



**REQUEST FOR PROPOSAL**

**NATIONAL EARLY WARNING SYSTEM DIGITAL PLATFORMS**

**PROPOSALS DUE BY 03, 11, 2023**

|   |                                     |  |
|---|-------------------------------------|--|
| RFP: EWS Digital Platforms  | Proposal Due By <b>03, 11, 2023</b> | Institute: <b>CNRS-L / CIHEAM Bari</b> |
| <p><b>Project Overview:</b></p> <p>Under the provision of SEALACOM project funded by The Italian Agency For Development Cooperation (AICS), CIHEAM Bari and CNRS-L intend to issue this document as an RFP (request for proposal) to develop three digital platforms as part of the national early warning system platform “NEWSP”.</p>   |                                     |  |
| <p><b>Project Goals:</b></p> <ul style="list-style-type: none"> <li>● Develop a website for natural hazards.</li> <li>● Develop a mobile application for natural hazards “Leb-Haz”, starting with “Leb-Fire” and “Leb-Quake”</li> <li>● Develop a collector mobile application for civil defense.</li> </ul>  |                                     |  |
| <p><b>Scope of Work:</b></p> <ul style="list-style-type: none"> <li>● The website acts as a hub for all infographics, analytics, and reports about natural hazards in Lebanon. It will mainly include a fire risk forecast (a dynamic map with the ability to filter the fire data and generate reports), Flood, landslides, droughts, and other standard pages (about, news, contact, etc.)</li> <li>● One mobile application for Natural Hazards “LebHazards”, starting with two subcomponents i.e. LebQuake and LebFire</li> <li>✓ The current Leb Quake mobile application is outdated and should be redeveloped from scratch.</li> <li>✓ Same as the website, we want to develop a mobile application acting as a hub for all infographics, analytics, and reports about fires in Lebanon. This app allows users to report any fire incident or burnt areas. It interacts with users using Push Notifications.</li> <li>● We want to develop a collector mobile application to digitize all the missions for the civil defense.</li> </ul> |                                     |  |
| <p><b>Current Roadblocks and Barriers to Success</b></p> <ul style="list-style-type: none"> <li>● Currently, the fire reports are manually generated from the ArcGIS software, which is a time-consuming task.</li> <li>● We want to publish our work publicly and allow anyone to access the fire data. We currently have a public dashboard built on ArcGIS, but the user cannot take any action; it's only an analytics dashboard.</li> <li>● The Leb Quake app is outdated.</li> <li>● The civil defense data is not digitally recorded. Their data is essential for the national early warning system, and they are one of the main stakeholders.</li> <li>● We are planning to have one platform that holds different types of natural hazards that the CNRS-L working on and could be scalable in the future</li> </ul>  |                                     |  |
| Project due date: Maximum four months from contract signature   |                                     |  |
| Technical info Contact: <b>Dr. Chadi Abdallah</b>   | Email: <b>chadi@cnrs.edu.lb</b>     | Phone #: +961 3 534 436                |

## I- Introduction

The following RFP consists of a background of our organization and describes the purpose of the projects, their desired functionalities, and specific requests relating to the proposal.

Those who are interested are requested to respond to this RFP, and we would like to ask you to prepare a proposal to accomplish the projects that include a timeline, cost, and deliverables. We understand that details may change depending on vendor recommendation and/or research of more optimal solutions.

In your proposal, please feel free to suggest alternatives where noted.

## II- Background

Since its establishment in 1962, the National Council for Scientific Research – Lebanon (CNRS-L) is serving the scientific community in Lebanon covering all scientific disciplines. Its main objective is to encourage scientific research and support human resources development along the general scientific policies adopted by the government. CNRS-L is committed to keep the scientific community in Lebanon connected with advances achieved worldwide, at the same time dedicate its resources to meet local development objectives.

Established as the central public institution in charge of science policy-making under the authority of the President of the Council of Ministers and granted administrative and financial autonomy. It has two major functions:

- **Advisory Function:** The CNRS-L draws the general outline of the National Science Policy and formulates proposals and suggestions to the government and carries out surveys and inventories of on-going research activities in private and public institutions in the country.
- **Executive Function:** Consists in the implementation of the National Science Policy. To achieve this objective, the CNRS-L initiates, encourages and coordinates research. In addition, it leads and organizes scientific research activities within its defined work programs and research centers.

The CNRS-L is currently Hosting the National Early Warning System Platform to properly assist both emergency operations, but more importantly to implement proper prevention and preparedness actions, high quality information on forest fires, floods, water resources, drought, and earthquakes to be produced and properly conveyed to decision makers and stakeholders.

