j. SI should explore all options available in Standard ERP to meet the requirements, demonstrate standard options to CSL. If CSL concludes that no option meets the requirement and the requirement is critical for business, SI will submit the case for custom development to the Project team/ Core Committee of CSL. The following details should be submitted to CSL:
- i. Functional specifications document
  - ii. Technical specification document
  - iii. Complexity classification under simple/ medium/ high, with justification
  - iv. Any impact to standard functionality/ features and future upgrade
  - v. Effort and time-line estimation
  - vi. Impact to project time-lines/ deliverables

#### 4.3.3.4 Testing

- a. The SI shall provide details of tests being carried out during the implementation (e.g. including conference room pilots, unit tests, System integration tests, Stress tests and final user acceptance test.)
- b. SI has to prepare a testing strategy documents which will include testing plans, schedules, content, training approach and methodology. Testing strategy should define the requirements and goals of ERP configuration, determine the tools and methods used to check that the system responds correctly, determine how and when the test will be performed and recommend how the approval process should occur.
- c. The SI is responsible to identify and inform CSL regarding testing requirements and impacts.
- d. The SI shall work in a manner to satisfy all the testing requirements and adhere to the testing strategy outlined.
- e. The SI must ensure deployment of necessary resources and tools during the testing phases.
- f. The test strategy document shall guide the project team through the implementation to ensure that planning and conducting testing activities in the various phases of ERP implementation are proper.
- g. The various testing which SI has to perform are as follows:
  - i. **Base Line Testing:** The purpose of baseline scope testing activities is to plan and conduct testing to validate the baseline configuration. Baseline scope testing shall ensure that baseline configuration is valid, and shall support the business processes defined in the business design phase.

Baseline testing scope shall include Unit testing for testing of transactions and functions within modules and Scenario testing for testing of all business processes with scenarios

Baseline scope testing shall be carried out in three steps:

Define baseline test cases:

- SI shall develop the baseline test plan with scenarios and test data to be used for testing based on the test templates finalized during project preparation phase along with CSL.
- For simple transactions, testing (unit testing) shall be done straightforward during configuration and the results shall be recorded.
- For transactions that are complex involving multiple screens, functions and variations, the SI shall document the test cases and the test cases shall be tested with a business process procedure. The SI shall also maintain the test cases with test conditions and any variations of the standard transactions/case procedures.

- SI shall use the Test Scenario template entering every single step (transaction) with input and output data to document process flows.

#### Create baseline test plan

- SI shall organize and follow up the unit and scenario testing at the module level during Baseline scope testing.
- SI shall assign timeframes and resources for testing.

#### Test Baseline

- SI shall use the Baseline test plan and the test cases to test Baseline configuration.
- SI shall update the status including date of completion, results and issues observed during the testing in the Baseline worksheet.

- ii. **Development Testing:** After development and customization/configuration of the ERP solution, the SI shall, conduct tests to demonstrate the readiness of the system which meets all the requirement specifications (functional and Non-functional) as brought out in this RFP.

On the basis of these tests, a report would be submitted by the System Integrator for review and approval by CSL. SI should perform following as a part of the scope:

- The development testing shall cover all the custom developed objects as part of configuration/customization phase.
- Development should not only be tested by the developer but also by the process owner to make sure that the test results (output data) are correct, and reflect the business processes defined in the Business blueprint report.
- SI will perform a code review for each of the custom development as a part of quality procedure and submit it to CSL
- After development testing is completed, all customer-specific programs and forms shall be included in the Final Integration Test

- iii. **Integration and System Testing:** The purpose of the integration test is to execute the integrated components, including simulation of live operations, and analyze the results that are important for the functional verification of the production system.

- Integration testing shall be accomplished through the execution of predefined business flows, or scenarios, that emulate how the system will run the processes of CSL.
- These business flows, using migrated data from the existing systems, shall be performed in a multifaceted computing environment comprising of ERP products, third-party software, system interfaces and various hardware and software components.

- The integration tests shall build the necessary level of confidence that the solution is complete and will perform the business processes of CSL.
- Integration testing shall focus on cross-functional integration points, as well as end-to-end business processes.
- The final integration test plan shall start with the testing of the cross-functional integration points (touch points) and end with the end-to-end testing of critical business processes identified within the Business blueprint report.

