



*Empowered lives.
Resilient nations.*

INVITATION TO BID

Reannouncement: Supply and installation of videoconferencing network for the Ministry of Justice of the Republic of Uzbekistan between the central office and its territorial bodies (Lot 1) and General Prosecutor office and its territorial bodies (Lot 2)

ITB No.: Reannouncement ITB/003/19

Project: Preventing corruption through effective, accountable and transparent governance institutions in Uzbekistan

Country: Tashkent, Republic of Uzbekistan

Issued on: 2 September 2019

CONTENTS

Section 1. Letter of Invitation	4
Section 2. Instruction to Bidders	5
A. GENERAL PROVISIONS	6
1. Introduction	6
2. Fraud & Corruption, Gifts and Hospitality	6
3. Eligibility	6
4. Conflict of Interests.....	7
B. PREPARATION OF BIDS	7
5. General Considerations	7
6. Cost of Preparation of Bid.....	7
7. Language.....	7
8. Documents Comprising the Bid.....	8
9. Documents Establishing the Eligibility and Qualifications of the Bidder	8
10. Technical Bid Format and Content.....	8
11. Price Schedule	8
12. Bid Security.....	9
13. Currencies	9
14. Joint Venture, Consortium or Association.....	10
15. Only One Bid.....	11
16. Bid Validity Period	11
17. Extension of Bid Validity Period.....	11
18. Clarification of Bid (from the Bidders).....	11
19. Amendment of Bids	12
20. Alternative Bids	12
21. Pre-Bid Conference	12
C. SUBMISSION AND OPENING OF BIDS	12
22. Submission	12
Hard copy (manual) submission	13
Email and eTendering submissions	13
23. Deadline for Submission of Bids and Late Bids.....	13
24. Withdrawal, Substitution, and Modification of Bids	14
25. Bid Opening	14
D. EVALUATION OF BIDS.....	14
26. Confidentiality	14
27. Evaluation of Bids	14
28. Preliminary Examination	15
29. Evaluation of Eligibility and Qualification.....	15
30. Evaluation of Technical Bid and prices	15

31. Due diligence.....	15
32. Clarification of Bids	16
33. Responsiveness of Bid	16
34. Nonconformities, Reparable Errors and Omissions	16
E. AWARD OF CONTRACT	16
35. Right to Accept, Reject, Any or All Bids.....	16
36. Award Criteria.....	17
37. Debriefing	17
38. Right to Vary Requirements at the Time of Award.....	17
39. Contract Signature	17
40. Contract Type and General Terms and Conditions	17
41. Performance Security	17
42. Bank Guarantee for Advanced Payment	17
43. Liquidated Damages.....	17
44. Payment Provisions.....	17
45. Vendor Protest.....	18
46. Other Provisions.....	18
Section 3. Bid Data Sheet.....	19
Section 4. Evaluation Criteria	22
Section 5a: Schedule of Requirements and Technical Specifications/Bill of Quantities.....	24
Section 5b: Other Related Requirements	44
Section 6: Returnable Bidding Forms / Checklist.....	72
Form A: Bid Submission Form.....	73
Form B: Bidder Information Form.....	74
Form C: Joint Venture/Consortium/Association Information Form	76
Form D: Eligibility and Qualification Form	77
Form E: Technical Bid FORMAT	79

SECTION 1. LETTER OF INVITATION

The United Nations Development Programme (UNDP) hereby invites you to submit a Bid to this Invitation to Bid (ITB) for the above-referenced subject.

This ITB includes the following documents and the General Terms and Conditions of Contract which is inserted in the Bid Data Sheet:

- Section 1: This Letter of Invitation
- Section 2: Instruction to Bidders
- Section 3: Bid Data Sheet (BDS)
- Section 4: Evaluation Criteria
- Section 5: Schedule of Requirements and Technical Specifications
- Section 6: Returnable Bidding Forms
 - Form A: Bid Submission Form
 - Form B: Bidder Information Form
 - Form C: Joint Venture/Consortium/Association Information Form
 - Form D: Qualification Form
 - Form E: Format of Technical Bid
 - Form F: Price Schedule
- Form G: Form of Bid Security If you are interested in submitting a Bid in response to this ITB, please prepare your Bid in accordance with the requirements and procedure as set out in this ITB and submit it by the Deadline for Submission of Bids set out in Bid Data Sheet.

Please acknowledge receipt of this ITB by sending an email to pu.uz.undp.org, indicating whether you intend to submit a Bid or otherwise. You may also utilize the "Accept Invitation" function in eTendering system, where applicable. This will enable you to receive amendments or updates to the ITB. Should you require further clarifications, kindly communicate with the contact person/s identified in the attached Data Sheet as the focal point for queries on this ITB.

UNDP looks forward to receiving your Bid and thank you in advance for your interest in UNDP procurement opportunities.

Issued by

Name: Procurement Unit

Title: Procurement Unit

Date: **September 2, 2019**

SECTION 2. INSTRUCTION TO BIDDERS

6.1 GENERAL PROVISIONS

<p>1.1.1. Introduction</p>	<p>1.1 Bidders shall adhere to all the requirements of this ITB, including any amendments made in writing by UNDP. This ITB is conducted in accordance with the UNDP Programme and Operations Policies and Procedures (POPP) on Contracts and Procurement which can be accessed at https://popp.undp.org/SitePages/POPPBSUnit.aspx?TermID=254a9f96-b883-476a-8ef8-e81f93a2b38d</p> <p>1.2 Any Bid submitted will be regarded as an offer by the Bidder and does not constitute or imply the acceptance of the Bid by UNDP. UNDP is under no obligation to award a contract to any Bidder as a result of this ITB.</p> <p>1.3 UNDP reserves the right to cancel the procurement process at any stage without any liability of any kind for UNDP, upon notice to the bidders or publication of cancellation notice on UNDP website.</p> <p>1.4 As part of the bid, it is desired that the Bidder registers at the United Nations Global Marketplace (UNGM) website (www.ungm.org). The Bidder may still submit a bid even if not registered with the UNGM. However, if the Bidder is selected for contract award, the Bidder must register on the UNGM prior to contract signature.</p>
<p>1.1.2. Fraud & Corruption, Gifts and Hospitality</p>	<p>1.5 UNDP strictly enforces a policy of zero tolerance on proscribed practices, including fraud, corruption, collusion, unethical or unprofessional practices, and obstruction of UNDP vendors and requires all bidders/vendors observe the highest standard of ethics during the procurement process and contract implementation. UNDP's Anti-Fraud Policy can be found at http://www.undp.org/content/undp/en/home/operations/accountability/audit/office_of_audit_andinvestigation.html#anti</p> <p>1.6 Bidders/vendors shall not offer gifts or hospitality of any kind to UNDP staff members including recreational trips to sporting or cultural events, theme parks or offers of holidays, transportation, or invitations to extravagant lunches or dinners.</p> <p>1.7 In pursuance of this policy, UNDP:</p> <p>(a) Shall reject a bid if it determines that the selected bidder has engaged in any corrupt or fraudulent practices in competing for the contract in question;</p> <p>(b) Shall declare a vendor ineligible, either indefinitely or for a stated period, to be awarded a contract if at any time it determines that the vendor has engaged in any corrupt or fraudulent practices in competing for, or in executing a UNDP contract.</p> <p>1.8 All Bidders must adhere to the UN Supplier Code of Conduct, which may be found at http://www.un.org/depts/ptd/pdf/conduct_english.pdf</p>
<p>1.1.3. Eligibility</p>	<p>1.9 A vendor should not be suspended, debarred, or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization. Vendors are therefore required to disclose to UNDP whether they are subject to any sanction or temporary suspension imposed by these organizations.</p> <p>1.10 It is the Bidder's responsibility to ensure that its employees, joint venture members, sub-contractors, service providers, suppliers and/or their employees meet the eligibility requirements as established by UNDP.</p>

<p>1.1.4. Conflict of Interests</p>	<p>1.11 Bidders must strictly avoid conflicts with other assignments or their own interests, and act without consideration for future work. Bidders found to have a conflict of interest shall be disqualified. Without limitation on the generality of the above, Bidders, and any of their affiliates, shall be considered to have a conflict of interest with one or more parties in this solicitation process, if they:</p> <ul style="list-style-type: none"> a) Are or have been associated in the past, with a firm or any of its affiliates which have been engaged by UNDP to provide services for the preparation of the design, specifications, Terms of Reference, cost analysis/estimation, and other documents to be used for the procurement of the goods and services in this selection process; b) Were involved in the preparation and/or design of the programme/project related to the goods and/or services requested under this ITB; or c) Are found to be in conflict for any other reason, as may be established by, or at the discretion of UNDP. <p>1.12 In the event of any uncertainty in the interpretation of a potential conflict of interest, Bidders must disclose to UNDP, and seek UNDP's confirmation on whether or not such conflict exists.</p> <p>1.13 Similarly, the Bidders must disclose in their Bid their knowledge of the following:</p> <ul style="list-style-type: none"> a) If the owners, part-owners, officers, directors, controlling shareholders, of the bidding entity or key personnel who are family members of UNDP staff involved in the procurement functions and/or the Government of the country or any Implementing Partner receiving goods and/or services under this ITB; and b) All other circumstances that could potentially lead to actual or perceived conflict of interest, collusion or unfair competition practices. <p>Failure to disclose such an information may result in the rejection of the Bid or Bids affected by the non-disclosure.</p> <p>1.14 The eligibility of Bidders that are wholly or partly owned by the Government shall be subject to UNDP's further evaluation and review of various factors such as being registered, operated and managed as an independent business entity, the extent of Government ownership/share, receipt of subsidies, mandate and access to information in relation to this ITB, among others. Conditions that may lead to undue advantage against other Bidders may result in the eventual rejection of the Bid.</p>
<p>B. PREPARATION OF BIDS</p>	
<p>1.1.5. General Considerations</p>	<p>1.15 In preparing the Bid, the Bidder is expected to examine the ITB in detail. Material deficiencies in providing the information requested in the ITB may result in rejection of the Bid.</p> <p>1.16 The Bidder will not be permitted to take advantage of any errors or omissions in the ITB. Should such errors or omissions be discovered, the Bidder must notify the UNDP accordingly.</p>
<p>1.1.6. Cost of Preparation of Bid</p>	<p>1.17 The Bidder shall bear all costs related to the preparation and/or submission of the Bid, regardless of whether its Bid is selected or not. UNDP shall not be responsible or liable for those costs, regardless of the conduct or outcome of the procurement process.</p>
<p>1.1.7. Language</p>	<p>1.18 The Bid, as well as any and all related correspondence exchanged by the Bidder and UNDP, shall be written in the language (s) specified in the BDS.</p>

