

► Terms of Reference

Employment and Social Affairs Platform 2

Web Application Development

Introduction

The International Labour Organization is implementing *Employment and Social Affairs Platform 2* (ESAP 2) project, financed by the European Commission, in the 6 Western Balkan economies. The ESAP 2 seeks to improve employment opportunities and working conditions of women and men in the Western Balkans by addressing:

- ***Informal Employment and Undeclared Work***
- ***Effectiveness of Labour Inspectorates***
- ***Social Dialogue***

Within the Social Dialogue component, the ILO aims to improve effectiveness of tripartite and bipartite social dialogue in improving working and living standards of women and men. For this purpose, the ILO is establishing a Web-based Performance Benchmarking Application for Institutions/Agencies for Amicable Settlement of Labour Disputes (ASLD) in the Western Balkans. This software will be accessible only to the institutions participating in the project and the ILO.

Description

The Performance Benchmarking Application (e-PBA/ASLD) for the ASLD institutions shall be web-based, in which a specific number of users in the Western Balkans (WB) shall have access to perform at least the following:

- To enter an annual target performance of a country (number) for specific indicators for specific years (e.g., 2020 – 2030).
- To enter the annual actual performance of a country for the same indicators and same years.
- To extract statistical analysis regarding the targets and actual performances of the ASLD institutions and in relation to other WB ASLD institutions as well.
- To extract data in a format or formats determined in collaboration with the contracting party.
- The application shall be available in English and local languages spoken in the Western Balkans.

Users

The application shall support three types of user roles as described below:

The administrator

- The administrator shall be able to add, change or delete indicators and sub-indicators, countries and users. After data for an institution or for an indicator or by a user and has been validated, deletion shall not be possible but only de-activation.
- The administrator shall be able to view the data entered by all ASLD representatives and extract statistical analysis as described further below.
- The administrator shall also have access to log files containing information regarding the use and access to the application. Log files shall keep track of all the users' moves in the application.

The WB institutional representative

- The WB ASLD representative shall be associated with an ASLD institution Economic. She/he shall be able to enter data in the application related only to her/his institution, i.e., data regarding the annual target performance and the annual actual performance of her/his institution at the specified indicators.



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- The WB institutional representatives shall be able to view other countries’ data and extract statistical analysis both in relation to their institutions targets and actual performances over the years, but also in relation to other institutions.
- There shall be possible for more than one user to be defined as ‘institutional representative’ for one WB economy, yet the data entered in the application shall correspond to the economy of the representative.

The ILO representative

- The ILO representatives shall be possible to view and validate all countries’ data (targets and actual performances) for all specified indicators, extract statistical analysis as described below, or extract the database.

Indicators and sub-indicators

- The application shall initially support the management of 22 indicators in total: 14 main indicators and 3 groups of 4, 2 and 2 sub-indicators. Yet, it shall be possible for the administrator to add new indicators or sub-indicators, where the country representatives shall be possible to fill in their targets and actual performances in the following years.
- Indicators for each country will be completed per year for the target and actual performance, whereas sub-indicators shall be grouped in small sets, where a country representative shall be able to select one (at least) or more of them in which to start completing data.
- The contracting party will specify which indicators are mandatory for which institution.
- For each indicator and sub-indicator, the country representative shall be able to select the year of reference (starting from 2021), to add a target performance (number) and the actual performance (number).
- For each indicator and sub-indicator, an explanation text shall be available to be displayed to the user when necessary in English and the local language of the institution.

Statistical analysis

- All user roles shall be able to extract statistical analysis of the indicators data. Analysis of targets and actual performances shall be available to be extracted per institution/economy, per indicator, per year.
- The analysis shall be able to be displayed in tables and various types of graphs, e.g., histograms, line graphs, etc. Tables of data shall also be able to be extracted in excel files, and graphs in doc or pdf files.

