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**Technical Specifications (In-Cash Procurement)**

**TECS\_2023-10\_CFT - Applications & Engineering  
database development global support**

TECS\_2023-10\_Applications & Engineering database development global support

## SERVICE

**Table of Contents**

<b>1</b>	<b>PREAMBLE</b> .....	<b>3</b>
<b>2</b>	<b>PURPOSE</b> .....	<b>3</b>
<b>3</b>	<b>ACRONYMS &amp; DEFINITIONS</b> .....	<b>3</b>
3.1	Acronyms .....	3
3.2	Definitions .....	3
<b>4</b>	<b>APPLICABLE DOCUMENTS &amp; CODES AND STANDARDS</b> .....	<b>4</b>
4.1	Applicable Documents .....	4
4.2	Applicable Codes and Standards .....	4
<b>5</b>	<b>SCOPE OF WORK</b> .....	<b>4</b>
5.1	Scope of work.....	4
5.1.1	Description .....	5
5.1.2	Service Duration .....	6
5.2	Technical Environment .....	7
5.2.1	Generic Environment .....	7
5.2.2	Operating and office systems.....	7
5.2.3	Programming Languages .....	7
5.2.4	ICP Framework:.....	8
5.3	Contractor’s Execution Team.....	8
5.3.1	Summary of Contractor’s Execution Team .....	8
5.3.2	Profiles description .....	9
<b>6</b>	<b>LOCATION FOR SCOPE OF WORK EXECUTION</b> .....	<b>10</b>
<b>7</b>	<b>IO DOCUMENTS</b> .....	<b>10</b>
<b>8</b>	<b>LIST OF DELIVERABLES AND DUE DATES</b> .....	<b>10</b>
<b>9</b>	<b>QUALITY ASSURANCE REQUIREMENTS</b> .....	<b>11</b>
<b>10</b>	<b>SAFETY REQUIREMENTS</b> .....	<b>11</b>
10.1	Nuclear class Safety.....	11
10.2	Seismic class.....	11
<b>11</b>	<b>SPECIFIC GENERAL MANAGEMENT REQUIREMENTS</b> .....	<b>11</b>
11.1	Working hours and time .....	11
11.2	Work Monitoring .....	11
11.3	Meeting Schedule .....	12
11.4	CAD design requirements .....	12
11.5	Team Attrition .....	12

**SERVICE**

11.6 Specific requirements and conditions .....12

**12 APPENDICES .....14**

## SERVICE

### 1 Preamble

This Technical Specification is to be read in combination with the General Management Specification for Service and Supply (GM3S) – [Ref 1] that constitutes a full part of the technical requirements.

In case of conflict, the content of the Technical Specification supersedes the content of Ref [1].

### 2 Purpose

These technical specifications address the set-up of a framework contract. The IO DAM (ITER Organization Data Management Section) desires to acquire services in the field of Applications Development.

### 3 Acronyms & Definitions

#### 3.1 Acronyms

The following acronyms are the main one relevant to this document.

Abbreviation	Description
CRO	Contract Responsible Officer
GM3S	General Management Specification for Service and Supply
IO	ITER Organization
DAM	Data Management Section
PRO	Procurement Responsible Officer
ICP	Iter Collaborative Platform
API	Application Programming Interface
SW	Software
IT	Information Technology
QA	Quality Assurance
WCF	Windows Communication Foundation
SLA	Service Level Agreement: to be defined at the start of each Task Order or work package, or activity.
RDS	Remote Desktop Services
KPI	Key Performance Indicator

For a complete list of ITER abbreviations see: [ITER Abbreviations \(ITER\\_D\\_2MU6W5\)](#).

#### 3.2 Definitions

**Contractor:** shall mean an economic operator who has signed the Contract in which this document is referenced.

## SERVICE

### 4 Applicable Documents & Codes and standards

#### 4.1 Applicable Documents

This is the responsibility of the Contractor to identify and request for any documents that would not have been transmitted by IO, including the below list of reference documents.

This Technical Specification takes precedence over the referenced documents. In case of conflicting information, this is the responsibility of the contractor to seek clarification from IO.

Upon notification of any revision of the applicable document transmitted officially to the contractor, the contractor shall advise within 4 weeks of any impact on the execution of the contract. Without any response after this period, no impact will be considered.

Ref	Title	IDM Doc ID	Version
1	General Management Specification for Service and Supply (GM3S)	82MXQK	1.4

#### 4.2 Applicable Codes and Standards

This is the responsibility of the contractor to procure the relevant Codes and Standards applicable to that scope of work.

### 5 Scope of Work

This section defines the specific scope of work for the service, in addition to the contract execution requirement as defined in Ref [1].