1.1.8. Documents Comprising the Bid	<p>1.19 The Bid shall comprise of the following documents and related forms which details are provided in the BDS:</p> <ul style="list-style-type: none"> a) Documents Establishing the Eligibility and Qualifications of the Bidder; b) Technical Bid; c) Price Schedule; d) Bid Security, if required by BDS; e) Any attachments and/or appendices to the Bid.
1.1.9. Documents Establishing the Eligibility and Qualifications of the Bidder	<p>1.20 The Bidder shall furnish documentary evidence of its status as an eligible and qualified vendor, using the Forms provided under Section 6 and providing documents required in those forms. In order to award a contract to a Bidder, its qualifications must be documented to UNDP's satisfaction.</p>
1.1.10. Technical Bid Format and Content	<p>1.21 The Bidder is required to submit a Technical Bid using the Standard Forms and templates provided in Section 6 of the ITB.</p> <p>1.22 Samples of items, when required as per Section 5, shall be provided within the time specified and unless otherwise specified by the Purchaser, at no expense to the UNDP. If not destroyed by testing, samples will be returned at Bidder's request and expense, unless otherwise specified.</p> <p>1.23 When applicable and required as per Section 5, the Bidder shall describe the necessary training programme available for the maintenance and operation of the equipment offered as well as the cost to the UNDP. Unless otherwise specified, such training as well as training materials shall be provided in the language of the Bid as specified in the BDS.</p> <p>1.24 When applicable and required as per Section 5, the Bidder shall certify the availability of spare parts for a period of at least five (5) years from date of delivery, or as otherwise specified in this ITB.</p>
1.1.11. Price Schedule	<p>1.25 The Price Schedule shall be prepared using the Form provided in Section 6 of the ITB and taking into consideration the requirements in the ITB.</p> <p>1.26 Any requirement described in the Technical Bid but not priced in the Price Schedule, shall be assumed to be included in the prices of other activities or items, as well as in the final total price.</p>

<p>1.1.12. Security</p> <p>Bid</p>	<p>1.27 A Bid Security, if required by BDS, shall be provided in the amount and form indicated in the BDS. The Bid Security shall be valid for a minimum of thirty (30) days after the final date of validity of the Bid.</p> <p>1.28 The Bid Security shall be included along with the Bid. If Bid Security is required by the ITB but is not found in the Bid, the offer shall be rejected.</p> <p>1.29 If the Bid Security amount or its validity period is found to be less than what is required by UNDP, UNDP shall reject the Bid.</p> <p>1.30 In the event an electronic submission is allowed in the BDS, Bidders shall include a copy of the Bid Security in their bid and the original of the Bid Security must be sent via courier or hand delivery as per the instructions in BDS.</p> <p>1.31 The Bid Security may be forfeited by UNDP, and the Bid rejected, in the event of any, or combination, of the following conditions:</p> <ul style="list-style-type: none"> a) If the Bidder withdraws its offer during the period of the Bid Validity specified in the BDS, or; b) In the event the successful Bidder fails: <ul style="list-style-type: none"> i. to sign the Contract after UNDP has issued an award; or ii. to furnish the Performance Security, insurances, or other documents that UNDP may require as a condition precedent to the effectivity of the contract that may be awarded to the Bidder.
<p>1.1.13. Currencies</p>	<p>1.32 All prices shall be quoted in the currency or currencies indicated in the BDS. Where Bids are quoted in different currencies, for the purposes of comparison of all Bids:</p> <ul style="list-style-type: none"> a) UNDP will convert the currency quoted in the Bid into the UNDP preferred currency, in accordance with the prevailing UN operational rate of exchange on the last day of submission of Bids; and b) In the event that UNDP selects a Bid for award that is quoted in a currency different from the preferred currency in the BDS, UNDP shall reserve the right to award the contract in the currency of UNDP's preference, using the conversion method specified above.

<p>1.1.14. Joint Venture, Consortium or Association</p>	<p>1.33 If the Bidder is a group of legal entities that will form or have formed a Joint Venture (JV), Consortium or Association for the Bid, they shall confirm in their Bid that : (i) they have designated one party to act as a lead entity, duly vested with authority to legally bind the members of the JV, Consortium or Association jointly and severally, which shall be evidenced by a duly notarized Agreement among the legal entities, and submitted with the Bid; and (ii) if they are awarded the contract, the contract shall be entered into, by and between UNDP and the designated lead entity, who shall be acting for and on behalf of all the member entities comprising the joint venture.</p> <p>1.34 After the Deadline for Submission of Bid, the lead entity identified to represent the JV, Consortium or Association shall not be altered without the prior written consent of UNDP.</p> <p>1.35 The lead entity and the member entities of the JV, Consortium or Association shall abide by the provisions of Clause 9 herein in respect of submitting only one Bid.</p> <p>1.36 The description of the organization of the JV, Consortium or Association must clearly define the expected role of each of the entities in the joint venture in delivering the requirements of the ITB, both in the Bid and the JV, Consortium or Association Agreement. All entities that comprise the JV, Consortium or Association shall be subject to the eligibility and qualification assessment by UNDP.</p> <p>1.37 A JV, Consortium or Association in presenting its track record and experience should clearly differentiate between:</p> <ul style="list-style-type: none"> a) Those that were undertaken together by the JV, Consortium or Association; and b) Those that were undertaken by the individual entities of the JV, Consortium or Association. <p>1.38 Previous contracts completed by individual experts working privately but who are permanently or were temporarily associated with any of the member firms cannot be claimed as the experience of the JV, Consortium or Association or those of its members, but should only be claimed by the individual experts themselves in their presentation of their individual credentials</p> <p>1.39 JV, Consortium or Associations are encouraged for high value, multi-sectoral requirements when the spectrum of expertise and resources required may not be available within one firm.</p>
--	--

<p>1.1.15. Only One Bid</p>	<p>1.40 The Bidder (including the individual members of any Joint Venture) shall submit only one Bid, either in its own name or as part of a Joint Venture.</p> <p>1.41 Bids submitted by two (2) or more Bidders shall all be rejected if they are found to have any of the following:</p> <ul style="list-style-type: none"> a) they have at least one controlling partner, director or shareholder in common; or b) any one of them receive or have received any direct or indirect subsidy from the other/s; or c) they have the same legal representative for purposes of this ITB; or d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about, or influence on the Bid of another Bidder regarding this ITB process; e) they are subcontractors to each other's Bid, or a subcontractor to one Bid also submits another Bid under its name as lead Bidder; or some key personnel proposed to be in the team of one Bidder participates in more than one Bid received for this ITB process. This condition relating to the personnel, does not apply to subcontractors being included in more than one Bid.
<p>1.1.16. Bid Validity Period</p>	<p>1.42 Bids shall remain valid for the period specified in the BDS, commencing on the Deadline for Submission of Bids. A Bid valid for a shorter period may be rejected by UNDP and rendered non-responsive.</p> <p>1.43 During the Bid validity period, the Bidder shall maintain its original Bid without any change, including the availability of the Key Personnel, the proposed rates and the total price.</p>
<p>1.1.17. Extension of Bid Validity Period</p>	<p>1.44 In exceptional circumstances, prior to the expiration of the Bid validity period, UNDP may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing, and shall be considered integral to the Bid.</p> <p>1.45 If the Bidder agrees to extend the validity of its Bid, it shall be done without any change to the original Bid.</p> <p>1.46 The Bidder has the right to refuse to extend the validity of its Bid, in which case, the Bid shall not be further evaluated.</p>
<p>1.1.18. Clarification of Bid (from the Bidders)</p>	<p>1.47 Bidders may request clarifications on any of the ITB documents no later than the date indicated in the BDS. Any request for clarification must be sent in writing in the manner indicated in the BDS. If inquiries are sent other than specified channel, even if they are sent to a UNDP staff member, UNDP shall have no obligation to respond or confirm that the query was officially received.</p> <p>1.48 UNDP will provide the responses to clarifications through the method specified in the BDS.</p> <p>1.49 UNDP shall endeavour to provide responses to clarifications in an expeditious manner, but any delay in such response shall not cause an obligation on the part of UNDP to extend the submission date of the Bids, unless UNDP deems that such an extension is justified and necessary.</p>

1.1.19. nt of Bids	Amendme	<p>1.50 At any time prior to the deadline of Bid submission, UNDP may for any reason, such as in response to a clarification requested by a Bidder, modify the ITB in the form of an amendment to the ITB. Amendments will be made available to all prospective bidders.</p> <p>1.51 If the amendment is substantial, UNDP may extend the Deadline for submission of Bid to give the Bidders reasonable time to incorporate the amendment into their Bids.</p>
1.1.20. e Bids	Alternativ	<p>1.52 Unless otherwise specified in the BDS, alternative Bids shall not be considered. If submission of alternative Bid is allowed by BDS, a Bidder may submit an alternative Bid, but only if it also submits a Bid conforming to the ITB requirements. Where the conditions for its acceptance are met, or justifications are clearly established, UNDP reserves the right to award a contract based on an alternative Bid.</p> <p>1.53 If multiple/alternative bids are being submitted, they must be clearly marked as "Main Bid" and "Alternative Bid"</p>
1.1.21. Conference	Pre-Bid	<p>1.54 When appropriate, a pre-bid conference will be conducted at the date, time and location specified in the BDS. All Bidders are encouraged to attend. Non-attendance, however, shall not result in disqualification of an interested Bidder. Minutes of the Bidder's conference will be disseminated on the procurement website and shared by email or on the e-Tendering platform as specified in the BDS. No verbal statement made during the conference shall modify the terms and conditions of the ITB, unless specifically incorporated in the Minutes of the Bidder's Conference or issued/posted as an amendment to ITB.</p>
C. SUBMISSION AND OPENING OF BIDS		
1.1.22. n	Submissio	<p>1.55 The Bidder shall submit a duly signed and complete Bid comprising the documents and forms in accordance with requirements in the BDS. The Price Schedule shall be submitted together with the Technical Bid. Bid can be delivered either personally, by courier, or by electronic method of transmission as specified in the BDS.</p> <p>1.56 The Bid shall be signed by the Bidder or person(s) duly authorized to commit the Bidder. The authorization shall be communicated through a document evidencing such authorization issued by the legal representative of the bidding entity, or a Power of Attorney, accompanying the Bid.</p> <p>1.57 Bidders must be aware that the mere act of submission of a Bid, in and of itself, implies that the Bidder fully accepts the UNDP General Contract Terms and Conditions.</p>

