Empowered lives.
Resilient nations.

REQUEST FOR QUOTATION (RFQ)

NAME & ADDRESS OF FIRM:	DATE: **28 June 2018**
	REFERENCE: **RfQ18/01774**

Dear Sir / Madam:

We kindly request you to submit your quotation for Load and stress testing of the SAISE E-Day Application and CEC official website, as detailed in Annex 1 of this RFQ. When preparing your quotation, please be guided by the form attached hereto as Annex 2.

Quotations may be submitted on or before **12 July 2018, 16:00 (Moldova local time)** and via etendering system to the address below:

https://etendering.partneragencies.org
Username: event.guest
Password: why2change

BU Code: MDA10 and Event ID 0000002493

Once uploaded, Bidders that have accepted the invitation in the system will be notified via e-mail that changes have occurred. It is responsibility of the Bidder to view the respective changes and clarifications in the system.
Please Consult eTendering Resources for Bidders for additional information on bidding:
http://www.undp.org/content/undp/en/home/operations/procurement/business/procurement-notices/resources/

It shall remain your responsibility to ensure that your quotation will reach the address above on or before the deadline. Quotations that are received by UNDP after the deadline indicated above, for whatever reason, shall not be considered for evaluation. If you are submitting your quotation by email, kindly ensure that they are signed and in the .pdf format, and free from any virus or corrupted files.

Please take note of the following requirements and conditions pertaining to the supply of the abovementioned services:

Exact Address of Delivery Location	Moldova, Chisinau, str. Alecsandri 119, office 118, EDMITE Project
Latest Expected Delivery Date and Time:	☒ As per Delivery Schedule attached in Annex 1 – Terms of Reference
Delivery Schedule	☒Required
Preferred Currency of Quotation[1]	☒United States Dollars

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[1] *Local vendors must comply with any applicable laws regarding doing business in other currencies. Conversion of currency into the UNDP preferred currency, if the offer is quoted differently from what is required, shall be based only on UN Operational Exchange Rate prevailing at the time of UNDP's issuance of Purchase Order.*

Value Added Tax on Price Quotation	☒ Must be exclusive of VAT and other applicable indirect taxes
Deadline for the Submission of Quotation	**Date and Time: 12 July 2018, 16:00 (Moldova local time)** IMPORTANT NOTE: the time zone indicated in the Tendering system is New York Time zone. **PLEASE NOTE:** 1. Date and time visible on the main screen of event (on e-tendering portal) will be final and prevail over any other closing time indicated elsewhere, in case they are different. The correct proposal closing time is as indicated in the e-tendering portal and system will not accept any proposal after that time. It is the responsibility of the proposers to make sure proposals are submitted within this deadline. UNDP will not accept any proposal that is not submitted directly in the system. 2. Try to submit your proposal a day prior or well before the closing time. Do not wait until last minute. If you face any issue submitting your proposal at the last minute, UNDP may not be able to assist.
All documentations, including catalogs, instructions and operating manuals, shall be in this language	☒ English

Documents to be submitted	☒ Electronic submission of Proposal
	  https://etendering.partneragencies.org
	
	    Username: event.guest
	    Password: why2change
	
	Please note:
	  1. *It is strongly recommended to create your username with two parts, your first name and last name separately by ".", similar to the one shown above.*
	  2. *You can participate in the proposal event only if you have registered in the system.*
	
	☒ Duly Accomplished Form as provided in Annex 2, and in accordance with the list of requirements in Annex 1;
	☒ Company profile (short info up to 1 page);
	☒ Copy of Company's Registration Certificate;
	
	☒ Note: if the applicant is a foreign entity, it should have local legal subsidiary or have at least one core auditor that is resident of the Republic of Moldova.
	