#### 5.1 Scope of work

The scope of the services that the contractor will be requested to provide, covers in-house Software design, development, testing and deployment. These services apply to various in house developed applications and to the Engineering Database. Engineering DB is the central location for all the project related data such as, but not limited to, Component Management, Manufacturing Database, Non Conformity Requests, System Management of Diagrams and Drawings, Analysis Model Database, etc... Below a list of areas and activities of work for the service:

- Custom web-based database driven solutions,
- Collaborative content management solutions,
- Business process management solutions,
- Event based service-oriented integrations,
- Software applications design
- Software development
- Testing and quality assurance
- Second level user support
- Building and release process

## SERVICE

- Mobile applications
- System maintenance
- Data management
- Data integration
- Configuration management
- Change management
- Writing technical documentation
- Writing user documentation
- Agile Scrum Management
- Data modelling
- Process modelling
- User interface design

### 5.1.1 Description

The service aims at Delivering the maintenance, Support and Evolution of ITER Organization in House software solutions. It can be described in sub services of

- Support
- Development
- Tech Leading
- Testing
- Planning, Project Management and Scrum

Below, find more details for each type of Service.

#### **Support:**

Monitor the Queue Service and Incident tickets. Resolve issues following IT processes and SLA. Contact with End Users and IO CRO on daily basis.

Monitor system Status and Event logs in Splunk / Mails / Dashboards. Create dashboard and raise alert in case of issues. Collaboration with IT Operation

Create and run scripts on Production and Pre-production Databases as post deployment activities.

Patches Development and deployment for production environments

Configure and adapt existing applications for users

Approx.: 25/30 tickets per week.

#### **Development:**

Create new database driven web applications, add asp.net controls and pages to an existing asp.net application.

Add modules to an existing asp.net application, Expand or change existing modules, Create or change WCF services, create or extend rest APIs, consume APIs to create/update data and contents.

Integrate third party libraries (PDF, Active Directory...).

Develop or update mobile applications (Flutter technology).

Develop or maintain .net core backend Services.

## SERVICE

The estimated distribution of technologies is:

- 80% VB.net
- 5% Flutter
- 5% .net Core
- 10% Angular

### Tech Leading:

Define data structure of applications.

Define Application Modules and their interfaces.

Design SW layers and dependencies.

Discuss with users or Business Analyst to get requirements.

Write User Stories.

Participate to Tech Lead reviews.

Estimate Stories.

Responsible for overall Project/Epic delivery for the involved team of Developers and QA.

Develop and fix urgent/complex and escalated topics.

### Testing:

Create and execute test plans to validate changes and change impacts.

Run non-regression tests; deliver sign off report before deployment.

Follow defect resolutions.

Create and monitor daily status of automated tests in Selenium.

Audit test tool usage and send weekly report of QA activities to major stakeholders.

### Planning, Project Management and Scrum:

Review Epic/Project statuses of the team.

Follow up on next actions and planning.

Prepare and lead meetings.

Create and Manage Sprint. Follow Sprint executions and KPI.

Prepare Release notes and follow Production deployment completion.

Create Change Advisory Board tickets before each deployment.

### Common:

- Writing project/product documentation.
- Preparing presentations.
- Logging time worked.
- Number of applications: about 60 Live applications.

### 5.1.2 Service Duration

The framework contract will be set up for 5 years (3 firm years + 2 optional years) with task(s)

## SERVICE

order(s) to be established according to the needs identified by IO.

### 5.2 Technical Environment

The current configuration of the server and of the development environment on which the Contractor will have to work is:

#### 5.2.1 *Generic Environment*

- Visual Studio 2017,
- ASP.NET,
- .NET,
- AngularJS,
- Angular,
- .net core,
- Git,
- Bitbucket, Bamboo,
- Messaging,
- Bootstrap,
- MS SQL Server 2017,
- IIS,
- WordPress,
- Atlassian tools: JIRA and Confluence,
- Splunk,
- MS office application: Visio, Excel and Word,
- IE, Firefox and Chrome,
- Flutter.

#### 5.2.2 *Operating and office systems*

- Windows 7/Windows 10,
- Windows Server 2012 R2,
- RDS,
- Microsoft Active Directory,
- Microsoft Teams,
- Microsoft Office 2016.

#### 5.2.3 *Programming Languages*

**by order of importance**

- VB.NET,
- T-SQL,
- HTML,
- JavaScript,
- REST,
- CSS,
- C#,
- PL/SQL,



**SERVICE**

- RabbitMq
- Java, and
- Python
- Flutter
- SOLR
- PowerAPP

*5.2.4 ICP Framework:*

ICP is a in house developed framework used as our standard Content Management System : Generic feature allowing to create content, workflow and roles. It is folders and content security based. It allows complex workflow linked to various other systems and tools (Active Directory, messaging, RestApi, databases, etc.)