<p>Hard copy (manual) submission</p>	<p>1.58 Hard copy (manual) submission by courier or hand delivery allowed or specified in the BDS shall be governed as follows:</p> <p>a) The signed Bid shall be marked "Original", and its copies marked "Copy" as appropriate. The number of copies is indicated in the BDS. All copies shall be made from the signed original only. If there are discrepancies between the original and the copies, the original shall prevail.</p> <p>(b) The Technical Bid and Price Schedule must be sealed and submitted together in an envelope, which shall:</p> <ul style="list-style-type: none"> i. Bear the name of the Bidder; ii. Be addressed to UNDP as specified in the BDS; and iii. Bear a warning not to open before the time and date for Bid opening as specified in the BDS. <p>If the envelope with the Bid is not sealed and marked as required, UNDP shall assume no responsibility for the misplacement, loss, or premature opening of the Bid.</p>
<p>Email and eTendering submissions</p>	<p>1.59 Electronic submission through email or eTendering, if allowed as specified in the BDS, shall be governed as follows:</p> <p>a) Electronic files that form part of the Bid must be in accordance with the format and requirements indicated in BDS;</p> <p>b) Documents which are required to be in original form (e.g. Bid Security, etc.) must be sent via courier or hand delivered as per the instructions in BDS.</p> <p>1.60 Detailed instructions on how to submit, modify or cancel a bid in the eTendering system are provided in the eTendering system Bidder User Guide and Instructional videos available on this link: http://www.undp.org/content/undp/en/home/operations/procurement/business/procurement-notice/resources/</p>
<p>1.1.23. Deadline for Submission of Bids and Late Bids</p>	<p>1.61 Complete Bids must be received by UNDP in the manner, and no later than the date and time, specified in the BDS. UNDP shall only recognise the actual date and time that the bid was received by UNDP</p> <p>1.62 UNDP shall not consider any Bid that is received after the deadline for the submission of Bids.</p>

1.1.24. Withdrawal, Substitution, and Modification of Bids	<p>1.63 A Bidder may withdraw, substitute or modify its Bid after it has been submitted at any time prior to the deadline for submission.</p> <p>1.64 Manual and Email submissions: A bidder may withdraw, substitute or modify its Bid by sending a written notice to UNDP, duly signed by an authorized representative, and shall include a copy of the authorization (or a Power of Attorney). The corresponding substitution or modification of the Bid, if any, must accompany the respective written notice. All notices must be submitted in the same manner as specified for submission of Bids, by clearly marking them as "WITHDRAWAL" "SUBSTITUTION," or "MODIFICATION"</p> <p>1.65 eTendering: A Bidder may withdraw, substitute or modify its Bid by Cancelling, Editing, and re-submitting the Bid directly in the system. It is the responsibility of the Bidder to properly follow the system instructions, duly edit and submit a substitution or modification of the Bid as needed. Detailed instructions on how to cancel or modify a Bid directly in the system are provided in the Bidder User Guide and Instructional videos.</p> <p>1.66 Bids requested to be withdrawn shall be returned unopened to the Bidders (only for manual submissions), except if the bid is withdrawn after the bid has been opened.</p>
1.1.25. Bid Opening	<p>1.67 UNDP will open the Bid in the presence of an ad-hoc committee formed by UNDP of at least two (2) members.</p> <p>1.68 The Bidders' names, modifications, withdrawals, the condition of the envelope labels/seals, the number of folders/files and all other such other details as UNDP may consider appropriate, will be announced at the opening. No Bid shall be rejected at the opening stage, except for late submissions, in which case, the Bid shall be returned unopened to the Bidders.</p> <p>1.69 In the case of e-Tendering submission, bidders will receive an automatic notification once the Bid is opened.</p>
D. EVALUATION OF BIDS	
1.1.26. Confidentiality	<p>1.70 Information relating to the examination, evaluation, and comparison of Bids, and the recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process, even after publication of the contract award.</p> <p>1.71 Any effort by a Bidder or anyone on behalf of the Bidder to influence UNDP in the examination, evaluation and comparison of the Bids or contract award decisions may, at UNDP's decision, result in the rejection of its Bid and may subsequently be subject to the application of prevailing UNDP's vendor sanctions procedures.</p>
1.1.27. Evaluation of Bids	<p>1.72 UNDP will conduct the evaluation solely on the basis of the Bids received.</p> <p>1.73 Evaluation of Bids shall be undertaken in the following steps:</p> <ul style="list-style-type: none"> a) Preliminary Examination including Eligibility b) Arithmetical check and ranking of bidders who passed preliminary examination by price. c) Qualification assessment (if pre-qualification was not done) <ul style="list-style-type: none"> a) Evaluation of Technical Bids b) Evaluation of prices <p>Detailed evaluation will be focussed on the 3 - 5 lowest priced bids. Further higher priced bids shall be added for evaluation if necessary</p>

1.1.28. Preliminary Examination	1.74 UNDP shall examine the Bids to determine whether they are complete with respect to minimum documentary requirements, whether the documents have been properly signed, and whether the Bids are generally in order, among other indicators that may be used at this stage. UNDP reserves the right to reject any Bid at this stage.
1.1.29. Evaluation of Eligibility and Qualification	1.75 Eligibility and Qualification of the Bidder will be evaluated against the Minimum Eligibility/Qualification requirements specified in the Section 4 (Evaluation Criteria). 1.76 In general terms, vendors that meet the following criteria may be considered qualified: a) They are not included in the UN Security Council 1267/1989 Committee's list of terrorists and terrorist financiers, and in UNDP's ineligible vendors' list; b) They have a good financial standing and have access to adequate financial resources to perform the contract and all existing commercial commitments, c) They have the necessary similar experience, technical expertise, production capacity, quality certifications, quality assurance procedures and other resources applicable to the supply of goods and/or services required; d) They are able to comply fully with the UNDP General Terms and Conditions of Contract; e) They do not have a consistent history of court/arbitral award decisions against the Bidder; and f) They have a record of timely and satisfactory performance with their clients.
1.1.30. Evaluation of Technical Bid and prices	1.77 The evaluation team shall review and evaluate the Technical Bids on the basis of their responsiveness to the Schedule of Requirements and Technical Specifications and other documentation provided, applying the procedure indicated in the BDS and other ITB documents. When necessary, and if stated in the BDS, UNDP may invite technically responsive bidders for a presentation related to their technical Bids. The conditions for the presentation shall be provided in the bid document where required.
1.1.31. Due diligence	1.78 UNDP reserves the right to undertake a due diligence exercise, aimed at determining to its satisfaction, the validity of the information provided by the Bidder. Such exercise shall be fully documented and may include, but need not be limited to, all or any combination of the following: a) Verification of accuracy, correctness and authenticity of information provided by the Bidder; b) Validation of extent of compliance to the ITB requirements and evaluation criteria based on what has so far been found by the evaluation team; c) Inquiry and reference checking with Government entities with jurisdiction on the Bidder, or with previous clients, or any other entity that may have done business with the Bidder; d) Inquiry and reference checking with previous clients on the performance on on-going or completed contracts, including physical inspections of previous works, as deemed necessary; e) Physical inspection of the Bidder's offices, branches or other places where business transpires, with or without notice to the Bidder; f) Other means that UNDP may deem appropriate, at any stage within the selection process, prior to awarding the contract.

1.1.32. Clarification of Bids	<p>1.79 To assist in the examination, evaluation and comparison of Bids, UNDP may, at its discretion, request any Bidder for a clarification of its Bid.</p> <p>1.80 UNDP's request for clarification and the response shall be in writing and no change in the prices or substance of the Bid shall be sought, offered, or permitted, except to provide clarification, and confirm the correction of any arithmetic errors discovered by UNDP in the evaluation of the Bids, in accordance with the ITB.</p> <p>1.81 Any unsolicited clarification submitted by a Bidder in respect to its Bid, which is not a response to a request by UNDP, shall not be considered during the review and evaluation of the Bids.</p>
1.1.33. Responsiveness of Bid	<p>1.82 UNDP's determination of a Bid's responsiveness will be based on the contents of the bid itself. A substantially responsive Bid is one that conforms to all the terms, conditions, specifications and other requirements of the ITB without material deviation, reservation, or omission.</p> <p>1.83 If a bid is not substantially responsive, it shall be rejected by UNDP and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission.</p>
1.1.34. Nonconformities, Reparable Errors and Omissions	<p>1.84 Provided that a Bid is substantially responsive, UNDP may waive any non-conformities or omissions in the Bid that, in the opinion of UNDP, do not constitute a material deviation.</p> <p>1.85 UNDP may request the Bidder to submit the necessary information or documentation, within a reasonable period, to rectify nonmaterial nonconformities or omissions in the Bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.</p> <p>1.86 For the bids that have passed the preliminary examination, UNDP shall check and correct arithmetical errors as follows:</p> <ul style="list-style-type: none"> a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of UNDP there is an obvious misplacement of the decimal point in the unit price; in which case, the line item total as quoted shall govern and the unit price shall be corrected; b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail. <p>1.87 If the Bidder does not accept the correction of errors made by UNDP, its Bid shall be rejected.</p>
E. AWARD OF CONTRACT	
1.1.35. Right to Accept, Reject, Any or All Bids	<p>1.88 UNDP reserves the right to accept or reject any bid, to render any or all of the bids as non-responsive, and to reject all Bids at any time prior to award of contract, without incurring any liability, or obligation to inform the affected Bidder(s) of the grounds for UNDP's action. UNDP shall not be obliged to award the contract to the lowest priced offer.</p>

