

REPUBLIC OF CROATIA
MINISTRY OF HEALTH
EARTHQUAKE RECOVERY AND PUBLIC HEALTH PREPAREDNESS PROJECT
(ER&PHPP)

Loan No: HR-9127

TERMS OF REFERENCE

Proc.ref.no.: HR-MOH-425872-CS-QCBS

Consulting services for supporting users in the pilot project
“Introduction of the remote monitoring system in emergency medical service”

I. BACKGROUND

The Government of the Republic of Croatia and the International Bank for Reconstruction and Development (IBRD) have signed the Loan Agreement (Loan No. 9127-HR) in total amount of EUR 183.9 million (approx. USD 200 million) for the implementation of the Earthquake Recovery and Public Health Preparedness Project. Project Development Objective (PDO) is to assist Croatia with earthquake reconstruction efforts in Zagreb and the surrounding areas, improve institutional capacity for reconstruction, and strengthen national systems for public health preparedness. The project implementation period spans between 2020 and 2024. The Project comprises three components: (1) Earthquake recovery and reconstruction; (2) Public health surveillance and preparedness; and (3) Project management. The Project is implemented by the Ministry of Physical Planning, Construction, and State Assets (MoPPCSA) and the Ministry of Health (MoH), in coordination with other institutions. The Project Implementation Unit of the MoPPCSA (PIU-1) is responsible for Component 1, as well as civil works under Component 2, and the Project Implementation Unit of the MoH (PIU-2) for Component 2.

On March 22, 2020, the City of Zagreb was struck by the strongest earthquake since 1880, which severely damaged public buildings, hindering the effective delivery of health and education services and directly affecting the economy of the city and country. The earthquake has affected the delivery of critical health services by causing significant damage to public health capabilities and hospitals critical to both managing the current coronavirus disease 2019 (COVID-19) crisis and the health system overall.

Within the technical assistance instrument of the European Commission, the project *“Introduction of remote monitoring service in the emergency medicine in Croatia”*, REFORM/SC2021/116, financed by DG REFORM, was implemented for the Croatian Institute of Emergency Medicine (hereinafter: CIEM) Through the project the current situation was analysed and recommendations were given to introduce remote control services into emergency medicine, along with a detailed action plan, which was the basis for drafting the *Telemedicine Framework to Extend the Scope of Services in the Field of Emergency Medicine in the Republic of Croatia*, which was adopted by the Ministry of Health on 28 December 2022

(<https://zdravlje.gov.hr/UserDocsImages/2023%20OBJAVE/Telemedicinski%20okvir%20za%20pro%20C5%A1irenje%20opsega%20usluga%20u%20djelatnosti%20hitne%20medicine%20na%20podru%20C4%8Dju%20RH%2027.12.22.%20za%20obj.pdf>).

During the analysis of the current state of preparedness for the introduction of the remote monitoring system in the emergency medical service (hereinafter: EMS) in the Republic of Croatia (hereinafter: Croatia) and its environment, one of the main conclusions is that the

Telemedicine Framework to Extend the Scope of Services in the Field of Emergency Medicine should be established on the basis of recognised actual needs of the institutes for emergency medicine of regional self government units and the City of Zagreb (hereinafter: county emergency medicine institutes), county emergency medicine services and unified hospital emergency departments, including their individual specifics, wherever possible in practice.

Within the *Telemedicine Framework to Extend the Scope of Services in the Field of Emergency Medicine in the Republic of Croatia for the establishment of remote monitoring in the EMS*, activities have been identified, the implementation of which will significantly contribute to the establishment of the remote monitoring system, along with the provision of telemedicine consultations to the EMS outpatient teams and ensure a higher level of medical service to emergency medicine patients:

- 1) *Connect the electronic medical emergency system (outpatient EMS information system) and hospital information systems (hereinafter: HIS) with electronic health record (EHR);*
- 2) *Connect the outpatient EMS vehicles with EHR;*
- 3) *Connect the county electronic medical emergency systems;*
- 4) *Install video cameras in outpatient EMS vehicles;*
- 5) *Send data from medical devices from outpatient EMS vehicles (hereinafter: EMS vehicles) in real-time (primarily defibrillators);*
- 6) *Respond to problems with the outpatient EMS vehicle network signal;*
- 7) *Set up teleconsultation centre(s);*
- 8) *Introduce nurses-medical technicians/specialists in the field of emergency medicine in T2 teams, while reducing the number of T1 teams, primarily due to the shortage of physicians;*
- 9) *Directly transport the most critical patients to the nearest hospital that can provide the necessary care;*
- 10) *Enhance the integration of healthcare horizontally and vertically across health care levels.*