Integration testing shall be done in two iterations.

- The first iteration (Integration test) shall concentrate on testing all important business processes inside the ERP system, starting with touch point scenarios and ending with end-to-end-scenarios. It will be done by SI's functional consultants. Unit testing shall be carried out for customer specific developments like user-exits and transactions. Authorizations and user roles would also be tested in the Integration Test.
- System Testing, as a second iteration, shall focus on the most important cross-enterprise scenarios with touch points to external components, including testing of conversions, interfaces, reports, and the necessary authorizations. It will be conducted by CSL users with the assistance of project team.
- Integration and system tests need to be an evolutionary process that is driven from the previous testing efforts. The test cases and scenarios that were used for Baseline need to be reviewed by CSL and enhanced for the integrated and system tests. These selected cases will be combined to represent a business process flow such as a revenue cycle or a material acquisition cycle. Problems encountered during these efforts also need to be tested under an integrated environment.

#### **iv. Performance Testing**

Once the system integration testing of the configured and customized solution has been conducted successfully, load, scalability and stress testing would be conducted prior to commissioning & Go-Live as part of performance testing.

SI should use suitable simulation tools in accordance with the agreed test procedures keeping in view CSL's projected future load of transactional users as proposed by SI and agreed by CSL.

SI should engage ERP OEM for a performance testing at SI cost as part of implementation, after successful completion of performance testing ERP OEM should submit a report to CSL which would include but not limited to test cases, result and response time. Declaration from OEM should be submitted as per format in Form 24 in Annexure III along with Technical proposal by the bidder.

#### 4.3.3.5 System Acceptance

The SI will develop acceptance test procedures for CSL approval. The purpose of this acceptance is to ensure conformance to the required process operations, response times, and integrity of the software after installation, and to eliminate any operational bugs. Acceptance testing has to be conducted in the test system with migrated data.

This will include:

- a. Fine tuning of the software, ensuring all required related software components are installed.
- b. All the acceptance tests should be carried out before Go-Live at site.
- c. At the satisfactory conclusion of these acceptance tests, the implementation of the software shall be considered complete for migration and Go-live.

#### 4.3.3.6 Data Migration

Data migration will include identification of data migration requirements, collection and migration of user data, collection and migration of master data, closing or migration of open transactions, collection and migration of documents and migration of data from the legacy systems.

The key requirements for data migration are as follows:

- a. Identify & assess data to be migrated.
- b. Specify forms/formats/templates to put the data in.
- c. Data migrated will be rationalized, transformed and reconciled.
- d. All open transactions and all transactions from a cut-off date have to be migrated.
- e. All the legacy data will need to be migrated as per the following requirement/ list.
  - Opening & closing balances.
  - All open transactions
  - Relevant data for continuing projects
  - Archival data which will include documents such as transactions or any other relevant document required for pattern or trend analysis or statutory / legal requirements etc.
  - All employee records.
  - All asset records since the date of capitalization.
- f. Identification and development of the data upload/download programs from current system

### **Additional Requirements for Data Migration**

- a. SI shall do migration of the data at the implementation sites of CSL.
- b. SI shall formulate the “Data migration strategy document” which will also include quality assurance mechanism. This will be reviewed and signed-off by CSL prior to commencement of data migration.
- c. SI shall generate appropriate control reports before and after migration to ensure accuracy and completeness of the data.
- d. SI shall convey to CSL in advance all the mandatory data fields required for functioning of the proposed solution and which are not available in the legacy systems/manual files that are required to be obtained by CSL.
- e. SI shall develop data entry programs/ applications that may be required for the purpose of data migration in order to capture data available with/ obtained from CSL in non – electronic format.
- f. SI shall conduct the acceptance testing and verify the completeness and accuracy of the data migrated from the legacy systems in test / QA environment prior to migration to production environment to the proposed solution.

#### **4.3.3.7 Training and Change Management**

SI is required to train all staff identified as ERP users mentioned in the Training Matrix to enable them effectively operate and perform the relevant services using the software. The training content will have to be relevant to the target trainees depending upon the role played by them in CSL.