1.1.36. Criteria	Award	1.89 Prior to expiration of the period of Bid validity, UNDP shall award the contract to the qualified and eligible Bidder that is found to be responsive to the requirements of the Schedule of Requirements and Technical Specification, and has offered the lowest price.
1.1.37.	Debriefing	1.90 In the event that a Bidder is unsuccessful, the Bidder may request for a debriefing from UNDP. The purpose of the debriefing is to discuss the strengths and weaknesses of the Bidder's submission, in order to assist the Bidder in improving its future Bids for UNDP procurement opportunities. The content of other Bids and how they compare to the Bidder's submission shall not be discussed.
1.1.38.	Right to Vary Requirements at the Time of Award	1.91 At the time of award of Contract, UNDP reserves the right to vary the quantity of goods and/or services, 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.
1.1.39.	Contract Signature	1.92 Within fifteen (15) days from the date of receipt of the Contract, the successful Bidder shall sign and date the Contract and return it to UNDP. Failure to do so may constitute sufficient grounds for the annulment of the award, and forfeiture of the Bid Security, if any, and on which event, UNDP may award the Contract to the Second highest rated or call for new Bids.
1.1.40.	Contract Type and General Terms and Conditions	1.93 The types of Contract to be signed and the applicable UNDP Contract General Terms and Conditions, as specified in BDS, can be accessed at http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
1.1.41.	Performance Security	1.94 A performance security, if required in the BDS, shall be provided in the amount specified in BDS and form available at https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Solicitation_Performance%20Guarantee%20Form.docx&action=default within a maximum of fifteen (15) days of the contract signature by both parties. Where a performance security is required, the receipt of the performance security by UNDP shall be a condition for rendering the contract effective.
1.1.42.	Bank Guarantee for Advanced Payment	1.95 Except when the interests of UNDP so require, it is UNDP's standard practice to not make advance payment(s) (i.e., payments without having received any outputs). If an advance payment is allowed as per the BDS, and exceeds 20% of the total contract price, or USD 30,000, whichever is less, the Bidder shall submit a Bank Guarantee in the full amount of the advance payment in the form available at https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Contract%20Management%20Payment%20and%20Taxes_Advanced%20Payment%20Guarantee%20Form.docx&action=default
1.1.43.	Liquidated Damages	1.96 If specified in the BDS, UNDP shall apply Liquidated Damages for the damages and/or risks caused to UNDP resulting from the Contractor's delays or breach of its obligations as per Contract.
1.1.44.	Payment Provisions	1.97 Payment will be made only upon UNDP's acceptance of the goods and/or services performed. The terms of payment shall be within thirty (30) days, after receipt of invoice and certification of acceptance of goods and/or services issued by the proper authority in UNDP with direct supervision of the Contractor. Payment will be effected by bank transfer in the currency of the contract.

1.1.45. Protest	Vendor	<p>1.98 UNDP's vendor protest procedure provides an opportunity for appeal to those persons or firms not awarded a contract through a competitive procurement process. In the event that a Bidder believes that it was not treated fairly, the following link provides further details regarding UNDP vendor protest procedures:</p> <p>http://www.undp.org/content/undp/en/home/procurement/business/protest-and-sanctions.html</p>
1.1.46. Provisions	Other	<p>1.99 In the event that the Bidder offers a lower price to the host Government (e.g. General Services Administration (GSA) of the federal government of the United States of America) for similar goods and/or services, UNDP shall be entitled to the same lower price. The UNDP General Terms and Conditions shall have precedence.</p> <p>1.100 UNDP is entitled to receive the same pricing offered by the same Contractor in contracts with the United Nations and/or its Agencies. The UNDP General Terms and Conditions shall have precedence.</p> <p>1.101 The United Nations has established restrictions on employment of (former) UN staff who have been involved in the procurement process as per bulletin ST/SGB/2006/15</p> <p>http://www.un.org/en/ga/search/view_doc.asp?symbol=ST/SGB/2006/15&referer</p>

SECTION 3. BID DATA SHEET

The following data for the goods and/or services to be procured shall complement, supplement, or amend the provisions in the Invitation to Bid In the case of a conflict between the Instructions to Bidders, the Bid Data Sheet, and other annexes or references attached to the Bid Data Sheet, the provisions in the Bid Data Sheet shall prevail.

BDS No.	Ref. to Section.2	Data	Specific Instructions / Requirements
1	7	Language of the Bid	English or Russian
2		Submitting Bids for Parts or sub-parts of the Schedule of Requirements (partial bids)	<p>Allowed</p> <p>Bidders can submit proposal for any or combination of Lots. Evaluation and contract award will be based on Lot basis. One company can be awarded for any of Lots or for both Lots.</p>
3	20	Alternative Bids	Shall not be considered
4	21	Pre-Bid conference	Will not be conducted
5	16	Bid Validity Period	90 days
6	13	Bid Security	<p>Required in the amount of USD 10.000 per Lot</p> <p>Bidder shall provide bank Security in the amount of USD 10.000 for each Lot. If bidder is participating for both Lots, total amount shall not be less than USD 20.000. Acceptable Forms of Bid Security</p> <ul style="list-style-type: none"> ▪ Bank Guarantee (See Section 8 for template) ▪ Any Bank-issued Check / Cashier's Check / Certified Check
7	41	Advanced Payment upon signing of contract	Not Allowed
8	42	Liquidated Damages	<p>Will be imposed as follows:</p> <p>Percentage of contract price per day of delay: 0.5%</p> <p>Max. number of days of delay 30, after which UNDP may terminate the contract.</p>

9	40	Performance Security	Required in the amount of USD 50.000 for each Lot. If bidder is awarded for both Lots, total amount is USD 100.000
10	12	Currency of Bid	For foreign vendors – US dollars For local vendors – Uzbek soums
11	31	Deadline for submitting requests for clarifications/ questions	5 days before the submission deadline
12	31	Contact Details for submitting clarifications/questions	Focal Person in UNDP: Procurement Unit Address: 4, T. Shevchenko, Tashkent E-mail address: pu.uz@undp.org
13	18, 19 and 21	Manner of Disseminating Supplemental Information to the ITB and responses/clarifications to queries	Posted directly to eTendering
14	23	Deadline for Submission	01.00 am (UTC–5:00) September 17, 2019 For eTendering submission - as indicated in eTendering system. Note that system time zone is in EST/EDT (New York) time zone.
14	22	Allowable Manner of Submitting Bids	<input type="checkbox"/> Courier/Hand Delivery <input type="checkbox"/> Submission by email <input checked="" type="checkbox"/> e-Tendering
15	22	Bid Submission Address	<u>[For eTendering method, keep link below and insert Event ID information]</u> https://etendering.partneragencies.org <u>Insert BU Code and Event ID number</u> UZB10, ITB/003/19 <u>Reannouncement</u>
16	22	Electronic submission (email or eTendering) requirements	<ul style="list-style-type: none"> Format: PDF files only File names must be maximum 60 characters long and must not contain any letter or special character other than from Latin alphabet/keyboard. All files must be free of viruses and not corrupted. Max. File Size per transmission: 10 Mb <p>Mandatory subject of email: ITB/003/19 – Reannouncement - Supply and installation of videoconferencing network for the Ministry of Justice of the Republic of Uzbekistan between the central office and territorial bodies of the Ministry of justice (Lot 1) and General Prosecutor office and its territorial bodies (Lot 2)</p> <ul style="list-style-type: none"> Documents which are required in original (e.g. Bid Security) should be sent to the below address with a PDF copy submitted as part of the electronic submission: Procurement Unit UNDP Uzbekistan 4, Taras Shevchenko str., 10029 Tashkent, Republic of Uzbekistan

17	25	Date, time and venue for the opening of bid	Date and Time: September 17, 2019 12:00 AM NYC time Venue: UNDP Uzbekistan In the case of e-Tendering submission, bidders will receive an automatic notification once their Bids are opened.
18	27, 36	Evaluation Method for the Award of Contract	Lowest priced technically responsive, eligible and qualified bid.
19		Expected date for commencement of Contract	<i>November 1, 2019</i>
20		Maximum expected duration of contract	120 calendar days for each Lot considering supply and installation is started simultaneously. 45 calendar days for supply of equipment, 75 calendar days for installation. If the bidder is awarded for both Lots, the duration is not cumulated.
21	35	UNDP will award the contract to:	One or more Proposers, depending on the following factors : Bidders can submit proposal for any or combination of Lots. Evaluation and contract award will be based on Lot basis. One company can be awarded for any of Lots or for both Lots
22	39	Type of Contract	Contract for Goods and/or Services to UNDP http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
23	39	UNDP Contract Terms and Conditions that will apply	UNDP General Terms and Conditions for Contracts http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
24		Other Information Related to the ITB	N/A

SECTION 4. EVALUATION CRITERIA

Preliminary Examination Criteria

Bids will be examined to determine whether they are complete and submitted in accordance with ITB requirements as per below criteria on a Yes/No basis:

- Appropriate signatures
- Power of Attorney
- Minimum Bid documents provided
- Bid Validity
- Bid Security (if required) submitted as per ITB requirements with compliant validity period

Minimum Eligibility and Qualification Criteria

Eligibility and Qualification will be evaluated on a Pass/Fail basis.

If the Bid is submitted as a Joint Venture/Consortium/Association, each member should meet the minimum criteria, unless otherwise specified.