	☒ Detailed technical description of the offered services;
	
	☒ Proven documentation, diplomas and/or basic standard procedures (issued by established certified organizations) for System Security, confirming certification for at least the Security Management Systems ISO/IEC 27001 standard;
	
	☒ Proposed Project Team with the required academic and professional qualifications;
	
	☒ Patent Registration Certificates (if any of technologies submitted in the quotation is patented by the Supplier);
	☒ Written Self-Declaration of not being included in the UN Security Council 1267/1989 list, UN Procurement Division List or other UN Ineligibility List;

Period of Validity of Quotes starting the Submission Deadline Date	☒ 60 days ☐ 90 days ☐ 120 days In exceptional circumstances, UNDP may request the Vendor to extend the validity of the Quotation beyond what has been initially indicated in this RFQ. The Proposal shall then confirm the extension in writing, without any modification whatsoever on the Quotation.
Partial Quotes	☒ Not permitted
Payment Terms	☒ 100% upon complete delivery of goods
Liquidated Damages	0.5% of contract for every day of delay, up to a maximum duration of 1 calendar month. Thereafter, the contract may be terminated.
Evaluation Criteria	☒ Technical responsiveness/Full compliance to requirements and lowest price[2]; ☒ At least five (5) years of proven technical knowledge and experience in designing and providing similar services; ☒ Proven experience in the implementation of at least 3 Stress Testing processes; ☒ Previous experience in the field of electoral systems will be considered a strong advantage. ☒ Full acceptance of the PO/Contract General Terms and Conditions ☒ The Project Team proposed by the bidder should meet the following requirements: ▪ Bachelor degree or higher in ICT. ▪ Consistent knowledge of testing mechanisms required in the Terms of Reference; ▪ Proven experience in the successful implementation of at least 3 similar projects, including in testing signalR (WebSocket) applications. ▪ Fluency in Romanian language (core staff). For managerial and support staff, the knowledge of English language will be considered an advantage.
UNDP will award to:	☒ One and only one supplier
Type of Contract to be Signed	☒ Other Type/s of Contract: Contract for Goods and Services
Special conditions of Contract	☒ Cancellation of PO/Contract if the delivery/completion is delayed by 30 days
Conditions for Release of Payment	☒ Passing Inspection ☒ Passing all Testing in accordance with Terms of Reference ☒ Written Acceptance of Services based on full compliance with RFQ requirements
Annexes to this RFQ	☒ Terms of Reference (Annex 1) ☒ Form for Submission of Quotation (Annex 2) ☒ General Terms and Conditions / Special Conditions Non-acceptance of the terms of the General Terms and Conditions (GTC) shall be grounds for disqualification from this procurement process.
Contact Person for Inquiries	Eva Bounegru - Project Manager, EDMITE Project Eva.Bounegru@undp.org

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[2] UNDP reserves the right not to award the contract to the lowest priced offer, if the second lowest price among the responsive offer is found to be significantly more superior, and the price is higher than the lowest priced compliant offer by not more than 10%, and the budget can sufficiently cover the price difference. The term "more superior" as used in this provision shall refer to offers that have exceeded the pre-determined requirements established in the specifications.

(Written inquiries only)[3]	Any delay in UNDP's response shall be not used as a reason for extending the deadline for submission, unless UNDP determines that such an extension is necessary and communicates a new deadline to the Proposers.

Goods offered shall be reviewed based on completeness and compliance of the quotation with the minimum specifications described above and any other annexes providing details of UNDP requirements.

The quotation that complies with all of the specifications, requirements and offers the lowest price, as well as all other evaluation criteria indicated, shall be selected. Any offer that does not meet the requirements shall be rejected.

Any discrepancy between the unit price and the total price (obtained by multiplying the unit price and quantity) shall be re-computed by UNDP. The unit price shall prevail and the total price shall be corrected. If the supplier does not accept the final price based on UNDP's re-computation and correction of errors, its quotation will be rejected.

After UNDP has identified the lowest price offer, UNDP reserves the right to award the contract based only on the prices of the goods in the event that the transportation cost (freight and insurance) is found to be higher than UNDP's own estimated cost if sourced from its own freight forwarder and insurance provider.

