

## **Call for Nomination**

### TECHNICAL & TENDER SUMMARY

IO/21/CFT/70000722/EBT

Framework Service Contract

for

## **PLM Engineering Support**

#### **Abstract.**

This technical summary aims to explain the scope of a Framework contract for engineering expertise and support services to the ITER Organization for the implementation of a PLM project covering the period from April 2022 through to April 2025.

## 1 Introduction

This Call for Nomination is the first step of the Procurement Process leading to the award and execution of a Framework Service Contract.

The purpose of this document is to provide a summary description of the technical content in terms of the scope of work, and the tendering process.

The Domestic Agencies are invited to nominate companies, institutions or other entities that are capable of providing works and associated supplies for these services.

## 2 Background

The Configuration Management Division (CMD) of the ITER Organization Central Team (IO-CT) is responsible for the implementation in IO (both CT and DA) of a PLM project, aiming at (a) defining and enforcing standardized systems engineering and configuration management processes, procedures, and (b) unifying corresponding supporting IT systems into a single platform. ITER IO decided to use the platform “3D Experience” (also called ENOVIA v6) from the company Dassault Systems.

For a complete description of the ITER Project, covering both organizational and technical aspects of the Project, visit [www.iter.org](http://www.iter.org).

## 3 Acronym

CFN	Call For Nomination
DMU	Digital Mockup
DPP	Document Production Plan
EDM	Engineering Data Management
EV5	Enovia V5
EWP	Engineering Work Package
FAQ	Frequently Asked Question
HOP	Handover Package
IDM	ITER Document Management
IO	ITER Organization
KoM	Kick-off Meeting
MATRIX	Name given to the PLM tool based on 3D experience
PBS	Plant Breakdown Structure
PLM	Product Lifecycle Management
TO	Task Order
TRO	Technical Responsible Officer

3DX            3D experience: tool delivered by 3DS  
3DS            Dassault Systemes

#### 4 Objective & Scope of Work

The objective of this Call for Tender is to select qualified companies which are able to provide experts in the required fields of work. Selected companies will have strong experience in engineering processes related to implementation, deployment and use of a PLM tool based on the Dassault Systèmes 3D Experience solution, in the context of a complex engineering projects in the R&D nuclear field.

Selected companies will also have to prove their capacity and experience to support the ITER Project on the methodology development and end-user training and support.

Under the proposed Framework Contract the contractor will provide services to the ITER Organization on the Saint Paul lez Durance Site, and at remote locations as required by the Organization, to reinforce capability in the fields for implementing a PLM project. There are seven main areas of work as follows:

- **Support to PLM Functional Specification writing**  
This activity consists in the support to the Work Package Leaders and to the PLM project Manager. It aims at challenging ITER needs but also the technical choice provided by the integrator in the frame of technical specification writing.
- **Support to PLM Load**  
For each PLM managed objects, a load plan is defined to recover all the existing data into the PLM tool and ensure the good continuity of data loading during the baseline lifecycle. In this context, this activity consists in the support to the data loading for the configuration aspect and in particular the support to the PBSs Responsible officers and to the key users to load the technical data as engineering data (component, properties) and documents related into the PLM Matrix Tool.
- **PLM users' support**  
This activity consists in the support to the PLM user's requests and in the coaching of the key users and end users to use PLM tool MATRIX with efficiency. It also covers the maintenance of current User guides and training materials if needed (see next point). The objectives is to follow and ensure the good treatment of all issues requested by PLM users
- **Training and communication activity**  
This activity consists in the preparation of training materials, the organization and execution of all training courses, as well as maintaining the trainee database and providing logistics support for the training. It also covers the communication and coaching activities provided to the PLM users with the objectives to maintain a good

coordination with internal ITER stakeholders. Several training material types such as training presentation, User guides, FAQ and E-learning have to be created and maintained.

- **Testing activity**

This activity consists in the MATRIX testing support aiming to validate the code delivered by the integrator to meet the functional specification given as input. It aims to insure the quality of the MATRIX platform in terms of function, stability and performances.

- **PLM expertise**

This activity consists in advising the IO PLM management team on strategic decisions (choice of new features, technologies, etc...). It also consists in supporting and advising on demand all Work Pack Leaders by verifying the specification, the implementation and the deployment of each main topic of PLM project (Configuration Management, DMU, Eng. Data Management ...).