It is based on standard development technologies like:

- Visual Studio 2017,
- ASP.NET,
- .NET,
- AngularJS,
- Angular,
- RabbitMQ
- REST
- MS SQL
- Mongo DB

**5.3 Contractor’s Execution Team**

The Contractor shall appoint a Contractor representative who shall lead, manage and supervise the team in accordance with Section 4.2.1 of Ref [1]. The IO shall not supervise the Contractor’s team members.

Although the scope of the contract is the provision of the above mentioned services, it is a common understanding that these services can ONLY be delivered having a Contractor’s execution team composed of the profiles or professionalisms as mentioned below.

*5.3.1 Summary of Contractor’s Execution Team*

<b>Profile</b>	New	Junior	Intermediate	Senior
GEN-DEV		X	X	X
GEN-QA		X	X	X
GEN-PM-SM			X	X
GEN-SUPPORT	X	X	X	X
ICP-DEV	X	X	X	X
ICP-SUPPORT	X	X	X	X

**SERVICE**

TECHLEAD				X
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### 5.3.2 Profiles description

The technical domain mentioned below are described in section 5

- **TECHLEAD:** Technical Leader with at least 10 years of experience in a required technical domain, having proven relevant experience to lead an Agile team, design solutions, write user stories, plan in team's sprint, develop and deliver solutions, document and deploy solutions (this profile is at senior level).
- **GEN-DEV:** Develop, test, deliver, debug and implement changes on various technologies and platforms with the following experiences
  - Senior – at least 10 years of experience in a required technical domain.
  - Intermediate – at least 5 years of experience in a required technical domain.
  - Junior – at least 2 years of experience in a required technical domain.
- **GEN-QA:** Is responsible for testing software, to find and report defects, ensuring it works correctly and meets requirements. Create and execute test plans, document issues, automate tests when possible, and collaborate with the development team to improve software quality ; with the following experiences
  - Senior – at least 10 years of experience in a required technical domain.
  - Intermediate – at least 5 years of experience in a required technical domain.
  - Junior – at least 2 years of experience in a required technical domain.
- **GEN-PM-SM:** Has relevant experience to oversee entire project, including planning, execution, and delivery and combine Scrum knowledge and experience ; with the following experiences:
  - Senior: at least 7 years of experience in a required technical domain.
  - Intermediate: –at least 5 years of experience in a required technical domain.
- **GEN-SUPPORT:** User service request and incident management with relevant experience in database analysis, pre-production and production monitoring, scripting, tools administration and debug. Conduct first investigations on bugs and defects in relation to end users; with the following experiences:
  - Senior – at least 10 years of experience in a required technical domain.
  - Intermediate – at least 5 years of experience in a required technical domain.
  - Junior – at least 2 years of experience in a required technical domain.
  - New – less than 2 years of experience in a required technical domain.
- **ICP-DEV:** Same skills as GEN-DEV on ICP Framework or similar applications development ; with the following experiences:
  - ICPDEV-Senior : more than 3 years of Development on ICP Framework or similar
  - ICPDEV-Intermediate: Between 1.5 to 3 years Development on ICP Framework or similar
  - ICPDEV-Junior: Between 6 months to 1.5 years of Development on ICP Framework or similar

## SERVICE

- ICPDEV-New: Between 0 to 6 months of Development on ICP Framework or similar
- ICP-SUPPORT: Same skills as GEN-SUPPORT on ICP Framework or similar applications support ; with the following experiences:
  - ICPSUPPORT-Senior : more than 3 years of Support on ICP Framework or similar
  - ICPSUPPORT -Intermediate: Between 1.5 to 3 years Support on ICP Framework or similar
  - ICPSUPPORT -Junior: Between 6 months to 1.5 years of Support on ICP Framework or similar
  - ICPSUPPORT-New: Between 0 to 6 months of Development on ICP Framework or similar

## 6 Location for Scope of Work Execution

Upon IO's request, the Contractor shall provide the services on the IO premises in *Saint Paul lez Durances - France* by the Contractor's execution team composed of a minimum of:

- 1 Developers (ICP-DEV)
- 1 Team coordinator (GEN-PM-SM)
- 1 Support Responsible (ICP-SUPPORT)
- 1 Technical leader (TECHLEAD)

The rest of the work can be performed at the contractor's own location according to the *Specific General Management requirements* below.

The off-site team could be composed of:

- 7 Developers (GEN-DEV)
- 12 Developers (ICP-DEV or GEN-DEV)
- 3 Testers (GEN-QA)
- 3 User support (ICP-SUPPORT or GEN-SUPPORT)
- 1 Technical leader (TECHLEAD)

## 7 IO Documents

No input is expected from IO

## 8 List of deliverables and due dates

The contractor shall propose an on-site / off-site team to perform the tasks described in each Task Order following the Chapter 6 conditions.