Subject	Criteria	Document Submission requirement
ELIGIBILITY		
Legal Status	Vendor is a legally registered entity.	Form B: Bidder Information Form
Eligibility	Vendor is not suspended, nor debarred, nor otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization in accordance with ITB clause 3.	Form A: Bid Submission Form
Conflict of Interest	No conflicts of interest in accordance with ITB clause 4.	Form A: Bid Submission Form
Bankruptcy	Has not declared bankruptcy, is not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against the vendor that could impair its operations in the foreseeable future.	Form A: Bid Submission Form
Certificates and Licenses	<ul style="list-style-type: none"> ▪ Duly authorized to act as Agent on behalf of the Manufacturer, or Power of Attorney, if bidder is not a manufacturer ▪ Official appointment as local representative, if Bidder is submitting a Bid on behalf of an entity located outside the country ▪ If the bidder is an entity located outside the country, Bidder should submit certified agreement with Local agent which is resident of the country for installation and after-sale service . ▪ Patent Registration Certificates, if any of technologies submitted in the Bid is patented by the Bidder ▪ Export/Import Licenses, if applicable 	Form B: Bidder Information Form
QUALIFICATION		
History of Non-Performing	Non-performance of a contract did not occur as a result of contractor default for the last 2 years.	Form D: Qualification Form

Contracts¹		
Litigation History	No consistent history of court/arbitral award decisions against the Bidder for the last 2 years.	Form D: Qualification Form
Previous Experience	Minimum 2 years of relevant experience.	Form D: Qualification Form
	Minimum 2 contracts of similar nature and complexity implemented over the last 2 years. <i>(For JV/Consortium/Association, all Parties cumulatively should meet requirement).</i>	Form D: Qualification Form
Financial Standing	Minimum average annual turnover of USD 500.000 equivalent for the last 2 years. <i>(For JV/Consortium/Association, all Parties cumulatively should meet requirement).</i>	Form D: Qualification Form
	Bidder must demonstrate the current soundness of its financial standing and indicate its prospective long-term profitability. <i>(For JV/Consortium/Association, all Parties cumulatively should meet requirement).</i>	Form D: Qualification Form
Technical Evaluation	The technical bids shall be evaluated on a pass/fail basis for compliance or non-compliance with the technical specifications identified in the bid document.	Form E: Technical Bid Form
Financial Evaluation	Detailed analysis of the price schedule based on requirements listed in Section 5 and quoted for by the bidders in Form F. Price comparison shall be based on the landed price, including transportation, insurance and the total cost of ownership (including spare parts, consumption, installation, commissioning, training, special packaging, etc., where applicable) Comparison with budget/internal estimates.	Form F: Price Schedule Form

¹ Non-performance, as decided by UNDP, shall include all contracts where (a) non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

SECTION 5A: SCHEDULE OF REQUIREMENTS AND TECHNICAL SPECIFICATIONS/BILL OF QUANTITIES

LOT No.1

TERMS OF REFERENCE AND TECHNICAL SPECIFICATIONS

Supply and installation of a videoconferencing network for the Ministry of Justice of the Republic of Uzbekistan between the central office of the ministry and territorial bodies of justice

General information

4.1. Full name of the project and its symbol

The full name of the project: Supply and installation of a video conference system between the Central Office of the Ministry of Justice and the territorial bodies of justice.

1.2 Beneficiary

Client: **Ministry of Justice of the Republic of Uzbekistan.**

Phone number: +998 (71) 233-13-05;

Address: 5, Sayilgoh st., Tashkent, Republic of Uzbekistan, 100047

1.3 Contractor

The contractor is selected on the basis of competitive and / or tender bidding, or by other means, in accordance with the requirements of current laws, regulations, resolutions and other regulatory documents.

1.4 Basis for development

The basis for the development of this Terms of Reference are such regulations as:

- Resolution of the President of the Republic of Uzbekistan No. PP-3741 dated May 25, 2018 “On measures to further improve the system of notaries as an institution of preventive justice”;
- Decree of the President of the Republic of Uzbekistan No. PP-1989 “On measures for the further development of the National Information and Communication System of the Republic of Uzbekistan” dated June 27, 2013.

1.5 Planned dates of commencement and completion

Terms of work: 120 calendar days.

Commencement date:

Completion date:

The dates of commencement and completion of work on the supply and installation/creation of systems should be fixed in the calendar plan, which is an integral part of the contract between the Customer and the system supplier. The breakdown by the time of creation of the systems should be submitted to the Customer at the stage of submitting the technical and commercial proposal at the stage of the tender (competitive) bidding.

1.6 Sources of funding

Sources of funding will be financed by own funds.

Payment modality 70% of the contract amount will be done within 30 days after supply of the equipment as per TOR, the rest 30% is paid within 30 days after installation and acceptance by Parties.

1.7 The procedure for registration and presentation of the results of work

Works on the construction of a video conference system between the Central Office and the branches are carried out by the Contractor in stages in accordance with the project schedule. At the end of each of the stages of work, the Contractor shall submit to the Customer the relevant reporting documents of the stage, the composition of which will be determined by the Agreement between the Customer and the Contractor of the System.

1.8 Terms and definitions

Table 1. Terms and definitions

Short designation	Interpretation of designation
LAN	Local area network
AWS	Automated work station
FO	Fiber optic
VC	Video conferencing network
PC	Personal computer
SA	Software Application
FTP	File Transfer Protocol
RTP	Real-time Transport Protocol
DHCP	Dynamic Host Configuration Protocol
HTTP	HyperText Transfer Protocol
FE	Fast Ethernet или 100BASE-T
GE	Gigabit Ethernet
	Internet Group Management Protocol
IPv4	Fourth version of IP protocol
IPv6	New version of IP protocol
IPSec	IP Security
MAC	Media Access Control
Ethernet	Local data transfer networks
LAN	Local area network
VP8, H.264, H.263	Video protocols
Opus, iSAC, Speex, G.711, G.722, G.723.1, G.728, G.729	Audio protocols
Gatekeeper	Controller zones
NAT	network address translation
SIP	Session Initiation Protocol
SNMP	Simple Network Management Protocol

2. Purpose and objectives of the project

2.1 Purpose of the project

Videoconferencing network (hereinafter referred to as VC) is intended for:

- providing meetings, conferences, video and audio information sharing;
 - ensuring operational videoconferencing with the participation of territorial units;
- This technical specification provides for the construction of a video conferencing network with 15 units connected.

2.2 Goals and objectives of the project

The main objectives of building a video conferencing network are:

- Improving the efficiency of interaction with territorial divisions;
- ensuring the rapid exchange of information and decision-making;
- increase the speed of transmission of video and audio information;
- reduction of expenses for travel and travel expenses;

The main objective of the project is to provide operational videoconferencing between the Central Office of the Ministry of Justice (hereinafter - the Center) and the territorial justice authorities (hereinafter - the branches).

In addition, the project includes the following tasks:

Designed video conferencing network should be a software solution, independent of special terminal devices, provide high-quality video conferencing with at least Full HD quality, with further support for 16K quality and up to 250 users on one screen, have sufficient performance to provide multimedia services, and also have sufficient reliability and fault tolerance.

The equipment of the designed network must meet the following requirements:

reliability - availability of the network and services 24 hours a day, 7 days a week;

security - ensuring the integrity of the transmitted video and audio services preventing unauthorized access to network equipment and information;

flexibility - the ability to upgrade major components without significant additional costs;

scalability - the possibility of increasing the bandwidth and capacity of the system in accordance with the growing needs, ensuring the increase in the functionality of the node without replacing the main equipment;

manageability - managing the entire network and services from a single center, remotely configuring all network elements and subsystems, monitoring the status and health of all network elements in real time;

compatibility - network equipment should be based on international standards and requirements, ensure complete information technology compatibility between individual subsystems, with external systems, as well as with modern developing unified communications systems without adding additional hardware resources, exclusively through additional licensing.

2.3 The list of documents on the basis of which the system is created

- Resolution of the President of the Republic of Uzbekistan No. PP-3741 dated May 25, 2018 “On measures to further improve the system of notaries as an institution of preventive justice”;

The development of a video conferencing system is carried out in pursuance of the Implementation Progress Plan

- Resolution of the President of the Republic of Uzbekistan No. PP-3741 dated May 25, 2018 “On Measures for Further Improving the Notary System as an Institute of Preventive Justice”

3. Characteristics of the object information and equipment

3.1 Brief information about the object

The Ministry of Justice of the Republic of Uzbekistan was established in 1992. Currently, the ministry has a corporate data network to the district level. Within the framework of the videoconferencing system being created, it is necessary to equip VC studios with a modern set of audiovisual facilities designed for comfortable and efficient conference calls.

Objects of equipment supply of this project are:

1. The central office of the Ministry of Justice of the Republic of Uzbekistan (Tashkent city)
2. Ministry of Justice of the Republic of Karakalpakstan (Nukus city)
3. Department of Justice of the Andijan Region (Andijan city)
4. Department of Justice of Namangan Region (Namangan city)
5. Department of Justice of the Fergana Region (Fergana city)
6. Department of Justice of the Sirdarya region (Gulistan city)
7. Department of Justice of Jizzakh Region (Jizzakh city)
8. Department of Justice of the Samarkand Region (Samarkand city)
9. Department of Justice of Kashkadarya Region (Karshi city)
10. Department of Justice of the Surkhandarya Region (Termez city)
11. Department of Justice of Navoi region (Navoi city)
12. Department of Justice of the Bukhara Region (Bukhara city)
13. Department of Justice of the Khorezm Region (Urgench city)
14. Department of Justice of the Tashkent region (Tashkent city)
15. Department of Justice of the city of Tashkent (Tashkent city)

The project plans connection to a single video conference system and equipping the following types of premises with necessary equipment:

- The main hall (1 hall) is a room measuring 20 by 8 meters and designed for 40 people. In this room there is an established table 15 meters long with 29 seats in the central office of the Ministry of Justice of the Republic of Uzbekistan (Tashkent city).
- The large conference hall in the branches represents rooms with a size of 30 sq. M. and designed for more than 30 people in other regions.

Approximate schemes, technical dimensions of all rooms with the list of installed equipment in the premises are indicated in the attached as “Schemes of rooms”.

3.2 The composition of VC system

The project provides for the complex installation and launch of software, the supply and installation of equipment on a turnkey basis in the premises of the Central Office of the Ministry and all territorial divisions.