Thereof, there is a compelling need to develop dedicated applications and a comprehensive website focused on natural hazards in Lebanon, beginning with forest fires and earthquakes. This project serves multiple crucial purposes, with a strong emphasis on aiding the Civil Defense in their daily operations such as: enhancing early warning and preparedness, effective decision-making, public

awareness and education, civil defense support, collaboration and stakeholder engagement, and data-driven insights.

Accordingly, the development of applications and a website dedicated to natural hazards in Lebanon, starting with forest fires and earthquakes, offers a holistic solution. This project aligns perfectly with CNRS-L's role as the host of the National Early Warning System Platform and reflects a proactive approach to disaster management. By leveraging technology to enhance early warning, preparedness, public education, and Civil Defense operations, we can contribute to a safer and more resilient Lebanon in the face of natural hazards.

### **III- Project Overview**

CIHEAM Bari and CNRS-L intends to issue this document as an RFP (request for proposal) to develop the below three digital platforms as part of the national early warning system platform.

1. Natural hazard website
2. Develop a Leb Hazard mobile application, including Leb Quake and Leb Fire”
3. Collector Mobile application for civil defense.

The platforms should have the capability to be expanded and include more disaster modules.

CIHEAM Bari and CNRS-L is accepting bids in response to this Request for Proposal. Please refer to the scope of work section for the complete requirements.

After the release of this document, we expect to receive a confirmation that qualified vendors are ready to handle all mentioned scope of work items and have the required resources to deliver the scope following the industry's best practices.

Qualified vendors must submit their proposal within 15 days of announcing this RFP.

## IV- Scope of Work

### Project 1: Natural Hazard Website

- CNRS-L uses ArcGIS software to create dashboards and display/manage the fire risk data. The current dashboard link is: <https://rb.gy/kswkcv>
- We want to benefit from the REST APIs capabilities of this software to build an official website for the early warning system platform at CNRS-L.
- The proposed website site map: Home - About - Fire Risk – Flood – Landslides – Droughts - News – Contact
- About, news, and contact pages are standards.
- The home page will contain analytics hazard data, quick links, a weather widget, and some general info about the early warning system platform.
- The fire risk page includes a fire risk forecast (a dynamic map with the ability to filter the fire data based on the selected fields value in the search area and generate reports).
- The fire risk data will be provided via REST API.
- Download fire bulletin report that will be automatically generated everyday with three days forecast using a predefined PDF template. The data coming from the API will be inserted in this template (Attached annex III: Sample of the bulletin).

The website should meet the following objectives:

- SEO friendly.
- Responsive and compatible with all devices.
- Google analytics integration.
- Friendly interface and tools for site admin users to manage website content.
- The front-end interface should follow the relevant CNRS-L branding guidelines, including logotype, colors, and typography.
- Scalable because, as in phase 2, we will develop and implement new disaster modules.
- Hosting the web application for three years

### Project 2: Natural Hazard Mobile Application

*The Leb Fire application should act as a hub for all infographics, analytics, and reports about fires in Lebanon.*

- This app allows users to report any fire incident in their area.
- It allows users to report burnt areas to be registered and scheduled for rehabilitation.
- It interacts with registered users using Push Notifications.
- It has a registration and login process. Accounts activation should happen via email.
- We will use the web services capability of ArcGIS software (to fetch the fire data only).

The proposed app structure is as follows:

- Registration: Login – Create an account – Forgot Password.
- User profile: View and update information.
- Home: Important fire data is displayed (Analytics, infographics, etc.)
- Report a Fire: Auto-detect the user's location and allow them to enter all the details.
- Report a Burnt Area: Auto-detect the user's location and allow them to enter all the details.
- Weather Widget.
- Contact us.
- Quick links.
- Refer a friend.
- Settings.

The mobile application should meet the following objectives:

- User friendly.
- Latest design standards.
- App analytics.
- Follow the relevant CNRS-L branding guidelines.
- Scalable because, as in phase 2, we will develop new disaster modules.
- Security to ensure that the user's data is safe.
- Hosting the web and mobile application for three years

***The Leb Quake Mobile Application should meet the following:***

- Data migration from old platform
- APK and source code of the old application are available.
- Admin console is developed under PHP.
- Hosting the web for three years
- Maintenance service for three years (which starts after the handover of the project) which includes monitoring, phone and email-based technical support, periodical upgrades for modules, installing patches and fixes, to cover all kinds of errors within the following services: UX/UI Design, Front End Development, Back End Development, Quality Assurance, Training on CMS platform, Monthly Backup for files and Database, files and Communication with the hosting provider if there are any issues.
- Detailed time frame with working plan needed for each feature in the back end and in the console (with penalties 1% for delay).
- A first version of the new application is required as soon as possible in order to ensure the continuity of the earthquake's dissemination.
- National Center for Geophysics (CNRS-L) owns all the developed codes and the copyrights.
- Need to monitor the number of downloads in Apple store and in Android

- Help in the creation of the Android and iOS accounts to National Center for Geophysics (CNRS-L).