SI has to perform following as a part of Training & Change management scope:

- a. A training need assessment for CSL ERP project team members as well as for end users shall be conducted by SI, as a component of process improvement and change management.
- b. Training needs should be continuously refined and frequently reconfirmed with the project manager as the project progresses and should ensure full knowledge transfer to CSL team as required by their roles and responsibilities
- c. All training provided by the SI as part of the scope will be in the form of hands-on, class room and on the Job training in the proposed ERP solution.
- d. SI shall provide specific functional trainers to conduct training to the identified users.
- e. SI shall also provide detailed training manuals and reference manuals in each functional area of ERP solution as part of these services.
- f. SI shall prepare a training strategy document which will include but not limited to training methodology, schedules and content.

- g. SI to transfer the knowledge /competency for maintaining the systems to CSL personnel or any other agency assigned by CSL as required with proper documentation at any stage of the Project if required.
- h. Following kinds of training shall be provided by SI:
  - i. **Initial ERP Product Training:** Initial training shall be provided to ERP project team members as per training matrix. The training should provide a comprehensive coverage of the ERP solution and its functionalities. The training shall also highlight the unique requirement of the proposed ERP solution in each module.
  - ii. **ERP Project Functional User Training:** Project team user training shall provide a detailed training to ERP project team members as per the training matrix, so as to enable them to handle future maintenance including configuration, Master Data maintenance and other administrative works of the system and address future functional queries of user.
  - iii. **ERP End user Training:** Functional training shall be provided to all ERP users including management executives as per the training matrix. This training shall focus on user specific requirements and address the daily working, transactions and reporting requirements in the ERP solution. A refresher training of all the functions needs to be provided to update the knowledge of ERP solution to end users. The refresher course needs to be user specific.
  - iv. **Technical Training:** Detail training with necessary tools and documentation shall be given to the technical team responsible for carrying out technical activities related to the ERP system programming, maintenance/administration of database and operating system, backups etc.
- i. SI shall impart training to different users as detailed below in the Training Matrix. However the proposed training schedules, duration, content of training will be based on the final sign-off by CSL.

**Training Matrix to SI**

Particular	User Matrix	Training delivery stages
(A) Initial ERP Training	50 Nos	During the business design and before finalization.
(B) Project Functional User Training	Four user per ERP module per Division	On-going during project
(C) End User Training	No of named licenses	Before Go-Live

(D) Technical Training	10 Nos	On-going during project
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#### 4.3.3.8 Documentation

The SI will provide detailed final system documentation for the reference of CSL. The SI shall provide ongoing product information for reference purposes and facilitating self-education for CSL personnel.

Two sets of system documentation to include hard copies and soft copies to be supplied along with the delivery of ERP licenses & system, which includes but not limited to the following:

- a. Configuration document consisting of system setting and parameters for each functional module.
- b. Standard operational procedure (SOP) manuals.
- c. Documents related to data structures/tables
- d. On-line help manual.
- e. Technical manuals.
- f. Installation guides.
- g. System administration manuals.
- h. Toolkit guides and troubleshooting guides.
- i. User manuals including system instructions and use cases, how to run a program to perform specific task in the system with sample reports, screen formats etc.
- j. Program flow and descriptions.
- k. Any other documentation required for usage of implemented solution.

All documents mentioned above or any other standard documentation for the product will be included in the cost of the license.

#### 4.3.3.9 Cutover and Go-Live

The cutover strategy needs to detail the sequence of activities, schedule for the activities/tasks, data conversion and the data migrations of the necessary balances and open items before Go-Live.

The key requirements of cut over plan are as follows:

- a. It should detail the data migration strategy mentioning the nature and volume of backlog transactions and the specified forms/formats/templates to capture the data.