At any time during the validity of the quotation, no price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted by UNDP after it has received the quotation. At the time of award of Contract or Purchase Order, UNDP reserves the right to vary (increase or decrease) the quantity of services and/or goods, by up to a maximum twenty five per cent (25%) of the total offer, without any change in the unit price or other terms and conditions.

Any Purchase Order that will be issued as a result of this RFQ shall be subject to the General Terms and Conditions attached hereto. The mere act of submission of a quotation implies that the vendor accepts without question the General Terms and Conditions of UNDP herein attached as Annex 3.

UNDP is not bound to accept any quotation, nor award a contract/Purchase Order, nor be responsible for any costs associated with a Supplier's preparation and submission of a quotation, regardless of the outcome or the manner of conducting the selection process.

Please be advised that UNDP's vendor protest procedure is intended to afford an opportunity to appeal for persons or firms not awarded a purchase order or contract in a competitive procurement process. In the event that you believe you have not been fairly treated, you can find detailed information about vendor protest procedures in the following link: http://www.undp.org/procurement/protest.shtml.

UNDP encourages every prospective Vendor to avoid and prevent conflicts of interest, by disclosing to UNDP if you, or any of your affiliates or personnel, were involved in the preparation of the requirements, design, specifications, cost estimates, and other information used in this RFQ.

UNDP implements a zero tolerance on fraud and other proscribed practices, and is committed to identifying and addressing all such acts and practices against UNDP, as well as third parties involved in UNDP activities. UNDP expects its suppliers to adhere to the UN Supplier Code of Conduct found in this link : http://www.un.org/depts/ptd/pdf/conduct_english.pdf.

Thank you and we look forward to receiving your quotation.

Sincerely yours,

Denis Suschevici,
Head of Procurement Unit
UNDP Moldova

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[3] This contact person and address is officially designated by UNDP. If inquiries are sent to other person/s or address/es, even if they are UNDP staff, UNDP shall have no obligation to respond nor can UNDP confirm that the query was received.

TERMS OF REFERENCE

Load and stress testing of the SAISE E-Day Application and CEC official website

Project title: Enhancing democracy in Moldova through inclusive and transparent elections

Implementation period: August – November 2018

A. Background

"Enhancing democracy in Moldova through inclusive and transparent elections" (EDMITE Project) is a project that sets the overall goal to achieve an enhanced transparency and inclusiveness of the electoral process in Moldova through a modernized IT system, improved legislation and intensified public participation, addressing the root causes of the current challenges hampering the further development of the democracy and the advancement of the electoral process in the Republic of Moldova.

During 2012-2017, UNDP offered support to the Central Electoral Commission (CEC) in the areas of gender equality and human rights, institutional capacity development, further development and use of the modern and innovative State Automated Information System 'Elections" (SAISE), strategic development of the Center for Continuous Electoral Training (CICDE), political party finance legislation implementation and a transparent electoral reform processes. Moreover, substantial steps were taken in addressing challenges to the electoral process related to the data quality and data exchange possibilities among key registers owned by different government institutions. Based on the solid results achieved, UNDP continues to support the CEC and CICDE to ensure the finality and sustainability of the previous UNDP interventions through EDMITE project.

The EDMITE Project aims to contribute to: (1) achieving a more accurate State Register of Voters (SRV), improving the quality and accessibility data by re-engineering the Civil Status Service systems, fully developing the State Address Register and facilitating data exchange and interoperability between different central public institutions via governmental platform for data exchange MConnect; (2) enhancing the inclusiveness of the electoral process through developing a remote voting tool and adjusting the State Automated Information System "Elections" to keep up with the technical and political developments; (3) legal reform in the area of elections to erase ambiguities and respond to the technical developments; and (4) enhancing political participation of citizens by setting up and implementing the voter information and civic education programs.

The State Automated Information System "Elections" (SAISE) is an informational solution developed to automate the processes of preparing, carrying out, and totalizing elections' and referendums' results.