### **MOBILE CONSOLE**

- English, and Arabic versions
- Send a confirmation email from the official e-mail address (geophys@cnrs.edu.lb) when he/she creates an account.
- Make the following fields as required during the registration: First name; Last name; Age/Date of Birth; Gender; Mobile telephone; Village; Caza; email
- Notifications page that will display two types of notifications (the free texts and the earthquakes notifications).
- When clicking on an earthquake's notification directly or from the notifications history page, it goes directly to the details page of the event.
- List view: Add page numbers to load new pages
- Map View: The quakes are viewed on a map (generated from Google Maps).
- On mouseover, the quake shows its magnitude and origin time of occurrence.
- When clicking on the quake, it takes to a page showing the details of the quake.
- Show by default last six months. A legend must be added stating this.
- filter choices: last 24 hours; last week; last month; last 3 months; last 6 months
- Possibility of Zooming in the earthquake details map

### **ADMIN CONSOLE**

- The Admin console to be adapted to different web browsers (e.g., Safari, Chrome).
- View quakes on Map and Table.
- Map View: The quakes are viewed on a map (generated from Google Maps).
  - On mouseover, the quake shows its magnitude, origin time, and number of users who felt the quake. When clicking on the quake, it takes to a page showing the users who felt the quake along with the additional details registered by the users. When clicked on a username, it displays the location where the user felt the quake (if GPS was enabled which is mandatory for the people reporting feeling a quake)
  - Export any view of the map as an image.
- Table view:
  - it includes the same features of the map view but grouped and arranged in a table. It allows the admin to export the data as an excel file.
  - Users' history page: the admin can check the history log of all the users. The page includes the quakes felt by this user, his location when he/she felt the event, and the distance from the quake.
  - Text notifications are saved in the backend.

### **Project 3: Civil Defense Collector Mobile Application**

This app will be developed to digitize all the missions for civil defense. This data is one of the primary sources of information for the national early warning system.

- The vendor should provide their technical suggestions for hosting and saving the data (for example, having a cloud infrastructure).
- The app should have a registration process and login functionality. Account activation should happen via email.
- After successfully logging in for the first time, the users should be able to access their accounts without being connected to the internet.
- Civil defense might go on a mission where the internet is not available. In this case, the app should save the filled application form in draft mode on the device, and once it's connected, it should automatically send the mission data to the database.
- The app should look perfect on tablets, as they are the main devices used by the civil defense team.
- The app should be in Arabic only. No English version.

Below is the mission form structure and the app flow:

*Step 1: Task assignment*

- a. Before starting to fill out the assignment form, the assignment number of the user and the date of the mission should be entered.

*Step 2: Notification*

- a. When was the mission reported? The date of the call is automatically entered as the date of the mission in the assignment field.
- b. The users enter the call hour, number, and name of the caller.

*Step 3: Determine the location*

- a. When entering the province name, the Kaza box will automatically be opened, as well as the town.

*Step 4: Determine the time*

- a. The date of leaving the center will automatically appear as the date of the call received.
- b. The users enter the arrival date and the mission dates (start and end)

*Step 5: Centers, elements, and vehicles used*

- a. Participating regional centers and membership centers must be identified.
- b. At least one vehicle number must be entered.
- c. Staff and volunteer names must be entered.
- d. The number of participants will appear automatically after entering the names, which is the number of employees and the number of volunteers together.

*Step 6: Missions*



- a. The users must define the team's missions (including the details).  
Three main missions are defined:
  - ✓ Rescue/ambulance/civil fire extinguishing.
  - ✓ Services.
  - ✓ Forest fire extinguishing.
- b. The users select the mission and enter the corresponding details.

