

## STATEMENT OF WORK

### **New Web Collaboration Portal of the Ibero-American Forum of Radiation and Nuclear Safety Regulatory Agencies**

#### **1. Background**

The Ibero-American Forum of Radiation and Nuclear Safety Regulatory Agencies (FORO) (hereinafter referred to as the “End-User”) was established in 1997 to promote a high level of radiation and nuclear safety, and nuclear security in all practices using radioactive materials in the countries of the Ibero-American region. The association’s official working language is Spanish.

To support and promote knowledge sharing, FORO maintains a web collaboration portal known as RED, which enables collaboration among its members, regulatory body staff and experts, and communication with the public.

This Statement of Work (SOW) describes the requirements for the development of FORO’s new portal (hereinafter referred to as the “Portal” or the “Work”).

The Executive Technical Committee (CTE) of FORO tasked the Management Committee for the Web Collaboration Portal with preparing a project to improve and update the current portal, its structuring, usability and accessibility to information, and incorporate new services for internal and external users.

1.1 Guidelines for the implementation of this project were:

- a) Ensure the continued operation of the current portal during the transition;
- b) Develop the Portal seeking its sustainability (comprehensive solution, open-access tools, future outlook, autonomy of the Portal administrators to make future improvements, etc.);
- c) Develop an easy access and secure Portal with a user-centred design;
- d) Incorporate a more agile and friendly search engine;
- e) Simplify the classification and management of resources, especially the End-User’s document collection;
- f) Avoid duplicate and redundant content, guaranteeing the consistency of resources and documents;
- g) Ensure a complete and consistent migration of resources and documents;
- h) Design a more visually striking and attractive Portal that adapts to all types of devices;
- i) Friendly and intuitive system of integrated tools (content manager, tools in the collaborative areas, search engine, document manager in the document collection, etc.);
- j) Develop, improve and encourage the use of communication tools (discussion forums, etc.) that allow greater collaboration among experts;
- k) Ensure integrate new tools for the management of projects and activities of the End-User;

New Web Collaboration Portal of the Ibero-American Forum of Radiation and Nuclear Safety Regulatory Agencies		IAEA Statement of Work Dated 10 October 2020
---	--	---

- l) Promote the dissemination of information of the Portal through the integration of functionalities linked to social media;

## 1.2 Scope

The whole scope of activities under this SOW, shall include but not limited to the following:

- (a) analysis, identification of requirements, design, modelling, computer system plans, implementation, data migration, testing, commissioning, maintenance and training of managers and internal users. All these activities shall apply to the below functional and non-functional requirements.
- (b) The Contractor shall implement the Work in either two ways: development of a new Portal; or update and modernization of the current Portal.
- (c) The current portal is hosted in the Content Management System Liferay 6.1. However, the new tool shall update or improve the current content management platform. The technical specifications allow for the proposal of another content manager system for the new website development that complies with the technical specifications of this SOW. It is a fundamental requirement to properly justify the alternative proposal with a comparative study of the technological (functional and non-functional) and economic benefits.
- (d) The new Portal shall be based on new technological standards and guarantee, sustainability, scalability, security, reliability, usability and accessibility to existing and future information, in short, meet the requirements and needs of interested parties (internal and external users) of the Portal.

## 2. Applicable Documents

The following documents shall be applicable for the work to the extent specified hereinafter:

- a) Web Content Accessibility Guidelines (WCAG);
- b) Usability standards (ISO 13407).

In the event of conflict between the documents listed above and the content of this SOW, the content of this SOW shall take precedence to the extent of the conflict.

## 3. Definitions, Acronyms, and Abbreviations

The following definitions, acronyms, and abbreviations shall apply throughout this SOW unless defined otherwise hereinafter:

- a) Executive Technical Committee (CTE);
- b) Content Management Interoperability Services (CMIS);
- c) Enterprise content management (ECM);
- d) Web Content Accessibility Guidelines (WCAG);
- e) Ibero-American Forum of Radiological and Nuclear Regulatory Agencies (FORO);
- f) Commissao Nacional de Enegia Nuclear (CNEN);

- g) Internal Users: participants in projects and activities of FORO and participants in the structure of FORO;
- h) External Users: participants without access to the private area of the Network;
- i) Site administrator: currently the manager of the Network, computer experts of the FORO Management Commission;
- j) Content Manager: currently FORO Secretariat;
- k) Server manager: currently the CNEN IT expert, Brazil;
- l) Document manager: publishers and classifiers of documents for the document collection;
- m) Collaborative area manager: usually the project manager, the head of the CTE for the thematic areas or the coordinator of the activity for the activities.