Performance Benchmarking Framework

Overall objective	
Outcome 1	Outcome 2
Indicator 1.1	Indicator 2.1
	Indicator 2.2
Intermediate Outcome 1.1	Intermediate Outcome 2.1
Indicator 1.1.1	Indicator 2.1.1
Indicator 1.1.2	Indicator 2.1.2
<i>Sub-indicator 1.1.2a</i>	<i>Sub-indicator 2.1.2a</i>
<i>Sub-indicator 1.1.2b</i>	<i>Sub-indicator 2.1.2b</i>
<i>Sub-indicator 1.1.2c</i>	Indicator 2.1.3
<i>Sub-indicator 1.1.2d</i>	Indicator 2.1.4
Indicator 1.1.3	<i>Sub-indicator 2.1.4a</i>
Indicator 1.1.4	<i>Sub-indicator 2.1.4b</i>
Intermediate Outcome 1.2	Intermediate Outcome 2.2
Indicator 1.2.1	Indicator 2.2.1



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Indicator 1.2.2	Indicator 2.2.2
	Indicator 2.2.3
	Indicator 2.2.4

Non-functional requirement

Technologies and architecture

- Technologies used must allow for all requested features to be implemented as well as to support future scalability.
- The front-end of the system should be developed using one of the commonly used front-end component libraries to achieve simple and clean design, which easily accommodates users of different IT skills.
- Different users will have different security requirements, according to best practices the final solution should be implemented using a layered architecture.
- Each of the layers will execute a set of functionalities unique to that function and these functionalities will be accessible from other layers using specially developed interfaces.
- Service provider must specify technologies that will use for implementation (Database, Backend frameworks, Frontend frameworks, third party libraries).
- This application’s architecture must be based on open standards, supporting the most common open standards and service-oriented.

Response time

- The e-PBF/ASLD should work within the response time limits as described here:
- Up to 4 second for navigating the e-PBF/ESC web portal.
- More than 10 seconds – only for specific, agreed upon actions that cannot be finalized faster and only accompanied with percent-done indicator. E.g., generating complex report exports, if such are envisioned.
- The system should allow minimum of 35 current connections.

User interface

User interface should be as "user friendly" as possible.

With a consistent design, the screen interfaces of all modules will meet at least the following conditions:

- Web-based Graphical User Interface.
- Simple and easy to use.
- Wherever possible, the software will use partial page refresh functionality
- Assistance and validation during data entry.
- Enable fast data entry (keyboard input only).
- Coded entries must have explanations, titles.
- Data must be arranged based on business logic.
- Wherever there is a selection list, only possible options will be available.
- Navigation between different options and functions must exist through drop down menus.
- User interface must have a responsive design to automatically adjust to different screen resolutions and sizes.

User interface must work without any issues with latest version of one of the following web browsers:

- Microsoft Edge
- Google Chrome

Openness, scalability, and portability

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- The system must have as much as possible characteristics of an open system. The system must be able to scale both for increased number of users and increased processing load.
- If there are dependencies between systems or system parts – these are to be documented or systems bundled.
- The system must have the ability to increase and decrease to support different numbers of users and transactions. Upgraded functionalities must be able to scale horizontally (by adding more servers) and vertically (by increasing the capacity of existing hardware).

Flexibility and adaptability

- The system will have a high level of flexibility and adaptability in the event of a change of environment. Such adaptability will enable future configurations and customizations of the system in a simple and acceptable way.

Reusability

- The system will have option of reusability of software components.

Ease of use

- Easy understanding of work and quick acceptance.

Security

- Implemented functionalities must have, as an integral part, modules and technologies that meet security requirements, such as physical security, authentication, authorization, communication, data security and data access, auditing, etc. Encrypted data transport between the server and the web client will be using the HTTPS security protocol. System will prevent access to unauthorized users and intentional or unauthorized destruction of data.

Error handling

- The system must ensure the monitoring and notification of users of errors in operation and help resolving errors.
- The system will recognize and divide errors into several categories:
 - Security error
 - Data format validation
 - Business rules
 - Application error

Languages

- The system shall be initially developed for English, Albanian, Macedonian, Bosnian, and Serbian language as both content and interface languages.

Reporting plan

- The service provider report periodically (decided in consultation with the contracting authority) on progress and challenges in project implementation, and proposed solutions to overcome any challenges.

Hosting plan / Licensing

- This application can be hosted on:
 - The ILO virtual machines running SUSE Linux 15 or Windows Server 2019 with have 2 CPU and up to 32 GB of RAM.
 - Alternative hosting option. (Financial offer should provide costing for each environment)
- The ILO prefers that the solution is open source. Provide details of the technologies used and any licensing implications/costs if any.
- The ILO would prefer to keep the on-going costs at a minimum without compromising security and performance of the system.

Warranty period

- Warranty period for the system is 4 months from the date of system acceptance. The support in the warranty period must be provided in an efficient manner and without delays. The warranty refers to elimination of system defects, support in the form of consultations, assistance, troubleshooting and advice on the use of the system. All necessary corrections of system defects during the warranty period will be done free of charge.
- The service provider shall offer under warranty through the following channels: a) on-line service desk available, e-mail.