- b. It should detail the strategy of handling data elements and open items used for planning cut over before Go-Live.
- c. It should describe the various pre-requisites and assumptions used for each of the data elements before uploading in the live system.
- d. It should detail the various business decisions to be taken collaboratively by CSL management and SI for finalizing the cut over strategy and dates including black out period (period when the legacy and future system is not available for normal business operation).
- e. Subsequent to “system acceptance” sign off by CSL, ERP system will be considered ready for Go-Live.
- f. System will be considered as “Go-Live” only when CSL can carry out all the normal business transactions in the production environment with all modules proposed by the SI.
- g. The SI is required to undertake the following before “Go Live”:

  - i. Facilitate in setting up central help desk for any queries
  - ii. Review the health, usage and performance of the system till the stabilization of the system.
  - iii. Ensure resolution / documentation of all issues raised during implementation
  - iv. Complete final configuration/ integration, volume and stress testing

#### **4.3.4 Post Go Live Stabilization**

- a. The SI shall provide post Go-Live support, as part of the scope of the project.
- b. The SI shall continue deploying the same technical & functional consultants at site for full three (3) months after implementation and Go-Live.
- c. During the stabilization period, the SI shall help CSL users to correct any errors incurred while executing transactions, generating reports, handholding for one quarter closure or one month closure.
- d. The SI need to update the required changes in user & configuration manuals and deliver to CSL prior to the completion of stabilization support.
- e. Stabilization period may be extended as required if any critical issues raised by CSL as part of Implementation are open. Subsequent to the successful closure of all the critical issues, CSL shall provide sign-off for the stabilization support phase.

#### **4.3.5 Warranty Services**

SI need to provide one (1) year warranty as part of implementation to CSL on delivered ERP system after successful post go-live stabilization phase. SI need to provide all the services as detailed in section 4.3.6 the scope of services for operation & maintenance support during warranty period.

### 4.3.6 Operations and Maintenance (O&M) Support

SI need to provide O&M services to maintain and support all the deliverables provided to CSL, which includes following services but not limited to:

- a. SI need to incorporate technological changes (patches), and provide enhancements as per the requests made by CSL and as and when OEM releases patches for current application version.
- b. SI will be responsible for changes in custom objects due to technological changes from OEM.
- c. SI needs to perform configuration changes, bug fixes, error resolutions and enhancements that are incidental to proper and complete working of the application.
- d. SI shall provide user support in case of technical difficulties in use of the software, answering procedural questions, providing recovery and backup information, and any other requirement that may be incidental/ancillary to the complete usage of the application.
- e. The SI shall maintain access controls to protect and limit access to the authorized End Users of the CSL.
- f. The services shall include administrative support for user registration, creating and maintaining user profiles, granting user access and authorization, providing ongoing user password support, announcing and providing networking services for users and providing administrative support for print, file, directory and mail servers.

**Service Level Agreements :** The response time (time before the reported incident must be updated/acknowledged by the support team post assignment) and resolution time (time before the reported incident stands completely resolved and the erroneous functionality becomes operational again) will be the basis for defining service level agreements (SLA) for functional & technical support:

Priority	Max Response Time	Max Resolution Time
1 (High) Business Showstopper	30 Minutes	4 Hours
2 (Medium)	30 Minutes	8 Hours (one working day)
3 (Low)	30 Minutes	24 Hours (three working days)

Priority	Criteria	Service Levels (In Business Hours)
1 (High) Business Showstopper	A critical function is not available or very seriously impaired; the impact on business is severe; a large number of end users are unable to perform their normal work; and/or no readily available alternative exists	Response within 30 minutes, restoration of service will be within 4 hours
2 (Medium)	A critical service is unavailable or seriously impacted by a problem; no realistic work around is available and financial, customer-related or safety related impacts could occur	Response within 30 minutes, restoration of service will be within 8

		hours.
3 (Low)	A non-critical service is unavailable or impaired by a problem. There is no direct immediate impact on the business. Work can continue with minor disruptions or loss of efficiency. Alternative ways of performing normal work is available	Response within 30 minutes and resolution within 24 hours.

The performance of the support team shall be tracked on a monthly basis as per the SLA detailed in table above.

In case of slip in SLA percentage for any category of incidents, the IP shall be subjected to penalty as detailed below. In case of abysmally low performance of the support team in terms of meeting the defined SLAs, CSL at its own discretion may consider termination of the support contract.

**SLA Violations and Associated Penalties:** A half yearly performance evaluation will be conducted using half yearly reporting periods of that period.