Being conceived from the very start as an information system meant to cover the totality of activity areas of the Central Election Commission of the Republic of Moldova, SAISE was widely operated mainly for its function of registering electronically the voters, sending the reports related to the minutes of the precinct electoral bureaus within the organized elections and presenting the preliminary results in real-time by publishing them on the CEC official webpage ([www.cec.md)](www.cec.md).

B. Scope of services and expected outputs

The EDMITE Project is looking to contract a specialized Company to perform two (2) load and stress tests of the SAISE E-Day Application and CEC official website, as follows:

✓ **Test no. 1 / Load and stress test of SAISE E-Day Application:**

This test is aimed to reproduce the E-Day Application behavior during the Election Day. Nevertheless, if the problems identified after Test no. 1 will involve any changes (including at the architecture level), the test shall be adjusted and repeated in line with the operated modifications/corrections. In total – a minimum of two (2) and maximum of four (4) tests stages are expected to be performed by the Company.

✓ **Test no. 2 / Load and stress test of the CEC's web page (www.cec.md), particularly the reporting page(s):**

This second test is aimed to reproduce the workload of the official web page of the CEC, particularly the reporting page(s), during Election Day and the following day. If the first and second stages of Test no. 2 will identify any problem, it will be necessary to adjust and repeat the test accordingly. In total – a minimum of two (2) and maximum of four (4) tests stages are expected.

Note: These tests shall also identify the best method of tuning the IIS and balancing this type of connections.

Specifically, the Company will have the following responsibilities:

- Create test scenarios for load and stress testing;
- Prepare test environment/ set up load generation and monitoring tools;
- Execute tests/ monitor execution process;

- Provide execution report and suggestions;
- Act on the CEC's requests in 24 hours timeframe (general) and in 2 hours timeframe (for high priority issues).

C. Specific Requirements for Testing

1. Platform for testing

The tests shall be carried out on the platform provided by the Central Electoral Commission within the premises of the CEC. A local network of testing environment will be created for testing and it will be connected to the server infrastructure accordingly. The following will be used at the level of technical infrastructure:

Test no. 1:

- 4 to 6 Webservers (ASPX) behind the load balancer;
- 2 to 4 MS SQL servers;
- Testing environment for Test Load generation will be provided by CEC as follows:
    - 2 to 4 Virtual Servers with 6 CPUs and 16 GB of RAM with OS Windows Server 2012 Std. preinstalled;
    - Network flow: internal traffic.

Test no. 2:

- 1 to 3 IIS Web Servers behind the load balancer;
- 2 to 4 MS SQL Servers
- Type of connections flow: combined (external Internet traffic behind the balancer), WebSocket connections based on signalR hubs;
- Testing environment for Test Load generation will be provided by CEC as follows:
    - 2 to 4 Virtual Servers with 6 CPUs and 16 GB of RAM (or more) with OS Windows Server 2012 Std. preinstalled;
    - Network flow: external – internet traffic;

2. Software recommended for testing

- Load generation tool for Test no. 1: Apache Jmeter;
- Load generation tool for Test no. 2: Apache Jmeter and/ or any WebSocket (for signalR hub)

Note: these tools are best suitable and available in opensource format.

- Monitoring tools: Standard Windows tools or other related tools (e.g. PERFMON, Zabbix, etc.)

Note: these tools shall be accordingly configured by the Company, in collaboration with the CEC, on the existing monitoring platforms.

3. Testing mechanism and used scenarios

Test no. 1:

The following test types/ test scenarios have been identified:

- Main Load Test - to be run for 14 hours with a varied load during the day;

Note: it is required to maintain a high number of open sessions (4,400) with a various number of requests generated (average of 300 requests per second).

- Stress Test - to be run for 2 hours (average 500 requests per second);
- 2-3 Tests for E-Day Report sending - each lasting 15-20 minutes for 2,200 user sessions;
- 2-3 Tests for Logins (peak/ normal test) - each lasting 15-20 minutes;
- 2-3 Tests for Logouts (peak/ normal test) - each lasting 15-20 minutes.