#### 4. Requirements

The Contractor shall carry out the activities listed below and provide the deliverables specified.

The Contractor shall explain its ability to fulfil each of the functional and non-functional requirements below, and in case of proposing any alternative, the proposal shall be justified.

##### 4.1. FUNCTIONAL REQUIREMENTS

Item	Description	Status <sup>1</sup>
	<b>FORO Website</b>	
1.1	<ul style="list-style-type: none"> <li>• Responsive web design: visualization and adaptability to different mobile devices.</li> </ul>	<b>N</b>
1.2	<ul style="list-style-type: none"> <li>• Graphic redesign of the website: It shall allow modifications and have tools for that purpose.</li> </ul>	<b>U, I</b>
1.3	<ul style="list-style-type: none"> <li>• Statistics support: Integration into the website of a new tool that allows site managers to obtain statistical data about the access and use of the Network. The tool shall differentiate access to all website areas, both public and private areas.</li> </ul>	<b>N</b>
1.4	<ul style="list-style-type: none"> <li>• Sub-portals for collaborative areas.</li> </ul>	<b>U</b>

<sup>1</sup> Status indicates the work needed to be performed based on availability and functionality of the current tool. N=New; U=Update; I=Improvement.

Item	Description	Status <sup>1</sup>
1.5	<ul style="list-style-type: none"> <li>Multi-language support: The End-User generates content in the languages of the association (Spanish, Portuguese and English). The user shall be able to select the language. The website should allow online translation easily.</li> </ul>	U
1.6	<ul style="list-style-type: none"> <li>Online help (tooltips, context help) friendly and intuitive.</li> </ul>	U, I
1.7	<ul style="list-style-type: none"> <li>It is preferred to have a video conferencing and streaming service integrated into the tool. Information on the implications of such integration in terms of the necessary resources for its development and for the operation of the Network shall be assessed.</li> </ul>	N
<b>Content Management Service</b>		
1.8	<ul style="list-style-type: none"> <li>The content editing tool shall allow the automatic detection of HTML tags, the identification of syntax errors and autocomplete the code.</li> </ul>	I
1.9	<ul style="list-style-type: none"> <li>Web content shall be HTML5 compatible.</li> </ul>	U
1.10	<ul style="list-style-type: none"> <li>The content editor shall have features for the versioning of publications and the system shall allow to undo the changes.</li> </ul>	N
1.11	<ul style="list-style-type: none"> <li>Support for multimedia content in different formats: images, videos, mp4, mp3, etc.</li> </ul>	I
1.12	<ul style="list-style-type: none"> <li>HTML code editing with webs page preview.</li> </ul>	I
1.13	<ul style="list-style-type: none"> <li>Comprehensive Sub-portals Management: creating new or from existing ones. Required technical specifications: secure, easy to use, flexibility to edit, publish and extend.</li> </ul>	I

Item	Description	Status <sup>1</sup>
1.14	<ul style="list-style-type: none"> <li>• Templates for webpages (layouts) available to the web editor.</li> </ul>	I
1.15	<ul style="list-style-type: none"> <li>• The tool shall allow the following functionalities for the creation, editing and publication of structured portlets, to ensure consistency in the content appearance and management:               <ul style="list-style-type: none"> <li>- Availability of a wide library with various types of portlets (e.g. with or without images, lists, news type, horizontal and vertical carousels and sliders, etc.) that cannot be modified.</li> <li>- It shall be possible to create new types of portlets from the available portlets without modifying existing ones. These new types shall be added to the library.</li> <li>- Fast and intuitive content editing and publication. Drag and drop and preview functionalities would be preferred.</li> <li>- Option for content versioning and undo changes.</li> </ul> </li> </ul>	I
<b>Public Area Services</b>		
1.16	<ul style="list-style-type: none"> <li>• The public area of the website shall be organized based on portlets, all of which shall be managed in a structured way. The new version shall maintain the existing portlets (news, publications etc.) and portlets types (text boxes, with photographs, lists, etc.). The new version shall allow the fast management of the public area based on the availability of a portlet library, flexibility and adaptability for the publication and arrangement of the portlets on the screen.</li> </ul>	U, I