Copyright

- All generated documentation, generated application program code (except third party software), source code and other types of information in electronic or hard copy, which arise during the contractual relationship, become the permanent property of the ILO which reserves the full right to change and modify them, or pass all rights to third parties. Upon completion of the project, the Service provider is obliged to deliver all the source code and database and all the necessary libraries to the ILO.

Further information

At the beginning of the project, the awarded contractor shall be provided with the following:

- The list of institutions that shall have access and use the application
- The list of indicators and sub-indicators to be implemented in the application
- The name, short description, and explanation text for each indicator and sub-indicator in the four languages required to be displayed.
- The exact types of graphs to be available in the application.
- Details of the hosting server.

Deliverables

The contractor shall:

- Submit an interactive wireframe of the skeletal framework of the web application.
- Implement the web application approved by the contracting authority.
- Train end users, administrators. The mode of training will be determined in collaboration with the contracting authority.
- Submit to the contracting authority full user, technical, administrative, and training documentation reflecting the version of the product submitted in electronic form in English. The submitted documentation will include:
 - Design
 - Source code and ownership
 - Data model
 - UML diagrams
 - User manual
 - Technical documentation
 - Design and description of system architecture
 - Database schema and description of how to save scanned and created documents
 - UML diagrams and detailed description of implemented business processes
 - System maintenance procedure
 - Backup procedure for the complete system.
 - Detailed description of the software.
 - Report on functional and non-functional testing of all system components.
- User documentation must cover all system functionalities and must be organized in accordance with the rights of users in the system. User documentation will include:
 - Description of all system functionalities.

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- Instructions for all components for all user roles.
- Written instructions and help for all components for all user roles.
- Administrator documentation will assist with system setup, support, and maintenance and will include a schedule of maintenance tasks to ensure that system administrators proactively monitor, audit, and secure the system, servers, and databases. This type of documentation must include at least:
 - System start-up and shutdown procedures, performance monitoring, program installation, and operating system updates.
 - Procedures for setting user and group accounts, user types and privileges, and setting user permissions and passwords.
 - How to plan database maintenance, move databases, set user permissions, and backup and restore the database.
 - How to create security procedures, guidelines and passwords.
 - Establishing backup procedures, scheduling, performing planned and unplanned backups, and maintaining backup logs.

Time and location

The assignment should be completed by October 15th, 2022. The external contractor / service provider will be home-based.

Staffing, roles, and reporting

The consultant will report to the ILO.

Payment schedule

Payment will be disbursed based on deliverables.

- 1st instalment of 20% upon delivery of the interactive wireframe of the system by 31 May 2022.
- 2nd instalment of 50% when the application is ready for user testing by 31 July 2022.
- 3rd instalment of 30% after the project is completed to the satisfaction and standards of the ILO by 15 October 2022.

Eligibility and qualifications

This call is open to companies that meet the following requirements:

- The company should be able to demonstrate at least 7 years of experience in similar assignments:
- Competencies in database and analytical technologies which will be used in the development of the software.
- Developing online tools and systems; knowledge of SharePoint, SFDC, and data management systems, knowledge management systems.
- Skills in programming and application development languages.
- Use of open-source software.
- The technical staff assigned to this task shall have:
 - At least 7 years in development of similar applications
 - Relevant degree in Data Management, Information Systems, Knowledge Management Systems or Equivalent Academic credentials
 - Experience with international clients
 - Able to interact with professionals of and representatives from the national administrations in the Western Balkans region
 - Fluency in English

Offer submission documentations

The service provider should submit their offer by 8 April 2022, 12:00 p.m., Budapest, Hungary Time Zone, in English language:

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- Vendor name (names if a team of individuals) and background.
- Location.
- Technical staff assigned to the development of this application associated with the job position, professional qualifications and relevant experience.
- A project plan specifying the timeline, milestones and the technologies that will be employed to develop this application and any licensing implications.
- A vision of the final product.
- Plans for training and support.
- Financial offer for two scenarios: (1) The web application hosted by the ILO; and (2) the web application hosted on a different environment.
- Cost breakdown in Euro including annual running costs for any update, patching or work on the application for both scenarios.
- Indicate if liable to pay VAT.
- If liable to pay VAT, indicate the net amount, VAT, and the gross amount in Euro.
- If not liable to pay VAT, indicate the total amount in Euro.
- References