Test cases to be used for Test no. 1:

- Navigate to data entry page, enter full IDNP and start search. In case of successful search, press a button "A" (button name to be defined);
- Navigate to data entry page, enter full IDNP and start search. In case of unsuccessful search, press a button "B" (button name to be defined);
- Navigate to data entry page, enter incomplete IDNP and start search. Select from the available options and press button "A";

- Navigate to data entry page, enter invalid (nonexistent) IDNP and start search. In case of unsuccessful search, press a button "B" (button name to be defined);
- Navigate to reporting page and send a report.

The workload model will assume:
- Average load on citizens search – 500 requests per second (or 500 requests per second for Stress test);
- At the beginning of the day 4,400 clients will be logging in within 30 minutes timeframe;
- At the end of the day 2,200 clients will be sending reports (within 15 minutes);
- At the end of the day 2,200 clients will be logging off in parallel with another 2,200 sending reports (within 15 minutes);
- During the day sporadic logins/logouts will be generated to emulate lunch break.

Test no. 2:
The following test types/ test cases have been identified:
- Main Load Test - to be run for 16 hours with the peak load of 80,000 users having total of 80,000 ±18,000 established connections during these 16 hours;

Note: The step-up number of the connected users will be established before and/or during the preparation of the tests scripts.

- Stress Test - to be run for 2 hours with an average of 11-14 connected users per second (established connections).

Test cases to be used for Test no. 2:
Case 1:
- Navigate to data entry page;
- Select type "A" of the report for viewing;
- Press Button "A" (button name to be defined) – connection is established;
- Each user within 6-8 minutes, randomly press refresh button;
- Press again Button "A" (button name to be defined).

Case 2:

- Navigate to data entry page;
- Select type "B" of the report for viewing;
- Press Button "A" (button name to be defined) – connection is established;
- Within 2-3 minutes, randomly press refresh button;
- Press again Button "A" (button name to be defined).

D. Key deliverables and tentative timetable

No	Key deliverables	Tentative deadline
1.	- Load and stress Test no. 1 performed; - Report on test results developed and accepted by the CEC and EDMITE Project. The Report shall include, but not limited to: ⇨ *Result synthesis,* ⇨ *List of identified deficiencies,* ⇨ *Set recommendations for amending the E-Day Application after the testing.*	by 18.10.2018*
2.	- Load and stress Test No.2 performed; - Report on test results developed and accepted by the CEC and EDMITE Project. The Report shall include, but not limited to: ⇨ *Result synthesis,* ⇨ *List of identified deficiencies,* ⇨ *Recommendations for amending the web page and/or its infrastructure.*	by 18.10.2018*
3.	Testing scripts for all stages, as well as Virtual Machines created for the testing environment (with technical description on steps to be undertaken for future testing purposes) developed and approved by the CEC and EDMITE Project.	by 15.11.2018
4.	Final Activity Report – elaborated and approved by the CEC and UNDP Project.	by 30.11.2018

* The exact delivery period of the 1st and 2nd reports (incl. expressed recommendations) will be specified by the end of the testing activities, and will not be set later than 3 weeks before the Election Day.

E. Confidentiality statement

All data and information offered by the EDMITE Project and CEC for the purpose of this assignment must be treated with confidentiality and must be used only for the purpose of activities stipulated by these Terms of Reference. All intellectual property rights that arise from the implementation of these Terms of Reference are attributed to UNDP. The content of materials obtained and used during the period of the contractual assignment cannot be disclosed to any third party without the written consent of the EDMITE Project.

F. Required qualifications of the Company

Interested bidders should meet the following institutional requirements:
- Be a legally registered entity or a consortium of firms;
- Note: if the applicant is a foreign entity, it should have local legal subsidiary or have at least one core auditor that is resident of the Republic of Moldova.
- At least five (5) years of proven technical knowledge and experience in designing and providing similar services;
- Proven experience in the implementation of at least 3 Stress Testing processess
- Proven documentation, diplomas and/or basic standard procedures (issued by established certified organizations) for System Security, confirming certification for at least the Security Management Systems ISO/IEC 27001 standard;
- Proposed Project Team with the required academic and professional qualifications;
- Previous experience in the field of electoral systems will be considered a strong advantage.