Penalty Calculations: Penalty calculation will be done as per the below methodology

Priority	Allotted Time Blocks(hrs)	Number of Issues unresolved	Pending hours(No of additional time blocks)	P=No. issues unresolved *No time blocks	Weightage	Penalty Charges
High	0-4	x	a	$p1=x*a$	0.003	$p1* 0.003*(T/2)$
Medium	0-8	y	b	$p2=y*b$	0.002	$p2* 0.002*(T/2)$
Low	0-24	z	c	$p3=z*c$	0.001	$p3* 0.001*(T/2)$

Where T is the total amount quoted in for 1 year O&M  
Penalty is limited to maximum 50% of the half yearly amount (T/2)

## 4.4 Technical Scope

The Non Functional requirements for the ERP solution are listed below:

### 4.4.1 General Application/Solution Requirements

- a. The solution should support the following network types:
  - i. LAN & WAN.
  - ii. Leased Lines.

- iii. ADSL Lines.
  - iv. Satellite Networks.
  - v. MPLS based Networks.
  - vi. VPNs.
- b. The solution should provide context based help facilities and also on-line help at functions, screen and field level that can be tailored to suit CSL's requirement.
  - c. The solution should have comprehensive online help facility to access system specific technical/ functional areas.
  - d. In case an upgrade has impact on the system installed in the following areas, the impact shall be borne by the SI:
    - i. Configured parameters.
    - ii. Newly customized objects.
    - iii. Modified standard program source.
  - e. Upgrades should not affect the current version adversely.
  - f. The solution should support data conversion tools.
  - g. The solution should support e-mail integration.
  - h. The solution should support imaging and archiving.
  - i. The solution should support the upload and download of multiple types of documents into the document management system that include office documents, image files and engineering drawings.
  - j. All functionalities like data entry screens, various reports, batch processing, integration etc. should use a common unified application platform suite to provide ease of management to avoid compatibility issues.

#### **4.4.2 The implementation Methodology**

The methodology to be deployed by the SI to implement the ERP solution will have different work elements and activities. All these activities and the work elements should coherently focus on achieving the following key results

- a. Quality of the solution deployed
- b. User satisfaction while deploying and usage
- c. Successful implementation in terms of completeness and timely accomplishment of the outcome

## **5. Project Management**

Other than the management of resources/deployment of experts and management of timeline as explained in the next sections, the project management will focus on work plan containing a detailed

set of phases, work packages, activities, and tasks preferably from the standard ERP solution implementation roadmap.

The SI will use the project management tool to record the entire activities of the project including but not limited to:

- i. As-Is phase
- ii. To-Be phase
- iii. Gap-Analysis with proposed solution
- iv. Minutes of the meeting
- v. System documentation
- vi. Issue lists, resolutions
- vii. Training materials
- viii. Testing documents & Sign off
- ix. Management Reporting
- x. Issue management
- xi. Scope management
- xii. Risk management
- xiii. Work plan for ERP Solution Implementation

The resource plan containing the resources assigned to the ERP Solution implementation should display the planned and actual number of workdays per month, as well as the variance between the two.

The SI has to propose an overall work plan to be created for the implementation of the integrated ERP solution at CSL.

A detailed work plan shall be created for each project milestone separately based on a consistent approach for implementing and tracking their progress.

Status reports shall be prepared on a periodic basis to facilitate the timely implementation of the project.

These shall be discussed in weekly status meetings to ascertain the progress of the project.

The implementation shall follow a consistent approach, inclusive of a comprehensive project management approach.

Project status shall be communicated on a weekly basis, based upon the standards suggested by the SI as Project management approach.

## **5.1 Proposed Project Plan**

The Time frame of Implementation is of (12) months with stabilization period of three (3) months. SI is expected to submit their project plans and milestone as per the proposed time frame.

Sr.No	Items	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	1Y	2Y
1	Procurement and supply of ERP Product & other software	■										■						
2	Hardware Procurement			■		■		■										
3	Implementation Services																	
a	Project Preparation	■																
b	Business Blueprint		■	■	■	■	■											
c	System Configuration/ Customization/Development						■	■	■	■	■							
d	Testing & User Acceptance							■	■	■	■	■						
e	Training			■			■					■	■					
f	Data Migration												■	■				
g	Go Live													■	■			
4	Post Go-Live Stabilization														■	■	■	■
5	Warranty for 1 Year																■	■
6	O&M Support for 1 Year																	■

### 5.2 Project Deliverables

The SI shall submit a schedule for the below mentioned milestones and deliverables (but not limited to) that would be delivered during the course of the project plan. The SI shall be bound with the proposed and finalized project plan and timelines for submission of deliverables.