Item	Description	Status <sup>1</sup>
1.17	<ul style="list-style-type: none"> <li>The administrator shall be able to provide specific permissions for the publication of news and other public sections to specific private users.</li> </ul>	<b>N</b>
1.18	<ul style="list-style-type: none"> <li>Business Rules that allow to publish and replicate generated content and documents in various sections of the web (e.g. news and milestones, combining new agenda items).</li> </ul>	<b>N</b>
1.19	<ul style="list-style-type: none"> <li>Enable links so that users of the End-User website can access contents of the public area (news, agendas, milestones, documents from the collection) from their social networks (Twitter, LinkedIn, Facebook).</li> </ul>	<b>N</b>
1.20	<ul style="list-style-type: none"> <li>Activate a site subscription system.</li> </ul>	<b>N</b>
<b>Collaborative Area Services</b>		
1.21	<ul style="list-style-type: none"> <li>The collaborative areas shall be organized based on portlets, all of which shall be managed in a structured way, as well as the contents of the public area (portlet library, flexibility and adaptability for the publication by the administrator).</li> <li>The collaborative areas shall contain at least the following sections available to private users that are members of the collaborative area:</li> </ul>	<b>U, I</b>

Item	Description	Status <sup>1</sup>
1.22	<ul style="list-style-type: none"> <li>- Documents: Fast and intuitive document management in the collaborative area (e.g. drag and drop). Validation, versioning, approval, changes, deletion and sharing of documents in collaborative areas (workflow).</li> <li>- List of members of the collaborative area.</li> <li>- Directories of the End-User participants/users/contacts.</li> <li>- Calendar, with the possibility of including useful information for project management (milestones, deliverables, meeting dates, shared events, etc.) and for the selection of meeting dates. System of email reminders and notices of proximity to an appointment for members.</li> <li>- Communication tools (discussion forums, chat, broadcast messages to users and user groups).</li> </ul>	<b>I, N</b>
1.23	<ul style="list-style-type: none"> <li>• Registration of user activities and view of online members.</li> </ul>	<b>U</b>
1.24	<ul style="list-style-type: none"> <li>• Access to collaborative areas is exclusive for private users (with login information). The system shall automatically allow user registration and password management.</li> </ul>	<b>N</b>
1.25	<ul style="list-style-type: none"> <li>• The administrator shall be able to manage the list of private users (registration and cancellation, update, export), and give permission for users to participate and manage the collaborative areas.</li> </ul>	<b>I</b>

Item	Description	Status <sup>1</sup>
1.26	<ul style="list-style-type: none"> <li>Specific users of the private area of the Portal shall have an internal tool for project design, management, monitoring and evaluation, i.e. a workspace dedicated to uploading project management data. The upload fields shall be predetermined and allow the analysis of the progress information of the project from the technical and financial point of view. Some of the fields shall be used for the presentation of aggregated data through a dashboard (with maps, graphics, announcements), whose contents shall be customizable by the user. Lists and communication tools shall be included for the control and monitoring of project activities and the distribution of useful information for its management.</li> </ul>	<b>N</b>
1.27	<ul style="list-style-type: none"> <li>Possibility of syndication and subscribing to news from the content of the collaborative areas.</li> </ul>	<b>U, I</b>
<b>Document Collection</b>		

Item	Description	Status <sup>1</sup>
1.28	<p>Resource management of the document collection:</p> <ul style="list-style-type: none"> <li>• Document management by classifiers that allows a fast and intuitive resource management (e.g. single or multiple file upload and download, compressed for downloading, pre-selection of classification fields). Fast and intuitive document management (e.g. drag and drop).</li> <li>• Possibility of assigning taxonomies and metadata to specific resources, without it being mandatory.</li> <li>• Roles and permissions for classifiers in charge of the system administrator.</li> <li>• Automatic record of document versioning by creator, modifier, dates and revisions.</li> <li>• Indexing of documents hosted on the server by content, metadata and criteria, to reduce the use of resources during the search.</li> <li>• Possibility of extracting reports from search results, lists of hosted resources (by country/by document type), availability of statistical indicators of searches in the document collection by internal users/classifiers/system administrator.</li> </ul>	U, I