The following subsystems must be included in the complex of central studios VC in the Central Office:

- Software (non-hardware) solution for video conferencing;
- Information display subsystem, including video wall and duplicate information display systems;
- Congress discussion subsystem with built-in speakerphones;
- Simultaneous translation subsystem for 2 (two) languages;
- Subsystem integrated camera controls;

The following subsystems must be included in the system of the VC regional studios:

- VC equipment, including a camera and a speakerphone;

- Information display systems;
- Sound transmission system.

3.3 Information about the terms of the project

In order to implement the project, a fully functional ICT infrastructure is being implemented.

The project implementation involves the solution of several main tasks:

- acquisition and commissioning of the necessary equipment;
- test operation of implemented technical solutions;
- putting the entire complex into operation;
- personnel training.

The supplier should provide start-up and personnel training, as well as subsequent technical support within 1 year after the launch of the equipment and the system as a whole.

4. System requirements

4.1 General requirements

The projected network of video conferencing should:

- be a software solution and not depend on special terminal devices;
- provide high quality video conferencing with support for quality Full HD and 16K p30 (30 frames per second) and combine up to 250 simultaneous users in one conference and up to 50 speakers on one screen;
- have sufficient performance to provide multimedia services, transfer audio and video presentations, and also have sufficient reliability and fault tolerance;
- to provide the required functionality, achieved through careful design of software and hardware systems used as the basis for the videoconference system between the Center and its branches.

The main indicators of the functional effectiveness of the video conferencing system are:

- reliability - availability of video conferencing 24 hours a day, 7 days a week;
- security - ensuring the integrity of transmitted video and audio services preventing unauthorized access to network equipment and information;
- flexibility - the ability to upgrade major components without significant additional costs;
- scalability - the ability to increase the capacity and capacity of the system's functionality in accordance with the growing needs, while maintaining all of its existing properties, without sacrificing performance, reliability and manageability;
- manageability - managing the entire network and services from a single center, remotely configuring all network elements and subsystems, monitoring the status and performance of all network elements in real time;
- compatibility - network equipment and software should be based on international standards and requirements, ensure complete information technology compatibility between individual subsystems, with external systems, as well as with modern developing unified communications systems without adding additional hardware resources, exclusively through additional licensing.
- productivity - the ability of the system to perform the tasks of processing, storing, presenting and replicating data with the required speed;
- compatibility - network equipment and software should be based on international standards and requirements, ensure complete information technology compatibility between individual subsystems, with external systems, as well as with modern developing unified communications systems without adding additional hardware resources, exclusively through additional licensing.
- adaptability - the ability of the system to change (adjust) the characteristics of functioning in accordance with current tasks and conditions of activity;

- operational manufacturability - the ability to provide ease of maintenance and ease of administration.

Project implementation should be based on the following key principles:

- Compliance with national and international standards in the design and development of the architecture of a video conference system;
- unification of the technologies used, which implies the existence of a unified architecture, common protocols for information exchange, common procedures for aggregation and data transfer, common software and hardware, etc.;
- provision of sufficient transport and network resources, taking into account the increase in workload and the provision of the necessary capacity reserve;
- use of modern technical solutions selected on the basis of the best world experience in building complex information technology systems;
- unification and standardization, involving the use of typical technical solutions (structural units) at all levels;
- the possibility of adaptive (depending on current needs) modernization throughout the entire life cycle, ensuring full compatibility with the applied (business) technologies appearing during the modernization of information technologies.
- centralization of necessary information resources while preserving the possibility of resource allocation;
- unification of technical solutions based on the use of a limited set of typical configurations and constituent elements of infrastructure solutions;
- ensuring openness, modularity and scalability of technical solutions based on the concept of providing infrastructure services;
- phased enhancement of the functionality of the architecture components.

Along with the above, when developing solutions for creating a videoconference system between the Center and the branches, it is necessary to consider the implementation of the following requirements:

- to ensure the compliance of the system being created with the technical requirements of national and international legal acts of the Republic of Uzbekistan and regulatory and technical documents in the field of application of information and telecommunication technologies in the Republic of Uzbekistan;
- propose technical solutions that provide fault-tolerant operation by backing up critical components of hardware failures and using software to protect applications and data;
- to offer economically sound solutions, to ensure an acceptable cost, safety of investments and the possibility of "seamless" integration into the existing information and telecommunications infrastructure;
- to ensure the minimum terms of design and commissioning;
- to provide for continuous round-the-clock operation of the videoconference system.

4.1.1. Requirements for the number and qualifications of the system personnel and the mode of its operation

To ensure the operation of the system being created, it is supposed to involve at least one employee in each branch responsible for the technical support and support of the VC system. The implementation of the VC system should be carried out during the daytime working hours according to the mode of operation of these employees.

4.1.2. Operating conditions and environment

The following operating conditions for video conferencing equipment should be ensured:

- The system should be operated on equipment intended for use in a videoconference system with the participation of the Center and territorial regions;
- ambient temperature 5 - 25° C;

- air humidity 30 - 80% (without condensation);
- server power supply should be stabilized and be $220 \pm 2\%$ with a frequency of 50 Hz, the equipment of the video conference system with the participation of the Center and territorial regions must be connected to the power grid through an uninterruptible power supply (UPS) installed at the Customer.
- the quality of electrical energy must meet the requirements of GOST 13109-97 "Electric energy. Electromagnetic compatibility of technical equipment. Standards of quality of electrical energy in general-purpose power supply systems";
- The power supply to the VC equipment must be connected via European type electrical outlets or directly connected to the electrical switchboard.
- Power supply system power requirements should be aligned with the results of calculations of the total power consumed by the VC equipment

4.1.3. Requirements for lighting and acoustics of VC rooms

The lighting requirements for videoconferencing facilities are determined, first of all, by occupational health requirements and the conditions for maintaining color reproduction during video conferences. The lighting system should provide:

- blocking incoming sun color;
- color temperature depending on the color of the walls and the type of video camera used (recommended values are 3200-3600°K);
- light intensity for the table in the range of 800-1400 L;
- light intensity for walls in the range - minimum $\frac{1}{2}$ light intensity value for a table, maximum $\frac{3}{4}$ of this value;
- low contrast light intensity.

A prerequisite for the correct operation of the video conferencing system is compliance with the requirements of SNiP 32-05-95.

Acoustic parameters must meet the following characteristics:

- the noise level in the premises when the equipment is turned on should not exceed 40 dB;
- the echo should be without reverberation and is within 0.3 - 0.5 sec.

4.1.4. Reliability requirements

The reliability of the videoconference system should be achieved by coordinated use of a set of organizational, procedural and software and technical measures during the operation of the system.

To ensure the reliability of the system, all central nodes of the system (servers, storage systems, switches, routers) should be backed up.

The complex should ensure the work of users 24 hours a day, 7 days a week, 365 days a year. Resiliency of the service level, unified ways of providing services for any type of inclusions, availability of the network and services 24 hours a day, 7 days a week, reservation of communication channels and main modules, processing large amounts of data should be provided.

4.1.5. Safety requirements

Requirements for security during installation, commissioning, operation, maintenance and repair of technical means of the videoconference system, at permissible levels of illumination, vibration and noise loads are not presented to the videoconference system.

4.1.6. Requirement for patent cleanliness

Components of a video conference system with the participation of the Central Office and territorial administrations must have patent purity in the territory of the Republic of Uzbekistan.

4.1.7. Requirements for licence frequency

Licensed software should be used in the video conference system with the participation of the Central Office and territorial administrations.

It is obligatory to have a letter of permission for the installation and implementation of software directly from the software manufacturer on company letterhead, signed and stamped by the software manufacturer, prior to the competition.

4.1.8. Requirements for ergonomics and technical aesthetics

The automated workplaces of users of the videoconference system with the participation of the Central Office and territorial administrations should be equipped in accordance with Sanitary Regulations and Regulations No.0205-06 “Sanitary rules and hygienic requirements when working on personal computers, display terminals”.

4.1.9. Requirements for standardization and unification

Within the framework of the project, standard products, ready-made devices and parts should be used whenever possible to create a videoconference system with the participation of the Central Office and territorial administrations.

It is not allowed to use and supply specialized connectors manufactured exclusively by one manufacturer. All spare parts of the equipment should be easily interchangeable and, if necessary, generally available for sale in local markets for computer components.

4.1.10. Transportability requirements for mobile systems

Constructive requirements that ensure the transportability of technical means of a videoconference system with the participation of the Central Office and territorial administrations, as well as vehicle requirements, are not imposed on a videoconference system with the participation of the Central Office and territorial administrations.

4.1.11. Requirements for the operation and maintenance of components

The video conference system being developed with the participation of the Central Office and territorial administrations does not require the presentation of requirements for the operation, maintenance, repair and storage of components. All major system components are reserved.

4.1.12. Requirements for information safety from unauthorized access

In the system of video conferencing with the participation of the Central Office and territorial administrations, monitoring and control means should be provided that limit the rights of users of the video conference system with the participation of the Central Administration and territorial administrations.

Access to the videoconference system with the participation of the Central Office and territorial administrations should be provided only for registered users who have passed the identification and authentication procedure.

4.1.13. Requirements for the safety of information in case of accidents

In the system of video conferencing with the participation of the Central Office and territorial administrations, means of backup, archiving and recovery of data should be provided.

The servers on which information systems operate should be provided with uninterrupted power supply for at least 15 minutes to shut down the operating system and applications upon termination of the primary power supply.

4.1.14. Requirements for protection against the impact of external influences

Climate conditions determined by the requirements of the manufacturers of the used technical equipment should be provided in the premises with the placed technical facilities on which the videoconference system operates with the participation of the Central Office and territorial administrations.

4.2 Requirements for the types of collateral

4.2.1. Requirements for mathematical supply

The system being developed does not require requirements for mathematical software.

4.2.2. Requirements for information support

The information support of the videoconference system with the participation of the Central Office and territorial administrations must be sufficient to perform all the automated functions of the videoconference system with the participation of the Central Administration and territorial administrations.