The implementation of the above activities provides preconditions for the establishment of a teleconsultation platform that will, among other things, have the capacity to generate/send and store medical and diagnostic data that are transmitted in real time from outpatient EMS vehicles to the teleconsultation centre. The teleconsultation platform thus provides the physicians (teleconsultants) in the teleconsultation centre with a set of data on the basis of which they can make relevant decisions about further patient treatment. The development of the IT support for the required teleconsultation platform functionalities provides for the operation and defines the organisational model for the teleconsultation centre(s). In the Telemedicine Framework to Extend the Scope of Services in the Field of Emergency Medicine in the Republic of Croatia, several organisational models have been explored and proposed for the teleconference centre(s).

For that reason, the plan is to first use the World Bank loan funds to implement the Pilot Project, in accordance with Option 1 stated in the Telemedicine Framework to Extend the Scope of Services in the Field of Emergency Medicine in the Republic of Croatia. The aim of the pilot project is to check the implementation of the described model in practice.

In order to test the concept of introducing remote monitoring, it is necessary to:

- a) Equip teleconsultation centres with the necessary IT equipment;
- b) Equip vehicles to be included in the pilot project with appropriate medical, network and IT equipment;
- c) Equip stationary and mobile teleconsultants who will be providing teleconsultations in the pilot project, and
- d) Set up the IT teleconsultation platform containing all the functionalities required for the implementation of the pilot project.

II. OBJECTIVES OF THE CONSULTANCY

Given the limited (personnel and time) capacities of the Croatian Institute of Emergency Medicine, it is necessary to contract support for planning and monitoring the implementation of the pilot project.

III. SCOPE OF SERVICES AND TASKS

The services shall include:

- i. Support in planning, supervision and management of the implementation of the Pilot project:
 - creation of a Pilot project implementation plan with deadlines
- ii. Support in the preparation of tender documentation for the development of an IT teleconsultation platform with functionalities that are necessary for the implementation of the pilot project. In cooperation with HZHM:
 - create the technical and functional specification of the platform, taking into account all the elements that are necessary for the implementation of the pilot project, as well as define the elements of the platform that will serve for the purpose of validating the pilot project itself;
 - determine the conditions and criteria for the selection of bidders for the development of an IT teleconsultation platform.
- iii. Supervise the development of the IT teleconsultation platform according to previously defined phases (a key aspect of the development process). Supervision must include verification, testing and quality assurance during the entire development cycle of the IT teleconsultation platform.
- iv. Development of test scenarios and protocols to ensure that IT teleconsultation platform is functional as it is required in bidding documentation.
- v. Coordination between developers of the IT teleconsultation platform and suppliers of medical devices included in the Pilot project in order to integrate them with IT teleconsultation platform.
- vi. Support in the preparation of tender documentation for the procurement of digital peripheral devices and IT equipment which includes:
 - creation of technical specifications for the procurement of video cameras, digital stethoscopes, speakerphones, routers and other equipment that is necessary for sending data from digital peripheral devices and medical devices;

- defining the conditions and criteria for selecting bidders who have the ability to deliver and install equipment from the tender into EMS vehicles, as well as the integration of all delivered components into the required functional unit.
- vii. In cooperation with CIEM, development of a plan for testing the characteristics of medical devices and equipment in real conditions (inside and outside the EMS vehicle) on different terrains and locations and in conditions related to network coverage.
- viii. Testing of the IT teleconsultation platform:
 - testing in office and
 - testing with real doctors and staff from the ambulance vehicles;
- ix. Organization of training related to the use of the IT teleconsultation platform, and training of EMS staff on the use of the platform software, teleconsultation equipment and (network) troubleshooting;
- x. Support in negotiations with the Croatian Institute for Health Insurance and the administration of the University Hospital Center Rijeka, General Hospital Dr. Josip Benčević Slavonski Brod, General Hospital Karlovac, Institute for Emergency Medicine of the Primorje-Gorski Kotar County, Institute for Emergency Medicine of the Brod-Posavina County and Institute for Emergency Medicine of the Karlovac County;
- xi. Evaluation and comparative analysis of tested digital and medical devices and equipment, in which it should be stated whether the tested devices of certain manufacturers and the teleconsultation platform (the system as a whole) met the required functionality/required quality, which will guarantee a satisfactory level of information support for the EMS teams during field interventions.
- xii. Support in the national implementation of the Remote Monitoring System which includes:
 - on the basis of a comparative analysis of devices from different manufacturers and their evaluation during the Pilot project, create technical specifications for peripheral digital and medical devices and equipment necessary for the implementation of the Remote Monitoring System at the national level.
 - preparation of functional and technical specifications for the national implementation of the Remote Monitoring System - including the development of the central platform and the integration of all modules and systems.
 - defined clinical and operational guidelines