*Step 7: Details of the "rescue/ambulance/civil fire extinguishing" mission*

- a. One or more tasks must be selected (rescue, ambulance, and/or firefighting)
- b. The users enter the number of people evacuated, the task detail, and the number of injuries.
- c. The users should enter more details about:
  - ✓ Damaged vehicles
  - ✓ Materials
  - ✓ Injuries

*Step 8: Services mission details*

- a. The missions here relate to services offered by the civil defense like water transportation, cleaning, towing vehicles, etc.
- b. The users choose the type of task (for example, drawing water and transporting water).
- c. The users select the name of the service-oriented institution (for example, the army).
- d. If the name of the organization is not present, you can add in the field "another institution"
- e. Some details about the task can be added.

*Step 9: Details of the task of extinguishing a forest fire*

If the task is to extinguish a forest fire, the following information about the fire must be filled in:

- a. The date and time of the fire.
- b. Duration of the fire.
- c. Who reported the fire.
- d. Classification of fire by choosing its type.
- e. Details of the task.
- f. The number of injuries.
- g. Persons or other vehicles that participated in the mission.
- h. Users must specify the location (the GPS must be turned on, on the phone)
- i. Users must enter information about the location of the fire.
- j. Estimating the burned area (for example, 500 square meters or 2 dunums)
- k. Property Type.
- l. The purpose of use for the burned lands and the characteristics.
- m. The physical location, infrastructure, quality of the burned soil and the water sources used in the extinguishing process.
- n. The nature of the vegetation at the burned site should be determined.

*Step 10: The information page*

- a. We should have an information page to add some notes and photos.
- b. A live picture of the site (using the camera) or a photo from the gallery can be added.

*Step 11: Save the form and send it*

- a. The users can save the form and send it.
- b. Saving the form allows the users to edit or delete it.
- c. When you send the form, if no connection is available, it will be saved as a draft in the device until a connection is established; then, the form will be sent out to the server.

We should have the following form submission status:

- a. The red color indicates that the form has not been uploaded yet to the servers.
- b. The yellow color indicates that the upload has been started and cannot be canceled.
- c. Yellow and green colors together indicate that it is loading.
- d. Green indicates that it has been uploaded and cannot be modified.

## **V- Privacy Policy**

A comprehensive privacy policy must be integrated into the mobile apps and website. The privacy policy will address the collection, processing, and protection of user data, particularly in the context of natural hazards, in compliance with relevant data protection regulations.

## VI- Format Requirements of RFP Response

Proposals must follow the format described below and contain the following:

- Cover Page.
- Executive Summary: A brief overview of the engagement that should identify the main features and benefits of the proposed work.
- Company Overview: Team size, years of experience, client references, etc.
- Proposed Solution Design and Architecture: Recommendation of the technology/architecture (Functional and Technical) as applicable.
- Project Management Approach:
  - Road Map for the development: The Road Map must provide key business deliverables to be achieved during the Development period.
  - High-Level Project Plan & Time Framework of development: The approach must outline how the project would be phased, how many phases it would constitute, and why?
  - End Users Training Plan.
- Detailed and Itemized Pricing:
  - Required hours to deliver the scope of work.
  - Hourly rate of resources involved (designers, developers, UI/UX consultants, etc.)
  - Any hardware or middleware required cost.
  - Google and App store yearly subscriptions.
  - Cloud server hosting, domain registration\management and two mail subscription
  - Licenses requirements, if applicable.
  - SLA hours as part of the annual maintenance service.
- Project Team Details: Include biographies and relevant experience of key staff and management personnel.
- Contact Person: Provide the name and phone number of the person to whom CNRS-L shall address any clarifications or questions about the proposal.

## VII- Target Deliverable Schedule

**Final Project Due:** Maximum four months from contract signature

The expected project completion date is maximum four months after the signature of the contract with the awarded company. If this date needs to be adjusted, please include your readjusted proposed date and your reasoning for shifting the schedule. All proposed date changes will be considered.

### Project Timeline

|  |                                   |
|--|-----------------------------------|
| <i>RFP announcement</i>                    | 19, 10, 2023                      |
| <i>Technical clarifications</i>            | 29, 10, 2023                      |
| <i>Proposal Deadline</i>                   | 03, 11, 2023                      |
| <i>Engagement begins</i>                   | one week after acceptance         |
| <i>Beta launch</i>                         | 2 months after acceptance         |
| <i>Official Launch / final deliverable</i> | Maximum 4 months after acceptance |

## VIII- Maintenance and Support

The vendor should provide support services covering the following categories:

