

A Framework Contract for the procurement of Systems and Services to support the Assembly, Commissioning, Start-Up and Operations phases of ITER.

[Call for Nomination](#)

1. Purpose

ITER Organization intends to place a framework contract for the systems and services to support the Assembly, Commissioning, Start-Up and Operations of the ITER project. The ITER Organization Integrated Logistics Support function is in need of a service and technology partner to provide proven knowledgeable people, processes, and technologies that will successfully support the effective and timely performance of its work.

2. Background

Working to translate today's studies of plasma physics into tomorrow's electricity-producing fusion plants, ITER addresses one of the key challenges that our civilization will have to face over the next decades: how to provide sufficient, clean energy in the context of diminishing fossil resources and increasing demand for energy. "ITER" means "the way" in Latin. The ITER Project will show "the way" to harnessing nuclear fusion as a power source for our future.

ITER will be the world's largest experimental facility to demonstrate the scientific and technical feasibility of fusion power. As the world's largest and considered to be one of the most complex scientific endeavours ever undertaken, the ITER Organization Assembly and Operations Division is responsible for the Assembly, Commissioning, Start-Up and Operations of the one of a kind ITER nuclear plant facility. This facility is comprised of on the order of a million assembled components and tens of millions of individual parts that make up the complex Tokamak Machine, Superconducting Magnets, and associated Plant Support components, systems, and structures many of which have safety classifications. ITER is the first multi-national, multi-billion euro endeavour aiming to break into the future of energy. The ITER project is sited at Cadarache in the South of France. ITER is comprised of seven member parties collaborating to produce a key component of the world's energy future. The European Union will contribute almost half of the costs of its construction, while the other six Members to this joint international venture China, Japan, India, the Republic of Korea, the Russian Federation and the USA, will contribute equally to the rest.

The ITER project is currently in its detail design and early fabrication phases of work. The ITER Organisation Assembly and Operations Division, is now involved in the detailed planning of processes and requirements to support the effective and timely performance of the future phases of the project.

3. Scope of Work Summary

The scope of work for this procurement is to successfully provide mature processes, systems (Commercial-Off-the-Shelf (COTS) software) and services to define, implement, and operate the processes and systems required by the Assembly, Commissioning, Start-Up and Operations phases of work. It is preferred that little, if any customisation of COTS software is performed to meet the requirements of the ITER Organization.

The integrated processes and systems high level functional requirements are to manage the Materials, Assembly, Testing, Technical Documentation and Data, and Operations of the ITER facility. The work will be delivered in a staged approach to support the ITER lifecycle and baseline schedule.