Item	Description	Status <sup>1</sup>
1.29	<p>User experience of the document collection:</p> <ul style="list-style-type: none"> <li>• Availability of a simple and fast search engine for the document collection.</li> <li>• Standard and compound searches (Boolean equations) of resources.</li> <li>• For advanced users, possibility of searching documents by metadata or taxonomy (originated from the resources to be migrated from the previous version).</li> <li>• Display of the search results by criteria of importance/most recent/access or download count. Possibility of export and print.</li> <li>• Preview documents hosted on the server with the most common formats: Microsoft Office, PDF, HTML, OpenOffice, etc.</li> </ul>	<b>U, I</b>
1.30	<p>Migration of the resources of the document collection to the new version:</p> <ul style="list-style-type: none"> <li>• In the migration, the integrity, compatibility and consistency of the resources hosted in the document collection shall be maintained.</li> <li>• The previous version of the tool assigns metadata and taxonomic classification to the classified documents in the document collection, which should be kept during the migration to the new tool. These fields shall not be mandatory for the classification or search of new documents.</li> </ul>	<b>N</b>
<b>Institutional Mail</b>		

Item	Description	Status <sup>1</sup>
1.31	<ul style="list-style-type: none"> <li>Installation and configuration of institutional emails ... @ foroiberam.org (Secretariat, President of FORO, President of the CTE, info, manager, IT support).</li> </ul>	<b>N</b>
1.32	<ul style="list-style-type: none"> <li>The email server shall have a web interface for management and maintenance by the system administrator.</li> </ul>	<b>N</b>
<b>User and organization management services</b>		
1.33	<ul style="list-style-type: none"> <li>Assignment of permissions to internal users of the Network: editing, approval, review, modification, management of collaborative areas and services and content publication.</li> </ul>	<b>U, I</b>
1.34	<ul style="list-style-type: none"> <li>The system administrator shall have management facilities for internal users, organizations, groups, roles and privileges of the users of the Network (registration and cancellation, update, grant privileges, export user lists and permissions).</li> </ul>	<b>I</b>
<b>Training Services</b>		
1.35	<ul style="list-style-type: none"> <li>Possibility of hosting training materials (documents, presentations and videos).</li> </ul>	<b>U, I</b>
1.36	<ul style="list-style-type: none"> <li>The proposal for a training or e-learning platforms or specific training functionalities (webinar, streaming, synchronous communication) and the resources for its development and the operation of the Portal will be an asset.</li> </ul>	<b>N</b>

#### 4.2. NON-FUNCTIONAL REQUIREMENTS

Item	Description	Status
	<b>Installation of the final product</b>	

Item	Description	Status
2.1	<ul style="list-style-type: none"> <li>The tool shall be installed on virtual machines, which shall be compatible with VMWare ESXi 5.5 and higher.</li> </ul>	N
2.2	<ul style="list-style-type: none"> <li>The installation of the final, integrated, tested and validated product shall be fully executed by the Contractor on the server designated by the End-User (currently in CNEN, Brazil). This process shall not require the installation of any component by the End-user.</li> </ul>	N
<b>Migration of resources to the new tool</b>		
2.3	<ul style="list-style-type: none"> <li>Migration of the data hosted in the public area, the document collection and the collaborative areas guaranteeing their integrity, compatibility and consistency. In addition to the documents themselves, their current structure, links and metadata shall be maintained.</li> </ul>	U, I
2.4	<ul style="list-style-type: none"> <li>The existing structure of users and organizations (groups, roles and permissions) shall be maintained.</li> </ul>	U, I
<b>Technological standards interoperability and software integration</b>		
2.5	<ul style="list-style-type: none"> <li>Support for different operating systems: Windows, GNU/Linux and Solaris.</li> <li>Independence of database software (Oracle DB, MySQL, SQL-Server, PostgreSQL, etc.).</li> <li>Interoperability between the different Enterprise Content Management (ECM) systems. Platform compatible with Content Management Interoperability Services (CMIS).</li> </ul>	U, I

Item	Description	Status
	<ul style="list-style-type: none"> <li>Open source infrastructure that follows the standards-based technology (Web services standards).</li> </ul>	
	<b>Multilevel architecture</b>	
2.6	<ul style="list-style-type: none"> <li>Architectural model of the system in 3 layers:               <ul style="list-style-type: none"> <li>Presentation.</li> <li>Business Logic.</li> <li>Data model.</li> </ul> </li> </ul>	<b>U, I</b>
	<b>Usability and Accessibility</b>	
2.7	<ul style="list-style-type: none"> <li>User-centered design.</li> <li>Navigability in the main browsers without requiring components or plugins from the End-User.</li> <li>Web Content Accessibility Guidelines (WCAG)</li> <li>Usability standards (ISO 13407).</li> </ul>	<b>U, I</b>
	<b>Security Protocols</b>	
2.8	<ul style="list-style-type: none"> <li>Incorporation of Secure Sockets Layer (SSL) certificates for the secure transmission of information and communications: Transport Layer Security (TLS) Protocol Version 1.3.</li> </ul>	<b>N</b>