- a. **Documentation:** The vendor shall submit the working source code of the applications and configuration setup of any third-party commercially available software/solution to the CNRS-L Team along with detailed documentation, including but not limited to build instructions, the structure of the code/projects, environment configuration, installation, deployment, and user manuals.
- b. **Training:** for all CNRS-L users upon request. Also, the vendor should do several meetings with the civil defense to collect their feedback on the collector mobile application.
- c. **Quality Assurance:** The vendor shall conduct functionality, browser compatibility, accessibility, scalability, application security, and penetration testing, if applicable, and seek sign-off from CNRS-L before implementing the Software solutions managed/developed/customized.
- d. **Source Code:** The vendor has to share the source code of the projects right after finishing the development process, and CNRS-L has the right to ask for the source code at any stage of the project phases, including the starting phase.
- e. **Hosting:** The vendor shall secure hosting and maintaining the web and mobile application for three years

## IX- Service-Level Agreement

The vendor should provide annual maintenance services (a set number of hours per year) covering the following categories:

- a. **New Development:** Deployment of off-shore resources for the management/ delivery of the following services:
  - Technical bugs and code fixing/tuning
  - Development of new modules, functionalities, integrations, and reports as per CNRS-L functions requirements
  - Change Management: Implementing changes in the existing or future developed modules, functionalities, reports, integrations, processes, etc.
- b. **Consultation and advisory:** Consulting in the areas of tools, technologies, best practices, and trends in the market for the improvements of application development, deployment environment, performance, and user experience in connection with the platforms being used by the CNRS-L.
- c. **Preventive Maintenance:** The vendor shall perform a monthly health check for all customer-facing digital assets, integrations, and functionalities and report it to CNRS-L Team.
  - On a monthly basis, the vendor must check for and apply the latest upgrades for CMS versions, frameworks, libraries, and plugins.
  - The vendor should provide a service tracker so that the CNRS-L team is notified in case of an outage, and the required troubleshooting and fixing should occur immediately.
- d. **Corrective Maintenance (CM):** Upon receiving a request for CM from CNRS-L, the vendor shall provide immediate assistance and confirm receiving the CM inquiry and understanding the issue. Also, shall submit a CM report including the issue description, system, and completed resolution.

| Activity                    | Service level agreement (SLA)   | Maximum Resolution Time |
|-----------------------------|---|-------------------------|
| Application Uptime          | <p>The vendor shall ensure the platforms are working without any interruption.</p> <p><b>Expected Performance:</b><br/>           &gt;= 99% measured on a monthly basis</p> | 2 Hours                 |
| CNRS Platforms –Integration | <p>The vendor shall ensure the integrations are working without any interruption.</p>   | 2 Hours                 |
| Preventive Maintenance      | <p>The vendor shall do preventive maintenance every Month.</p>  | 3 Business working days |

## X- Evaluation Metrics

The CIHEAM Bari and the CNRS-L invites qualified suppliers to submit proposals in response to this Request for Proposals (RFP). The CIHEAM Bari and CNRS-L will evaluate vendors and proposals based on the following criteria:

- The vendor profile.
- The vendor has an appropriate number of staff and the necessary expertise to develop the site in a timely manner.
- Previous experience/past performance history.
- Samples and/or case studies from previous projects.
- The proposed solution meets the needs and criteria outlined in the RFP.
- The proposal is presented clearly, logically, and well organized and has the appropriate information as per the RFP calls.
- The price is appropriate for the value being offered by the vendor.

The vendor should assess the required resources to provide the services mentioned in the scope of work, the needed number of hours for each resource, and the cost for each resource per hour, which will clarify the breakdown of the overall cost per resource.

The evaluation and selection of proposals will be conducted by a committee representing CNRS-L and CIHEAM Bari in compliance with CIHEAM Bari administrative and procurement procedures. The committee will be responsible for assessing and ranking all received proposals based on predetermined evaluation criteria outlined in this RFP.



## **XI- Submission Requirements**

### **- Q&A process**

Questions and requests for clarification will be accepted on a rolling basis up until the proposal deadline. FAQs and answers to selected questions will be sent via email.

Due to the volume of questions asked, we regret that we might be unable to answer each one. We strongly recommend clear and concise questions and suggest submitting them as early as possible.

### **- Selection Process**

Vendors must adhere to the following guidelines to be considered:

- Only the vendor who meets all seven metrics in the evaluation section will be awarded.

### **- Offers submission**

Please send your offer for the above-mentioned goods, as specified above, to the following email address: peter@iamb.it ; aly@iamb.it and casilli@iamb.it no later than 15 days after announcing of this request of offer.

### **- Technical Information contact**

For questions or concerns connected to this RFP, we can be reached at:

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