- a. The table gives a set of high-level activities and corresponding deliverables which will be in project scope.
- b. The SI is required to furnish detailed information regarding each deliverables of every step of activities proposed during and after the implementation of the project.

Following are the list of Key milestones and deliverables (but not limited to) for the implementation phase as a part of ERP implementation at CSL.

Milestones	Deliverables
<b>1. Project preparation(M1)</b>	<ul style="list-style-type: none"> <li>● Project Kick-off</li> <li>● Project charter</li> <li>● Project plan</li> <li>● Resource deployment plan</li> </ul>
<b>2. Business Blueprint(M2)</b>	<ul style="list-style-type: none"> <li>● As-Is report</li> <li>● Initial Training on ERP Modules functionality</li> <li>● To-Be report &amp; GAP assessment report</li> <li>● Workshop for To-Be process sign-off</li> <li>● Master Data collection templates</li> </ul>
<b>3. Hardware/Infrastructure Estimation &amp; sizing</b>	<ul style="list-style-type: none"> <li>● Detail BOM with technical specifications and services required (IT infrastructure sizing has to be certified by ERP OEM)</li> <li>● RFP for procurement of Hardware/DC/Network.</li> <li>● Backup strategy document, Storage strategy</li> </ul>

Milestones	Deliverables
	document. <ul style="list-style-type: none"> <li>BCP/DR plan document,</li> <li>Power Planning report</li> </ul>
<b>4. Configuration &amp; Customization</b>	<ul style="list-style-type: none"> <li>Configuration documents for all process and modules.</li> <li>Customization-Design, development and technical documents.</li> <li>Customized Components</li> </ul>
<b>5. Testing</b>	<ul style="list-style-type: none"> <li>Testing Strategy document -Testing Plan, Test data and results.</li> <li>Test Cases</li> <li>OEM Performance /Load testing report</li> <li>System acceptance testing report</li> <li>Baseline testing report</li> <li>Development testing report</li> <li>Integration testing report</li> <li>Issue Log for all testing</li> </ul>
<b>6. Data Migration</b>	<ul style="list-style-type: none"> <li>Data collection templates</li> <li>Data migration strategy report</li> <li>Data migration tools &amp; conversions</li> <li>Control reports before and after migration</li> </ul>
<b>7. Training &amp; Change Management</b>	<ul style="list-style-type: none"> <li>Training Plan with schedules and Content.</li> <li>Training Manuals &amp; Reference materials</li> <li>Completion report for Trainings</li> </ul>
<b>8. Cut-over &amp; Go live</b>	<ul style="list-style-type: none"> <li>Cut-Over strategy and go-live Plan</li> <li>Help Desk Manual</li> <li>Full System documentation</li> </ul>
<b>9. Post Go live support</b>	<ul style="list-style-type: none"> <li>Post Go-live stabilization support</li> <li>Issue Logs</li> <li>Updated user &amp; configuration manuals</li> </ul>
<b>10. Warranty Period</b>	<ul style="list-style-type: none"> <li>Issue Logs</li> <li>Updated full system documentation</li> </ul>
<b>11. Operation &amp; Maintenance support</b>	<ul style="list-style-type: none"> <li>SLA Compliance report</li> <li>Issue logs</li> <li>Updated full system documentation</li> </ul>

### 5.2.1 Deliverables Acceptance Criteria

The acceptance criteria shall be specified for all the project phases proposed by SI. A list of standard deliverables for each phase is listed above. The formal acceptance of the phase wise deliverables by CSL constitutes completion of the phase and approval to initiate the next phase.

## 5.3 Governance Structure and Project team Requirements

### 5.3.1 CSL Project Team

CSL has constituted project governance framework which comprise of three main committees which are: Project Team, Core Committee, and Steering Committee.