## 5. Installation and Training

### 5.1. INSTALLATION

The Contractor shall use the infrastructure of the CNEN (hardware resources and connection, relevant installation requirements, maintenance manuals and security guidance of the physical server) to install and configure the new Portal in Rio de Janeiro, Brazil. The extensions required for its proper functioning shall be the responsibility of the Contractor.

The End-User's current server is a virtual machine VMWare ESXi 5.5 and later (VM version 10) with the following specifications:

- a) Processors: 4 cores
- b) RAM memory: 12GB
- c) Storage: 130GB (in use 39.2 GB)

d) Operating system: Linux CentOS 6.9

The maintenance and computer security of the server is the responsibility of CNEN, which establishes the appropriate maintenance priorities according to other national needs. The capabilities of the current version may or may not be sufficient to accommodate the new Portal.

## 5.2. TRAINING

The Contractor shall provide training for up to five (5) administrators and other designated users at the location of the End-User immediately after completion of the Work.

The Contractor shall provide necessary support materials as may be agreed with the End-User, including but not limited to, user manuals and guides, in Spanish.

## 6. Maintenance and Warranty

The Contractor and the End-User shall agree and schedule the plan to execute and provide support during the installation of the final product.

The Contractor shall identify and execute the updates and improvements necessary for the normal operation of the Portal.

The Portal shall be supplied with a two (2) year cost free comprehensive warranty period for corrective maintenance, starting from the date of the acceptance protocol signed by the End-User as specified in Section 9 below.

Upon expiration of the warranty period, the Contractor shall provide 50 hours per year of remote evolution and adaptation support in accordance with the terms of the contract to be concluded between the Contractor and the End-User.

## 7. Work Language

The meetings and working documents, as well as the communications between the Contractor and the End-User shall be conducted and written in the Spanish language. The Contractor shall provide staff with a working knowledge of the English language and proficient knowledge of the Spanish language.

## 8. Deliverable Data Items

The Contractor shall deliver the following data items to the End-User:

- a) Roles and responsibilities assignment;
- b) Assignment of the partners authorized by both parties and planning for communications means. Minutes of the meetings held;
- c) Project schedule indicating the phases of implementation and establishing milestones throughout the various phases: analysis, design, development, migration, testing, validation and installation shall comply with the functional and non-functional requirements explained above;

New Web Collaboration Portal of the Ibero-American Forum of Radiation and Nuclear Safety Regulatory Agencies	 <b>IAEA</b> International Atomic Energy Agency	IAEA Statement of Work Dated 10 October 2020
---	---	---

- d) Development team assigned to the project;
- e) Development proposal for the application of the technical specifications;
- f) Gantt chart;
- g) Functional design and technological architecture;
- h) UML Diagram (Use Cases, class, activity diagrams, etc.);
- i) Entity Relationship Diagram (ERD);
- j) Proposal for test and validation plan. Record of identified improvements;
- k) Quality assurance program;
- l) Manuals and guides for the new tool (internal, external users and administrators);
- m) Source code and information necessary for the autonomous management of the tool and its database and for future update/development/migration;
- n) Project progress reports (partial deliveries);
- o) Project closing report.

The End-User will provide to the Contractor:

- (i) List of partners authorized by the End-User;
- (ii) The information necessary for the development of the Work (manuals of the current tool, types of resources, procedures and organization of FORO);
- (iii) Access data to the database structure on the MySQL server;
- (iv) Remote access to the server where the platform will be hosted to complete installation, support and maintenance work.

## 9. Testing and Acceptance

After completion of the Work, the Portal shall be tested by the Contractor together with the End-User to demonstrate that the performance meets the minimum requirements specified herein. The results of the testing of the Portal shall be documented by the Contractor in an acceptance protocol that shall be reviewed and signed by the End-User to validate the output.

## 10. Time Schedule

The Contractor shall complete the Work not later than 9 months after entry into force of the Contract.

## 11. Intellectual Property

The Work, including the developments and documents resulting from this Contract, shall be property of the IAEA.