The Project Team proposed by the bidder should meet the following requirements:
- Bachelor degree or higher in ICT.
- Consistent knowledge of testing mechanisms required in the Terms of Reference;
- Proven experience in the successful implementation of at least 3 similar projects, including in testing signalR (WebSocket) applications.
- Fluency in Romanian language (core staff). For managerial and support staff, the knowledge of English language will be considered an advantage.

G. Institutional arrangements

The Company will fulfill its contractual assignments under the guidance and direct coordination of the Informational Technology and Electoral List Management Department of the Central Electoral Commission, and under the supervision of the EDMITE Senior Project Officer.

The Central Electoral Commission will provide the Company with access to information and materials necessary for the fulfillment of the envisaged tasks (including requirements, user stories and access to analysts for implementation questions; and system architecture/ guidelines or preferences in implementation patterns). The EDMITE Project will provide administrative and logistic support, including for organizing the necessary meetings.

Deliverables (including reports and testing scripts of the testing stages) will be approved by the designated CEC representative and EDMITE Project. All documentation related to deliverables shall be provided by the Company in Romanian language.

Payments will be done in multiple tranches, upon presenting and approving the deliverables, as well as the activity reports. Unit prices shall be **exclusive of VAT**.

H. Timeframe

Contractual assignments shall be initiated not later than the **20th August 2018** and shall be fully completed not later that the **30th of November 2018**.

FORM FOR SUBMITTING SUPPLIER'S QUOTATION[4]
(This Form must be submitted only using the Supplier's Official Letterhead/Stationery[5])

We, the undersigned, hereby accept in full the UNDP General Terms and Conditions, and hereby offer to supply the items listed below in conformity with the specification and requirements of UNDP as per RFQ Reference No. _____ :

TABLE 1 : Offer to Supply Goods Compliant with Technical Specifications and Requirements

Item No.	Description/Specification of Goods	Quantity	Latest Delivery Date	Unit Price	Total Price per Item
	Total Prices of Goods[6]				
	Add : Cost of Transportation				
	Add : Cost of Insurance				
	Add : Other Charges (pls. specify)				
	Total Final and All-Inclusive Price Quotation				

TABLE 2 : Estimated Operating Costs (if applicable)

List of Consumable Item/s *(Include fast moving parts, if any)*	Estimated Average Consumption	Unit of Measure	Unit Price	Total Price per Item

TABLE 3 : Offer to Comply with Other Conditions and Related Requirements

	Your Responses

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[4] *This serves as a guide to the Supplier in preparing the quotation and price schedule.*
[5] *Official Letterhead/Stationery must indicate contact details – addresses, email, phone and fax numbers – for verification purposes*
[6] *Pricing of goods should be consistent with the INCO Terms indicated in the RFQ*

Other Information pertaining to our Quotation are as follows :	Yes, we will comply	No, we cannot comply	If you cannot comply, pls. indicate counter proposal
Delivery Lead Time			
Estimated weight/volume/dimension of the Consignment:			
Country/ies Of Origin[7]:			
Warranty and After-Sales Requirements			
a) Training on Operations and Maintenance			
b) Minimum one (1) year warranty on both parts and labor			
c) Service Unit to be Provided when the Purchased Unit is Under Repair			
d) Brand new replacement if Purchased Unit is beyond repair			
e) Others			
Validity of Quotation			
All Provisions of the UNDP General Terms and Conditions			
Other requirements [pls. specify]			

All other information that we have not provided automatically implies our full compliance with the requirements, terms and conditions of the RFQ.

[Name and Signature of the Supplier's Authorized Person]
[Designation]
[Date]

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[7] *If the country of origin requires Export License for the goods being procured, or other relevant documents that the country of destination may require, the supplier must submit them to UNDP if awarded the PO/contract.*