In order to perform the above assignments, the consultant will – besides the CIEM and MoH – closely collaborate with other stakeholders of the Croatian health care sector, amongst others the Croatian Institute for Health Insurance (Hrvatski Zavod za Zdravstveno Osiguranje – HZZO) and University Hospital Center Rijeka, General Hospital Dr. Josip Benčević Slavonski Brod, General Hospital Karlovac, Institute for Emergency Medicine of the Primorje-Gorski Kotar County, Institute for Emergency Medicine of the Brod-Posavina County and Institute for Emergency Medicine of the Karlovac County.

IV. RESULTS, SCHEDULE OF DELIVERABLES AND PERIOD OF PERFORMANCE

The Consultant will deliver the following results:

- i.** The plan for the execution and supervision of the implementation of the Pilot project discussed with the University Hospital Center Rijeka, General Hospital Dr. Josip Benčević Slavonski Brod, General Hospital Karlovac, Institute for Emergency Medicine of the Primorje-Gorski Kotar County, Institute for Emergency Medicine of the Brod-Posavina County and Institute for Emergency Medicine of the Karlovac County co-created in cooperation with the MoH and CIEM - **60 days after Contract signing.**

Draft plan and stakeholder map should be presented in 20 days.
Report of discussions with internal and external stakeholders and proposed modifications and final scoping of the pilot (diseases, emergency cases, specialities to involve, number of staff to train) in 20 additional days.
Final plan document in 20 additional days.
- ii.** Discussions/educational session with procurement staff on “how to procure innovation” and specificities of telehealth services.
- iii.** Technical specifications for the procurement documents for the operation of the teleconsultation platform - **45 days after Contract signing.**
- iv.** Evaluation of requests for clarification and answers to requests for modification of technical specifications of tender documentation for the operation of the teleconsultation platform as part of the public consultation in cooperation with the MoH and CIEM – for the duration of the public consultation
- v.** Evaluation of Bids as part of the procurement of the technical solution for the operation of the teleconsultation platform in cooperation with the MoH and CIEM within the deadline prescribed in the Bidding documents.
- vi.** Supervision of the implementation of the technical solution (including necessary education and organizational arrangements/operational guidelines) for the operation of the teleconsultation platform in cooperation with MoH and CIEM during the implementation of the technical solution as prescribed in the Bidding documents.
- vii.** The results of the testing of digital peripheral devices, equipment equipment and network under certain terrain condition, intended for telemedicine data transfer and teleconsultation services in the pilot project – **30 days after the technical solution has been commissioned in full functionality.**
- viii.** Create an organisational model of teleconsultation centres and test their feasibility, define which specialities/disease or emergency case conditions are to be covered by the pilot – **30 days from the commissioning of the technical solution in its full functionality.**
- ix.** Define the financial model for providing the telemedicine service – **60 days from the commissioning of the technical solution in its full functionality**

- x. Participate in the organisation of end-user training on the use of teleconsultation equipment, reorganization of services and troubleshooting in the Pilot project according to the proposed Pilot project implementation plan.
- xi. Evaluation of the results of the pilot project – **30 days after the completion of the Pilot project.**
- xii. Development of technical specifications and required functionalities for the implementation of the Remote Monitoring System – including the development of the central platform and the integration of all modules and systems based on the implemented pilot project as well as advancing drafts for clinical and operational guidelines to be agreed, established, disseminated and adopted at national or at least regional level – **60 days from the completion of the Pilot project.**