Responsibility and members of the committees are as follows:

**Project Team:** Project team comprises of members representing different departments, covering all functional area. Responsibility of the project team includes:

- Day-to-Day monitoring of project within their scope
- Delivery of project as per defined scope
- Allocate resources, resolve issues, if any
- Provide weekly status report to Core committee

**Core Committee:** Core committee comprises of senior level management. Responsibility of the Core committee includes:

- Monitor, review & report progress of project to Steering Committee
- Ensure commitment of adequate resources to project
- Acceptance & Sign-off of deliverables
- Recommend/ approve required budget/ payments for project

**Steering Committee:** Steering Committee comprises of Top management. Responsibility of the Steering Committee members includes:

- Monitor & review project
- Ensure project objectives aligned with business goals
- Provide Strategic guidance & Allocate resources

SI should propose the governance structure which will be interacting with the CSL along with the escalation matrix and time duration of the response by the concerned personnel.

### 5.3.2 Project Management Consultants

CSL has appointed Project Management Consultant (PMC) to monitor the ERP implementation and reserves the right to audit/review at each stage of the implementation process and recommended corrective action. SI shall be responsible to take corrective actions without any extra cost to CSL.

### 5.3.3 SI Project Team

The SI shall propose a team that would be involved in the entire project life cycle, if the project is awarded to them. The minimum expected experience, certifications and other required details are mentioned below.

- a) **Project Manager:** Minimum 12 years of experience, including ERP Project Management experience of minimum 2 Projects and implementation experience in minimum 3 ERP implementation lifecycles which includes at least 1 implementation experience in a heavy engineering industry in India/worldwide.
- b) **Functional Integration Manager:** Minimum 10 years of experience, including ERP Project Implementation experience of minimum 3 Projects which includes at least 1 implementation experience in a heavy engineering industry in India/worldwide. Understands different modules of ERP and effect of change in parameters in one module how the same will affect the system. He/she should be in charge of all the integration issues during implementation.
- c) **Change Management Lead:** Minimum 10 years of professional experience including experience of Conducting change management workshops, developing change management strategy. The person should have led the change management track in at least 2 ERP implementation lifecycles.
- d) **Functional Leads:** Minimum 8 years of professional experience including Functional Lead experience of minimum 2 ERP implementation projects, implementation experience of minimum 3 ERP implementation lifecycles which includes at least 1 India localization experience in the relevant modules. The experience should also include minimum 1 ERP project implementation in heavy engineering industry in India/worldwide.
- e) **Functional Consultants:** Minimum 3 years of professional experience including 2 years of experience in ERP implementation including minimum 2 ERP implementation lifecycles which include at least 1 India localization experience in the relevant modules. The experience should include a minimum of one ERP project implementation in heavy engineering industry in India/worldwide.
- f) **Technical Leads:** Minimum 8 years of experience in the technical domain (2 technical leads – 1 development lead and 1 system administration lead should be identified) including Technical Lead experience of minimum 2 ERP implementation projects, implementation experience of minimum 3 ERP implementation cycle experience. Development Lead should have done relevant development work. System administration lead should have done relevant system administration work.
- g) **Technical Consultants:** Minimum 3 years of professional experience including 2 years of experience in ERP technical domain including minimum 2 ERP implementation lifecycle experience on different modules, implementing interfaces to legacy applications, report customization, system architecting and Database management, etc.
- h) **Industry Subject Matter Expert (SME):** Should have clear knowledge on the in project based heavy engineering industry and CSL line of business which is shipbuilding and repair. ERP implementation experience will be preferred.
- i) **IT Infrastructure Lead:** Should have a clear idea about sizing of server, how to make specification of the data-centre, planning for disaster recovery. He should have experience for at least two instance of developing specification of data centre including LAN, WAN and storage system.

The detailed resumes shall be provided in the format provided in Volume-II for Project manager, Leads and for Industry SME one plus one profile should be proposed. CSL has rights to reject, or change any proposed SI team member based on evaluation during contract finalization.

# ANNEXURE I: FUNCTIONAL REQUIREMENT SPECIFICATION (SEPARATE DOCUMENT)

ANNEXURE II: SCRIPTS FOR  
DEMONSTRATION BY BIDDER (SEPARATE  
DOCUMENT)

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