IO provides in-house developed tools to record descriptions of work completed, to log time spent and to record absence. These tools are mandatory to use as they provide a basis for accounting and invoicing.

## SERVICE

- Descriptions of work completed: Jira Worklogs.
- Logging of time spent: Jira Worklogs
- Records of absence: Jira Worklogs

Monthly activity reports contain qualitative and quantitative detailed information about the issues the contractor has been confronted to, about the solution proposed and implemented, the innovations introduced in the processes and the ideas to further improve the service. These reports shall be agreed and accepted from IO TRO to release the corresponding payment.

The above in-house developed tools might evolve during the execution of the contract.

## 9 Quality Assurance requirements

The Quality class under this contract is not relevant.

## 10 Safety requirements

The scope under this contract is not related to PIC and/or PIA and/or PE/NPE components.

### 10.1 Nuclear class Safety

Not applicable to this contract.

### 10.2 Seismic class

No specific safety requirement related to PIC and/or PIA and/or PE/NPE components apply.

## 11 Specific General Management requirements

Requirement for [Ref 1] GM3S section 6 applies completed/amended with the below specific requirements:

### 11.1 Working hours and time

Support service work time has to be aligned to French time (GMT+2)

Other activities can be performed in other time zone, according that a minimum of 6 hours of overlapping with French worktime 9h00 – 17h00 are ensured.

The normal working hours in the ITER Organization are 40 hours/week; 5 days per week Monday to Friday; 225 days / year.

The ITER organization is closed during one week around the 25 of December. Outside of this week of closure, the Contractor shall ensure the service continuity and, the IO shall always be provided with the services by minimum 50% of the Contractor's Execution Team defined in each Task Order (unless specific cases agreed previously by both parties).

### 11.2 Work Monitoring

The work performance and quality is monitored and reviewed weekly with TRO. Below an example of rules monitored for all the services:

- The respect of the SLA for the Support activities are monitored every weeks (10 hours for incident resolution, 30 hours for service requests)

## SERVICE

- Developed code review must not be rejected twice (monitored through Crucible code review tool)
- Code delivered must respect the Coding Rules and coding processes
- Production deployment targets 0 regressions on 70% of the deployments (yearly)
- QA Sign off must be delivered at least 1 day before deployment
- Regressions or Blocker tickets (deployment showstopper) must be resolved in less than 2 working days by Tech Leads
- No missing or partially completed release note 1 week after the released date.

### 11.3 Meeting Schedule

Weekly performance and Service review will be done with IO CRO and Contractor representative in addition to a monthly Governance board to follow the chapter 11.2 KPIs.

### 11.4 CAD design requirements

This contract does not imply CAD activities

### 11.5 Team Attrition

In case of turnover of personnel, if not requested by IO, the Contractor shall ensure **2 months of training** of the new joiner. The knowledge transfer overlap period with the departing resource **must be of at least 1 month with a knowledge transfer plan prepared and agreed with IO CRO.**

### 11.6 Specific requirements and conditions

At any time of a task order lifecycle, in case of request by the IO, the contractor shall be able to provide the current number of the days worked by its team. Moreover, the contractor shall ensure the service continuity all along the task order validity.

IO will monitor the quantity and quality of the services provided by the contractor.

IO request **Daily** work logging using WORKLOG tool respecting the time logging process and tickets assignments.

The contractor is required to work in close collaboration with all current and future IO Subcontractors.

For the execution of the services the contractor must deploy in a reasonable time the Contractor's Execution Team as proposed in the technical offer and agreed by IO (in terms of number of people and profiles).

The spoken and written language of all communications between the contractor and the IO will be English. As a rule, all documentation deliverables, reports, drafts and other documents the contractor is expected to deliver must be written in English. Meetings will also be conducted in English.

Any travel, subsistence allowance, and other expenses shall be borne by the contractor.

Specific missions requested by IO will be agreed on a case by case basis.

## SERVICE

In case of off-shore team, their work environment shall be in accordance with the complexity of the task in general, and offer especially:

- A strong internet connection at least 15Mb/s download and 2.5 Mb/s upload with Marseille server (test can be performed by <http://www.speedtest.net/>).
- Workstation station with **double screen** of at least 22 inches diagonal and processor at least i7 or equivalent (4 core, 3GHz) and memory at least 16GB, 64bit OS, **webcam and headset**.
- Accessibility to meeting room equipped with white board and projector for at least 10 persons.

In case of Teleworking practices, the Service provider must ensure the respect of the above conditions in all the work locations.

## 12 Appendices