Activity	7.	8.	9.	10.	11.	12.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	1.	2.	3.	4.	5.	6.				
	2024						2025						2026															
1. Procurement and installation of devices and equipment in existing vehicles	█																											
2. Selection of bidders for the development of a teleconsultation platform		█																										
3 .A plan for the implementation and supervision of the implementation of the Pilot project has been drawn up		█																										
4. Organizational model and protocol definition							█																					
5. Development of a teleconsultation platform							█																					
6. Testing of the first version																			█									
7. Delivery and take over of the technical solution for the operation of the teleconsultation platform in its full functionality																					█							
8. Testing of the proposed organizational model of teleconsultation centers- MoH/CIEM/Consultants																						█						
9. Proposal of financial model of telemedicine service prepared - Consultants																							█					
10. Completion of the Pilot Project																							█					
11. Evaluation of the results of the Pilot project																							█					
12. Developed technical specifications and defined all necessary functionalities for the implementation of a remote monitoring system at the national level																							█					

Consultant shall ensure completion of services on time and without any delay. Also, all deliverables prepared shall immediately upon completion be submitted to the Client for its review and approval. The Client will review and approve or return deliverables for revision and/or resubmission within the period defined by the Client upon receiving each of the deliverables. In addition, Consultant will need to provide detailed monthly reporting on the level of achieved milestones and deliverables. At the end of the consultancy service engagement the Consultant shall develop Final Report, which will also be subject of Clients approval.

V. DURATION OF THE ASSIGNMENT

Expected overall duration of the assignment is twenty-four (24) months. The Commencement of Services is expected in July 2024.

VI. QUALIFICATION REQUIREMENTS

The Consultant will be selected in accordance with the Consultants Quality and Cost-based Selection method (QCBS) set out in the Procurement Regulations.

Consultant Firms can participate in the bidding process individually or in an association among themselves as either a Joint Venture, or Lead & sub consultant form. If the formation of an association is proposed, the rationale for, and benefits to the assignment of, the arrangement should be explained. Associations expressing interest should clearly indicate the nature of the association, i.e. joint venture or sub-consultant.

The Consultant shall be a firm or association of firms in the form of a joint venture or sub consultancy with following qualifications (each qualification requirement listed below is considered separately):

- The consultant must demonstrate its registration in the court/trade/professional register or other relevant register in the country of its establishment for minimum 10 years
- The Consultant must demonstrate that in 2024 and the preceeding five years (2019, 2020, 2021, 2022 and 2023) has implemented at least two contracts of similar scope and nature to **the subject matter of the assignment at aggregated value of minimum 700.000 EUR with VAT**. Such services are technical support services for structural reforms and/or support for structural reforms that are related to the setting up of telehealth services or at least related with digital health more broadly (e.g. implementation of electronic health record systems, video-conferencing networks in healthcare, etc..).
- To confirm the availability of the Key experts with qualifications and experience as indicated in section VII. TEAM COMPOSITION, MINIMUM QUALIFICATION AND EXPERIENCE

The credibility of mentioned experience shall be presented in a list of project references within last five (5) years with description of services provided (including information on contract value, contracting entity/client, project location/country, period of providing the services, value of investment, percentage carried out by consultant in case of association of firms or subcontracting and main activities) and accompanied by certificates of orderly fulfilment of the contracts verified by other party from such contracts.

The Consultant shall have the organizational capacity to perform this service as well as available appropriate skills among staff. It is expected that the Consultant submits relevant information on their organizational capacity in their Expression of Interest.

Consultants may associate with other firms to enhance their qualifications but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy. In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected. If the formation of an association is proposed, the rationale for, and benefits to the assignment of, the arrangement should be explained (outline proposed management coordination of the arrangement, including the role of each firm). Joint venture qualification parameters will be considered as a sum of individual qualifications of joint venture members. In case of joint venture only the experience of lead Consultant firm and joint venture members is considered for evaluation of Expressions of Interest.

VII. TEAM COMPOSITION, MINIMUM QUALIFICATION AND EXPERIENCE

Key experts must have sufficient competences, the staffing should comprise the skills and qualifications listed in this section, to fulfil the stated outputs and objectives. Key experts may be from any of the joint venture members or subcontractors (or engaged otherwise by the lead company).