- **Team and Project Management**

This activity represents the management by the PLM Engineering support company of their team. It consists in the team's staffing and coordination the preparation of reports, plans, and communication. This activity also encompasses strategic support to the IO PLM project manager and ensures the interaction with IO staff to guarantee the good execution of the previous activities and more especially for the PLM Load and users' support

## 5 Procurement Process

The Procurement Process starting with the present Call for Nomination aims at signing one Framework service contract called PLM Engineering Support.

The Procurement Procedure selected is called the Call for Tender procedure.

The Call for Tender procedure is composed of the following steps:

- Stage 1- Call for Nomination (CFN):

The Call for Nomination is the first stage of the Call for Tender process. The IO formally invites the Domestic Agencies to nominate potential candidates that are capable of providing the required supplies, services or works in order to enable the IO to pre-qualify the nominated companies.

- Stage 2 - Pre-Qualification (PQQ):

Following the Call for Nomination, the Pre-Qualification Questionnaire ensures that offers are sought only from qualified Candidates who have the requisite capacity and experience to satisfactorily perform the intended work. The aim of the Pre-Qualification is to establish a list of qualified Candidates (Consortium or single entity) based on the set of selection criteria.

➤ **Stage 3 - Invitation to Tender (ITT):**

Following the Call for Nomination and/or the Pre-Qualification stages, the Invitation to Tender stage is used to obtain proposals from qualified Candidates identified as potential Tenderers.

At Stage 1 (CFN), subject of the present document, nominations are sought from ITER Domestic Agencies for companies, institutions or other entities that are capable of providing works and associated supplies and services.

At Stage 2 (PQQ), the Candidates shall decide whether or not to apply to the tender or to apply either individually or form a consortium with other interested and eligible parties.

At Stage 3 (ITT), the qualified Candidates shall provide a tender proposal in line with the details of the tender requirements and their Pre-qualification applications.

**Procurement Timetable**

The tentative timetable is as follows:

Milestone	Date
Invitation for Call for Nomination	28 <sup>th</sup> July 2021
Invitation for Pre-qualification Applications	13 <sup>th</sup> September 2021
Pre-qualification Applications Submission	04 <sup>th</sup> October 2021
Invitation to Tender (ITT)	29 <sup>th</sup> October 2021
Tender Submission	10 <sup>th</sup> December 2021
Contract Award	February 2022
Contract Signature Date	March 2022
Contract Commencement Date	April 2022

## 6 Quality Assurance Requirements

For the entire duration of the framework contract, Contractors shall hold, and maintain, a valid and relevant ISO 9001 certification or comparable.

The missions and tasks executed under this framework contract shall be carried out in compliance with the ITER CAD Manual, and the IO Quality Requirements.

## 7 Contract Basis and Execution

The PLM Engineering Support of the ITER project will be procured via framework contract. Task Orders will be issued by work area on a deliverable basis.

The ITER Organization will award the framework contract and first batch of Task Orders in April 2022. The initial duration will be for a 1 year period, with an option to extend for a further 2 years.

The implementation plan of the PLM over the potential 3 years timespan precludes the accurate prediction of resource requirements.

ITER may require the contractor to perform the work either on the ITER site, at a close support locations to be established and maintained by the contractors within easy reach of the ITER site, and at remote locations such as the contractor's usual place of business. In the case of off-site CAD work, the contractor will be required to implement connection schemes to be defined, to utilise data sharing mode.

The working language of ITER is English, and a fluent professional level is required (spoken and written).