4.2.3. Requirements for linguistic support

Simultaneous translation subsystem along with a video conferencing system must support at least 2 (two) additional translation languages and be available to delegates to listen to a specific translation channel on any of the consoles of the discussion system of the Central Office.

4.2.4. Requirements for methods and means of communication

For the functioning of the Video Conferencing System with the participation of the Central Office and territorial administrations, all devices within one object of connection to the Video Conferencing System with the participation of the Central Administration and territorial administrations must be combined into a local area network using the TCP / IP transport protocol.

Another important component of the engineering support of the Video Conferencing System with the participation of the Central Office and territorial administrations is the transport telecommunication infrastructure, which provides communication between the Center and regional branches. To create a videoconference system with the participation of the Central Office and territorial departments, the project provides for the use of leased data transmission channels of the existing telecommunications operator.

The main software solution is planned to be installed on the server equipment of the Video Conferencing System with the participation of the Central Office and territorial offices for the further use of existing high-speed communication channels with a capacity sufficient for simultaneous operation of at least 100% of the connected users of the system..

4.2.5. Requirements for communication channels for video conferencing

Approaching the issue of using video conferencing, it is needed to pay special attention to the requirements of communication channels. The required bandwidth of the channel is divided into several streams - incoming flows and outgoing flows, which, in turn, may differ from each other.

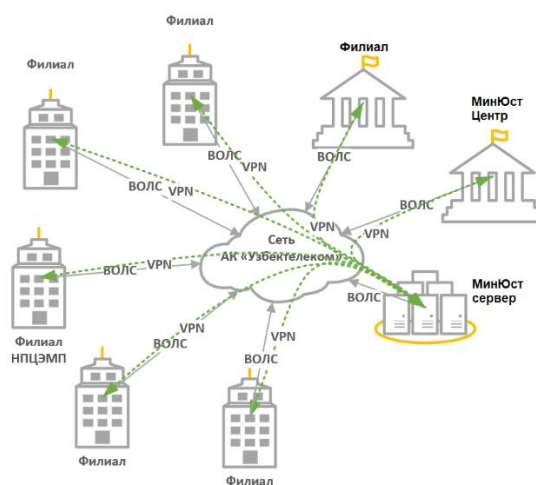
The table below shows the recommended values for incoming / outgoing flows for Full HD quality with the participation of 25 (twenty-five) users. For maximum performance, it is recommended to have a 50% bandwidth margin. However, during video conferencing, scalable video coding (SVC) of the video conferencing server must adaptively adjust the flow rate to varying network conditions.

Table 3. Required bandwidth

Type of connection	Server		Client	
	Incoming	Outgoing	Incoming	Outgoing
Symmetrical Full HD for 25 pax	25 Mbit/s	76.4 Mbit/s	3 Mbit/s	1 Mbit/s
Asymmetrical Full HD for 25 pax	25 Mbit/s	18.7 Mbit/s	3 Mbit/s	1 Mbit/s
Role-playing Full HD for 25 pax, 1 lecturer	1 Mbit/s	15.6 Mbit/s	0.7 Mbit/s	1 Mbit/s
Role-playing Full HD for 25 pax, 1 lecturer	6 Mbit/s	39.9 Mbit/s	1.6 Mbit/s	1 Mbit/s
Videocall SD	1 Mbit/s	1 Mbit/s	0.5 Mbit/s	0.5 Mbit/s
Videocall HD	2 Mbit/s	2 Mbit/s	1 Mbit/s	1 Mbit/s
Videocall Full HD	4 Mbit/s	4 Mbit/s	2 Mbit/s	2 Mbit/s
Videocall WQHD	8 Mbit/s	8 Mbit/s	4 Mbit/s	4 Mbit/s
Videocall UltraHD 4K	16 Mbit/s	16 Mbit/s	8 Mbit/s	8 Mbit/s
WebRTC video translation for 1 extra participant	+0.5 Mbit/s	+0.8 Mbit/s	+0.8 Mbit/s	+0.5 Mbit/s

4.2.6. Requirements for connecting to a data network

To ensure the necessary connection speed and meet the requirements of reliability of the data transmission network, the Central Office and territorial administrations must be connected using optical communication lines.



*Филиал – Branch

МинЮст Центр1 – Center/Ministry of Justice

МинЮст Центр2 – Server of Ministry of Justice

ВОЛС – optic fibre lines

Сеть АК «Узбектелеком» - Lines of SC “Uzbektelecom” (national internet provider)

Picture 1. Connection scheme of the objects of the Video conference system with the participation of the Central Office and territorial administrations to the data transmission network of the operator

When designing a videoconference system with the participation of the Central Office and territorial administrations, it is necessary to take into account the possibility of expanding the System by connecting additional points of videoconferencing, such as legal centers and their branches, law schools, legal agencies and other subordinate institutions under the Ministry of Justice of the Republic of Uzbekistan and territorial justice bodies, also their affiliates.

Considering that the network of the Videoconferencing System with the participation of the Central Office and territorial departments will exchange information that must be provided using

VPN technology of the L2 level, using the IPSEC, SSL, TS protocols, which allows organizing isolated data transmission channels between the networked objects of the Videoconference Conference participation of the Central Office and territorial administrations.

The construction of a structured cabling system for centers and branches is not provided by this project and will be carried out at the expense of own funds of the Centers and branches. The connection of the Centers and branches to the Video Conferencing System with the participation of the Central Office and territorial administrations will be conducted as soon as the SCS and the premises are ready.

5. Software requirements

Table 4. Table of technical requirements for video conferencing software with the participation of the Central Office and territorial divisions

#	Name of the indicator, technical, functional parameter, its value, value, etc.	Required value (availability of function and parameter values)	Specific indicators proposed for software delivery
	Provision of services for the provision of non-exclusive (user) software license rights for 25 subscribers.		
1. Licensing systems			
1.1	Type of video conferencing	Software	
1.2	License type:	Perpetual	
1.3	Total number of online connections. "Online" users are those who are connected to the server and logged in to their account, has the status of "online" in the Address Book. Users who are connected to the server, but behave passively, do not hold conferences, are also considered "online" users. To release the point, the user must log out / disconnect from the server.	Not less than 25	
1.4	Possibility of user login to the system without being tied to equipment	availability	
2. Used technologies and protocols			
2.1	Audio codec:	Opus, iSAC, Speex, G.711, G.722, G.723.1, G.728, G.729	
2.2	Video codec:	VP8, H.264, H.263	
2.3	HD quality support	availability	
2.4	Scalable video coding support (SVC)	availability	
2.5	4K quality support in a group conference	availability	
2.6	WebRTC technology support	availability	
2.7	Improved speech quality Fullduplex	availability	
3. Platforms			
3.1	Ability to participate in conferences via the web interface	availability	
3.2	The ability to manage the server using the	availability	

	web interface		
3.3	Availability of special client applications with support for multipoint video conferencing for operating systems	Windows, Mac OS X, Linux, Android (including up to 5.0 version), iOS	
4. Functionality			
4.1	Maximum number of participants in one conference	Not less than 25	
4.2	Number of participants simultaneously on the screen	Not less than 25	
4.3	Adaptation of resolution and stream fps to network capacity of the workplace of the multipoint video conferencing participant (SVC)	availability	
4.4	Scheduler	availability	
4.5	Availability of an address book with contact status	availability	
4.6	Whiteboard	availability	
4.7	Demonstration of presentations	availability	
4.8	Demonstration of presentation in WebRTC presentations	availability	
4.9	Public chat	availability	
4.10	Public chat	availability	
4.11	Chatting without creating a conference	availability	
4.12	Desktop demo	availability	
4.13	Files transfer	availability	
4.14	Possibility of modernization	availability	
4.16	The ability to invite an external user	availability	
4.18	The possibility of recording video conferencing from the client application with the notification and with the permission of the opposite party	availability	
4.19	Ability to record the conference on the server	availability	
4.20	Ability to use UDP Multicast protocol	availability	
4.21	Ability to select specific video conferences for recording (on the server / client software)	availability	
4.22	Support for recording video conferencing resolution	720p, 480p, 360p	
4.23	Showing the desktop without using third-party software	availability	
4.24	Remote control of the other party's desktop	availability	
4.25	Display of the bitrate of the input / output stream in the client application in real time	availability	
4.26	The mode of saving traffic when displaying video in small windows.	availability	
4.27	Personal or shared address book	availability	
4.28	Ability to display each participant in the conference in a separate window (on a separate screen), with the possibility of resizing this window.	availability	
4.29	The ability to display the public chat of the	availability	

	conference in a separate window (on a separate screen), with the ability to change the size of this window.		
4.30	The ability to display the conference presentation in a separate window (on a separate screen), with the ability to resize this window.	availability	
4.31	Integration with user repositories via LDAP or using its own built-in storage	availability	
4.32	Software installation without using dongles	availability	
4.33	Informing the administrator about system failures by email	availability	
4.35	Manage your traffic (on / off the video / audio of other participants)	availability	
4.36	The ability to transfer video streams directly between participants in the video call mode.	availability	
4.37	Ability to schedule video conferencing with an arbitrary number of participants in the stands from 1 to 6.	availability	
4.38	Supports video conferencing via RTSP protocol to external broadcast systems.	availability	
4.39	Ability to publish video conferencing with RTSP Push to broadcast servers and CDN services.	availability	
4.40	API for working with the user's address book.	availability	
4.41	API for working with group conferences (creating, editing conferences, viewing the list of conferences).	availability	
5. Technical requirements			
5.1	Minimum bandwidth of the communication channel for participation in an audio conference	Not more than 16 kb/s	
5.2	The minimum bandwidth of the communication channel for participation in video conferencing	Not more than 32 kb/s	
5.3	Supported operating systems for hosting a server without virtualization tools	MS Windows Server	
6. Integration			
6.1	Remote Server Management (API)	availability	
6.2	Integration with corporate Slack Messenger	availability	
6.3	Integration with ECM / CRM / ERP / web sites	availability	
7. Security			
7.1	Autonomous work in closed networks	availability	
7.2	Client-server connection on one TCP port	availability	
7.3	SSL - Encryption	availability	
8. Additional subsystems			
8.1	Multimedia Conference System Management Module	availability	
8.2	Module of the channel language selection function, electronic version	availability	