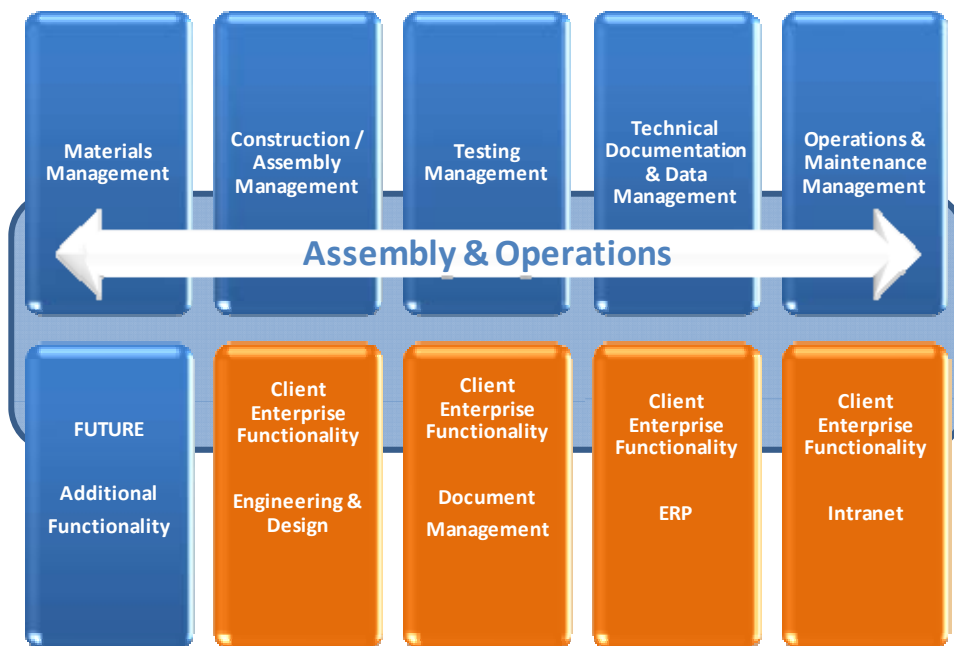


Figure 1 - Assembly and Operations System

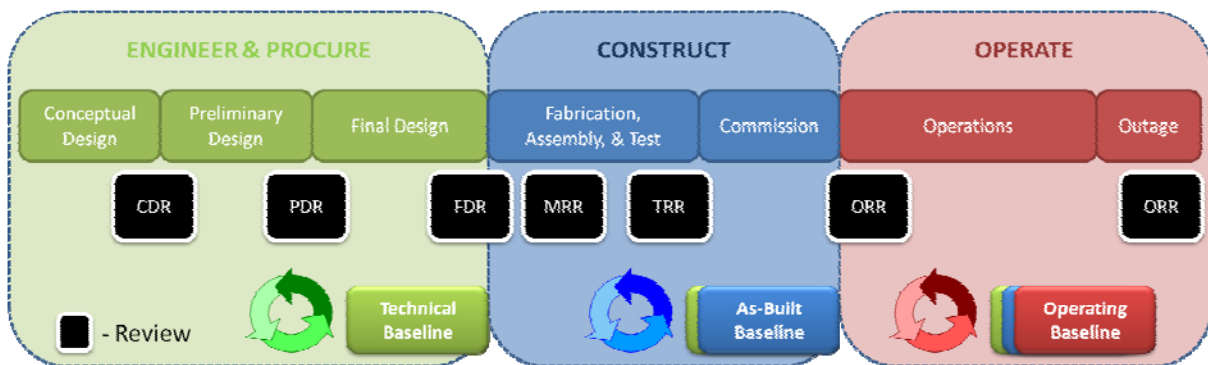


Figure 2 - The ITER Lifecycle

Materials Management – Support the management of the flow of supply & inventory including Site Receiving and Tracking of engineered to order (ETO) equipment, and bulk goods and its documentation on the ITER plant site, Onsite Transportation, Yard Management, and Vendor tracking. The technologies will support the real time location tracking of assets and goods. The real-time organisation of assets and goods along with the flexible documentation (document/records management) required in the execution and validation of Field Installation Work Package requirements.

Construction / Assembly Management – Support the management of the ITER Organization Construction and Assembly, including the planning, sequencing, work control, execution, and validation of Field Installation Work Packages in accordance with project detail requirements and Integrated Safety Management principles. The processes and systems shall also support the management of Field Services including the training, deployment, and documentation of field personnel.

The people, processes, and technologies will have proven Plant Design experience in the integration of 2D (diagrams and requirements), 3D (3D model), 4D (schedule data and assembly visualization and conflict resolution) and 5D (cost, procurement, and vendor) information that assists in the Field Installation Work Package Management processes.

Testing Management – Support the management and documentation of the testing lifecycle. This work will include receipt, setting to work, commissioning and handover of all assets consisting of Structures, Systems, Components, and Parts.

Technical Documentation and Data Management – Support the management of the ITER As-Built Baseline and Operating Baselines (see Figure 2) during Construction and Operations phases of the project including the revision and update of the technical baseline as produced during the ITER design phase. This scope of work includes the management of all Technical Documentation. The processes and technologies shall provide “line of sight” of the asset to the original requirement and in the in-state reporting of defects and non-compliances.

Operations and Maintenance Management – Support the management of Operations including Facility Management, Integrated Safety Management Systems, Warranty Management, and Asset Management. This work also includes support of the Maintenance Management program and Maintenance Working Group.

Operate within the ITER systems enterprise – The systems provided must operate within the ITER systems enterprise consisting of SAP(www.sap.com) , Primavera(www.primavera.com), Enovia V5 CATIA (www.3ds.com) , IXE-XAO SSD (www.ige-xao.com), DOORS (www.ibm.com), ITER document management and the ITER custom .NET applications.

Option

Much of the information required for the success of the base scope of work is delivered by the IO during the Engineering Phase as a part of the Technical Baseline. For this proposal it is assumed that this phase of work is complete and all required Structure, System, Component and Parts data is readily available. However, as an OPTION, it may be required for the contractor of the base scope to provide additional services and technologies to support the acceleration of the completion of the design and publishing of the Technical Baseline. This option may include the contractor’s provision of Capital Project Lifecycle Management

baseline design and modelling features and data acquisition services during the final stages of design.