It is expected that the core team shall comprise of following key experts who meet following listed qualification criteria:

- **Specialist 1: Project manager - 1 specialist**

General qualifications

- the level of education corresponding to university degree, i.e. completed undergraduate and graduate university study or integrated undergraduate and graduate university study or specialist professional graduate study
- minimum 5 years of experience in the field of counselling project management
- international Project Management Professional - PMP, PRINCE2 or equivalent certificate

Adequacy for the assignment

- minimum two (2) successfully completed projects where the specialist was the project lead, project team leader or project manager
- minimum one (1) health care project where the specialist was the project lead, project team leader or project manager

Experience in the Region and Language

- experience in EU Member States and knowledge of spoken and written Croatian would be considered an advantage

- **Specialist 2: Telemedicine specialist – 1 specialist**

General qualifications

- the level of education corresponding to university degree, i.e. completed undergraduate and graduate university study or integrated undergraduate and graduate university study or specialist professional graduate study
- minimum 5 years of experience in the field of telemedicine, demonstrating experience in project implementation and piloting

Adequacy for the assignment

- minimum five (5) years of work experience that the specialist had in management positions in the field of emergency medicine in jobs that included planning, introduction and application of telemedicine
- minimum one (1) successfully completed project aimed at planning, introducing or applying telemedicine in the field of emergency medicine

Experience in the Region and Language

- experience in EU Member States and knowledge of spoken and written Croatian would be considered an advantage

- **Specialist 3: Health care and eHealth specialist – 1 specialist**

General qualifications

- the level of education corresponding to university degree, i.e. completed undergraduate and graduate university study or integrated undergraduate and graduate university study or specialist professional graduate study
- minimum 5 years of work experience in the health care system and/or eHealth

Adequacy for the assignment

- minimum one (1) year of work experience that the specialist had in management positions in the health sector
- minimum one (1) strategic document co-produced by the specialist or trainings held in EU Member States and/or in the EU candidate countries which covered e-health or telemedicine
- minimum one (1) project in which the specialist worked on providing business consulting services as part of digital business transformation, which involved managing multiple disciplinary teams

Experience in the Region and Language

- experience in EU Member States and knowledge of spoken and written Croatian would be considered an advantage

- **Specialist 4: Business analyst – 1 specialist**

General qualifications

- the level of education corresponding to university degree, i.e. completed undergraduate and graduate university study or integrated undergraduate and graduate university study or specialist professional graduate study
- Minimum 5 years of general work experience

Adequacy for the assignment

- minimum one (1) successfully completed project in which the specialist worked as business analyst/business process analyst/business consultant/quality control specialist or related tasks
- minimum one (1) successfully completed project in the health sector where the specialist worked on project activities including business analysis/business process analysis/business consulting/quality control or related activities (these projects may be among projects scored in the previous sub-criterion)

Experience in the Region and Language

- experience in EU Member States and knowledge of spoken and written Croatian would be considered an advantage

- **Specialist 5: IT specialist– 1 specialist**

General qualifications

- the level of education corresponding to university degree, i.e. completed undergraduate and graduate university study or integrated undergraduate and graduate university study or specialist professional graduate study
- Minimum 5 years of experience in the IT field

Adequacy for the assignment

- minimum one (1) successfully completed projects in which the specialist worked as IT specialist/IT system analyst/IT system architect or related tasks
- minimum one (1) project in the health sector where the specialist worked on project activities including business analysis of IT systems, IT system design, IT system development, IT system implementation or related activities

Experience in the Region and Language

- experience in EU Member States and knowledge of spoken and written Croatian would be considered an advantage

One person may not be appointed to more than one of the positions listed above.

VIII. INSTITUTIONAL AND ORGANIZATIONAL ARRANGEMENTS

The Client is obligated to provide all relevant documents to consultants (laws, regulations, reports and studies prepared in the framework of other projects), enable access to the necessary data (in all of the institutions and at all levels responsible for record keeping) and ensure regular communication with all the system stakeholders who can assist the consultant team in completing their contracted assignment. The Client shall appoint Authorized Representatives, who will have the overall responsibility for implementation of contract activities. The Consultant shall submit all deliverables to the Authorized Representatives and PIU 2.

IX. LANGUAGE

The language for communication and for project deliverables shall be Croatian. Reports shall be written in Croatian language and each report shall have one-page summary in the English language.