## 8 Experience

The experts provided by the candidate companies shall have demonstrated capabilities in engineering process related to implementation, deployment and use of a PLM tool based on the Dassault Systèmes 3D Experience solution, in the context of a complex engineering projects in the R&D nuclear field. The specific experience and qualities sought by the ITER IO include Expertise in:

- Data migration and integration to external databases (ENOVIA v5, SmartPlant, primavera, etc.)
- Configuration management in the context of nuclear and first of kind project
- Engineering and configuration management processes and best practices
- Organization of the project with the PLM
- PLM global communication strategy
- PLM training management
- Complex system engineering
- Nuclear plant engineering for similar research project (first of kind)
- Software and CAD methodologies:

- 3D Experience solution, including CATIA V6
- SSD
- AVEVA
- PDMS
- ENOVIA V5
- CATIA V5
- Coexistence/coherence of 2D/3D

## 9 Configuration Management Information System and IT landscape

Current information management system: a distributed system consisting of

- For CAD: ENOVIA V5, CATIA V5, SSD, AVEVA
- For Requirement: Rational Dynamic Object Oriented Requirements System (DOORS)
- For integration 2D/3D and product breakdown management: home-made solution (EBD)
- For part and material catalogues : SPMat, CADENAS, etc.

### Computer Aided Design

- CAD & catalogues: CATIA V5 (Mechanical + E&S modules)
- Plant design: PDMS, AVEVA, CATIA V5
- Assembly & maintenance simulation: DELMIA
- 3D Illustration: 3D-VIA-COMPOSER
- Dedicated process description software (IGE-XAO Visio based, to produce in particular PFD, P&ID...) and associated data-base: See-System-Design (SSD); See-Electrical-Expert and See-Cabling-Manager (or equivalent)
- CAD quality checking: Q-CHECKER
- Isometrics: ISOGEN

### Structural Analysis

- ANSYS Classic
- ANSYS Workbench
- Hyper-mesh

### Other analysis software

For specific analyses / functions, the following software packages have been successfully utilised by ITER, and experience with these packages would be considered an asset. However, experience in the TYPES of analysis listed is a requirement.

- PIPE-STRESS and CAESAR II, for piping analysis
- FLOW-MASTER, for hydraulic analysis
- 3DCS, for 3-d tolerance analysis
- OPTICS, for diagnostics optical analysis

### Construction

- Intergraph [SmartPlant® Materials](#) SPMat
- Intergraph Smartplant For Operator

## **10 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 of the same contract. 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 grouping shall be presented at the Pre-Qualification stage. The Candidate's composition cannot be modified without the approval of the ITER Organization after the Pre-Qualification.

In order for a consortium to be acceptable, the individual legal persons included therein shall have nominated a leader with authority to bind each member of the consortium, and this leader shall be authorised to incur liabilities and receive instructions for and on behalf of each member of the consortium. Evidence of such authorisation shall be submitted with the Pre-qualification Application and the Tender in the form of power of attorney signed by legally authorised signatories of all the members.

## **11 Sub-contracting Rules**

All sub-contractors who will be taken on by the Contractor shall be declared with the tender submission. Each sub-contractor will be required to complete and sign forms including technical and administrative information which shall be submitted to the IO by the tenderer as part of its tender.

The IO reserves the right to approve any sub-contractor which was not notified in the tender and request a copy of the sub-contracting agreement between the tenderer and its sub-contractor(s). For each Contract, sub-contracting is allowed but it is limited to one level, and its cumulated volume is limited to 30% of the total Contract value. Two levels of sub-contracting may be considered for very specific activities which will be mentioned by the IO in the Pre-qualification documentation.

At Pre-qualification stage, the capacity of sub-contractors will not be considered for assessment.

## **12 Nuclear Liability**

The ITER Organization is the nuclear operator of the ITER nuclear fusion facility (INB 174) under French nuclear law. However, unlike other nuclear operators of nuclear fission installations in France, nuclear fusion installations are not covered by the Paris Convention on nuclear third party liability for the time being. Pending negotiations with the Contracting parties to the Paris Convention, the special nuclear liability regime (i.e. limited strict liability of the nuclear operator) implemented by the Paris Convention does not apply.



Therefore, the ITER Council, by a decision of 2009 endorsed that until a solution is found, the ITER Organization may assume this responsibility by providing a declaration and waiver of indemnity regarding nuclear liability to indemnify suppliers of the IO and their subcontractors in case they are held liable, based on the principles of the Paris convention, this in the understanding that if no regulatory solutions could be found before nuclear operations of the ITER facility started, a proper mechanism would be established by the ITER Members in accordance with Article 15 of the ITER Agreement.

This declaration and waiver of indemnity regarding nuclear liability will be included in the Contracts signed by the Contractors and the IO.