A decision of this optional scope of work will be made during 2011.

4. Duration of Services

The framework contract is scheduled to come into force in the second quarter of 2011. The contract will last for five years with options to extend annually up to five years.

5. Framework Contract Phases

The framework contract is scheduled to come into force in the second quarter of 2011. The scope of work will be delivered in a staged approach to support the ITER schedule utilising task orders. Each task order delivered will be sub-divided into Inception, Elaboration, Implementation, and Operations phases.

Inception - During the inception phase, the contractor will ensure that project scope boundaries are well defined and documented. In this phase all external and internal entities with which the system will interact are identified. This involves identifying all use cases and describing the most significant ones. The project is planned in detail and includes success criteria, risk assessment, and estimate of the resources needed, and a phase plan showing dates of major milestones.

Elaboration – During the elaboration phase, the contractor will analyse the project scope, analyse the COTS solution and its interoperability with ITER enterprise and eliminate the highest risk elements of the project. Architectural decisions will be made with an understanding of the whole system: its scope, major functionality and non-functional requirements such as performance requirements.

Implementation - During the implementation phase, the contractor will ensure all data elements are defined and acquired, components and application features are developed and integrated into the system, and all features are thoroughly tested and released to operations for training.

Operations Phase - During the operations phase, the contractor will ensure that the rollout of released functionality and processes are integrated into ITER operations. Training of personnel is accomplished. During this phase Key Performance measures are implemented to evaluate the system functional performance and form the basis of future improvements.

6. Procurement time table

A tentative time table is outlined as follows:

Tender submission	March-April 2011
Framework Contract Award Date	End of May 2011
Framework Contract Start Date	June 2011

7. Selection Criteria

ITER is requesting nomination of interested parties who can demonstrate during the Pre-Qualification tender the following criteria.

1. The candidate technologies shall have been implemented previously within the lifecycle of large capital expenditure nuclear plant facilities projects. Selection will be based upon the technologies strength and time within the nuclear plant facility environment.
 - a. The technology shall have been implemented a on a minimum of five (5) nuclear plant facility projects.
 - b. The technology shall have been implemented within the last five (5) years and remain in use today.
2. The candidate technologies must be currently commercially available.
3. The candidate shall have a disciplined approach to process and software update and release within an accredited Quality Assurance program.
4. The candidate's products shall conform to an open and published data standard. The standard is not prescribed but an open data standard shall be a part of the candidates offering. Examples may include but are not limited to data models such as the Electric Power Research Institute CM data model, or International Standards Organisation ISO 15926 –Lifecycle Data for Process Plant.
5. The candidate shall have experience with highly regulated nuclear licensing requirements.
6. The candidate shall have a standard project management methodology.

8. Technical Capacity

ITER is requesting a high level of experienced technical expertise to deliver the scope of work over the duration of the project. During the tender phase the candidate shall identify any major subcontractors and their responsible scope of work they intend using this subcontractor to deliver.

The contractor shall provide the necessary team of personnel to adequately assess, implement, test, and operate the ITER system requirements. The contractor will be responsible for the outcome of each task order.

During the tender phase, the candidates will be required to provide a proposed approach to the work along with a supporting schedule.

During the tender phase, the candidates shall indicate the names and competencies of key team members. The candidate and its personnel shall have suitable experience verified through reference projects. It is expected that the key team members will have extensive nuclear plant experience.

9. Candidature

Participation is open to all legal persons participating either individually or in a grouping (consortium) which is established in an ITER Member State. A legal person cannot participate individually or as a consortium partner in more than one application or tender. A consortium may be a permanent, legally-established grouping or a grouping, which has been constituted informally for a specific tender procedure. All members of a consortium (i.e. the leader and all other members) are jointly and severally liable to the ITER Organization. The consortium cannot be modified later without the approval of the ITER Organization.

Legal entities belonging to the same legal grouping are allowed to participate separately if they are able to demonstrate independent technical and financial capacities. Candidates (individual or consortium) must comply with the selection criteria. IO reserves the right to

disregard duplicated references and may exclude such legal entities from the tender procedure.

10. Additional Information

The majority of work will be done on the ITER work site; however, when appropriate the contractor shall work in its own premises.