8.3	Translation Training and Management Module	availability	
-----	--	--------------	--

6. Requirements for video conferencing equipment

Table 5. Table of technical requirements for the equipment of a video conference system with the participation of the Central Office and territorial divisions

#	Name of the products	Requirements for technical and functional characteristics	Quantity (pcs)
1	Videowall	<ul style="list-style-type: none"> - 165 inch diagonal - 9 (nine) commercial panels 55" according to the scheme 3 for 3 - monitor resolution Ultra HD 4K - image format 16:9 - viewing angle 178 degrees (horizontal/vertical) - total screen gap at the 3.5 mm junction - brightness 500kd/m² - contrast 1400:1 - Response time 6m/s - update rate 60 Hz - 1,07 billion colours - built-in media player with support for external USB-drives - Speakers 10 watts. - The average uptime of more than 100,000 hours - operating mode: 7x24x365 hours - interface inputs and outputs HDMI, DisplayPort, DVI, CVBS, YPbPr, VGA, RS232 with IR pass-through channel, USB. - it is possible to connect additional panels according to the scheme up to 10x10 in various positions and proportions. - Warranty at least 3 years 	1
2	PTZ camera	<ul style="list-style-type: none"> - Sensor: 1 / 1.7 inch 12 megapixel CMOS sensor - Lens: 35x optical zoom, 2x digital zoom - viewing angle: 60 ° - video format: <ul style="list-style-type: none"> • IP: Main stream: 3840 * 2160p30, 1920 * 1080p60, 1280 * 720, 704 * 576, 640 * 480, 352 * 288 • HDMI: 3840 * 2160p30 / 25, 1080p60 / 50/30/25, 720p60 / 50/30/25, 1080i60 / 50 • 3G-SDI: 1080p60 / 50/30/25; 720p60 / 50/30/25; 1080i60 / 50 • USB3.0: 1080p60 / 50/30/25; 720p60 / 50/30/25 • USB2.0: 1024 * 576p30, 960 * 540p30, 640 * 360p30, 352 * 288p30 - Focal length: f = 5.8 (close) ~ 203mm (far) - Mirror image: supported - Panning angle: 360 ° - Tilt angle: -30 ° ~ + 90 ° - Rotation speed: 120 ° / s - Number of presets: 128 - Ports for video: HDMI / RJ45 / SDI / USB3.0 - Management: RS232 (Sony Visca), RJ45 (Onvif) - Power: DC12V, 2A - POE support - Video coding standard: H.264 / H.265 - Bit rate control: variable and constant - Video transmission speed: 1024 Kbps ~ 30720 Kbps - Frame rate: 60 Hz: 1 fps ~ 60 frames per second (3840 * 2160) - Protocol: TCP / IP, HTTP, RTSP, RTMP, Onvif, DHCP - OSD Language: English / Chinese / Russian - Warranty at least 3 years 	1
3	PTZ camera	<ul style="list-style-type: none"> - Sensor: 1 / 1.7 inch 12 megapixel CMOS sensor - Lens: 12x optical zoom, 12x digital zoom - Viewing angle: 72.5 °. 	2

		<ul style="list-style-type: none"> - Video format: <ul style="list-style-type: none"> • IP: Main stream: 3840 * 2160p30, 1920 * 1080p60, 1280 * 720, 704 * 576, 640 * 480, 352 * 288 • HDMI: 3840 * 2160p30 / 25, 1080p60 / 50/30/25, 720p60 / 50/30/25, 1080i60 / 50 • 3G-SDI: 1080p60 / 50/30/25; 720p60 / 50/30/25; 1080i60 / 50 • USB3.0: 1080p60 / 50/30/25; 720p60 / 50/30/25 • USB2.0: 1024 * 576p30, 960 * 540p30, 640 * 360p30, 352 * 288p30 - Number of presets: 128; - Focal length: from 5.8 to 203mm. - Supports mirroring; - Panning angle: 360 ° - Tilt angle: -30 ° ~ + 90 ° - Rotation speed: 120 ° per second - Video: HDMI / RJ45 / SDI / USB3.0 - Management: RS232 (Sony Visca), RJ45 (Onvif) - Power: DC12V, 2A - POE support - Video coding standard: H.264 / H.265 - Video transmission speed: 1024 Kbps ~ 30720 Kbps - The frame rate is 3840 * 2160: 60 frames per second. - Protocol: TCP / IP, HTTP, RTSP, RTMP, Onvif, DHCP - OSD Language: English / Chinese / Russian - Warranty at least 3 years 	
4	PTZ camera	<ul style="list-style-type: none"> - Sensor: 1 / 1.7 inch 5 megapixel CMOS sensor - Magnification: 12x optical, 12x digital - Viewing angle: 72.5 ° - Video signal interface: USB3.0 - Resolution: 1920x1080p60 / 50/30/25 - Presets: 128 presets - Compressed stream: uncompressed video - Control: RS232 / RS485 / IR remote control D / U, Visca & Pelco P / D & UVC - OSD Language: Chinese, English, Russian, Spanish - Remote control: supports - Mechanism: smooth stepping motor - Angle of rotation (horizontal): 360 ° - Angle of rotation (vertical): 120 ° - Rotation speed (horizontal): 0 ° ~ 150 ° / s - Rotation speed (vertically): 0 ° ~ 80 ° / s - Noise reduction: 3D NR - Image Flip: Supports - Signal / noise ratio:> 50dB - Minimum lighting: 0.1lux - Focal length: f = 3.92 (wide) ~ 47.32mm. (tele) - Warranty at least 3 years 	14
5	Audio processor	<ul style="list-style-type: none"> - Power supply: 100-240 VAC current, 50–60 Hz - Power consumption: 530 W - System power: 48 V post. current - Total power supply: 3x 144W + 15W - Frequency response: 30 Hz - 20 kHz - SOI at nominal input level: <0.1% - Dynamic range:> 95 dB - Signal-to-noise ratio:> 95 dB - Maximum signal level at the XLR input: +18 dBV - The maximum signal level at the input of the "tulip": +6 dBV - Maximum XLR output level: +20 dBV - Maximum level of a signal at an exit like "tulip": +8 dBV - Can be mounted on a tabletop or in a 19" rack - Operating temperature: from 0 °C to +45 °C - Relative humidity: <96%, > 5% - Warranty of at least 3 years. 	1

6	Discussion console	<ul style="list-style-type: none"> - Screen Type: Multi-Touch Capacitive Touch Screen - Screen size: 109.22 mm (4.3 inches) - Power supply: 48 V DC. current - Power consumption: 5 W - Frequency response: 100 Hz - 20 kHz - SOI at nominal level <0.1% - Dynamic range> 90 dB - Signal-to-noise ratio:> 90 dB - The maximum input level of the ultrasound microphone is 110 dB according to IEC60914 - The maximum level of the output of the loudspeaker ultrasound 87 dB - Maximum headphone output level 3 dBV - Load impedance on headphones> 32 ohm <1 kΩ - Headphone output power 65 mW - Support for contactless NFC-card (standard ISO / IEC14443, type A (from 106 kbit / s to 848 kbit / s. MIFARE 106 kbit / s). - Dimensions (H x W x D) 72 x 259 x 139 mm (without microphone) - Color: black transport - Operating temperature from 5 to +45 °C - Relative humidity <90%,> 5% - Warranty at least 3 years 	29
7	Stereo headphones	<ul style="list-style-type: none"> - Resistance 32 Ohm - Frequency range: 50 Hz - 20 kHz (-10 dB) - Maximum power: 50 mW - Sensitivity (1 kHz): 90 dB ultrasound / headphone with 1 mW power input / headphone - Color: dark gray - Wire length: at least 1.3 meters - Weight: not more than 100 grams 	29
8	Translator console	<ul style="list-style-type: none"> - Screen size: 7 inches - Screen Type: TFT - Supports up to 100 translation languages - Simplified, intuitive and ergonomic design - Assignable buttons for quick access to additional features - Support for the OMNEO network protocol (Dante compatible) - Fully compliant with ISO 20109 - Sound pressure level 85 dB - Maximum microphone input level 115 dB SPL - Nominal loudspeaker output level: 72 dB SPL - Headphone loading resistance (for each headphone)> 32 ohm <1 kΩ - Headphone output power (for both): 65 mW - Screen resolution: 800 x 480p - NFC card support: according to ISO / IEC 14 Type A (from 106 Kbps to 848 Kbps) MIFARE (106 Kbps) - IEEE802.3at class 4, PoE + - Power consumption: not more than 15 W - Inclination not less than 30 degrees - Weight: not more than 1.5 kg - Warranty: at least 3 years 	2
9	High quality translator headphones	<ul style="list-style-type: none"> - Frequency range: 20 Hz - 20 kHz - Impedance: 32 Ohm - Sensitivity: ultrasonic sounding 113 +/- 3 dB / mW (at 32 ohm) - SOI: 1% at 1 kHz at 1 mW - 3.5 mm jack (stereo, gold plated) - Headphone diameter: 53 mm - Cable length: at least 1.5 m - Weight: not more than 108 g - Color: black / steel 	2
10	Microphone on a flexible holder	<ul style="list-style-type: none"> - Throughput 125 Hz - 15 kHz according to IEC 60914 - Dynamic range> 100 dB - Nominal sound pressure level 85 dB - Maximum sound pressure level 115 dB 	31

		<ul style="list-style-type: none"> - Equivalent sound pressure 15 dB - Length: 310 mm - Mounting capability for MMD connector: 77.15 x 60.47 mm 	
11	Cable	<ul style="list-style-type: none"> - Dimensions (diameter): 6.4 mm - Low smoke, halogen free material (FR - PE LSZH) - Color: black RAL 9017 - Bending radius: 35 mm - Cable length: at least 2 meters 	32
12	Server	<ul style="list-style-type: none"> - Processor: Intel Xeon E5-2630 v4 - RAM: 16GB DDR4 - Optical drive: DVD-RW - Hard Drive: HDD 2 x HPE 240GB SATA - Power supply: 550W - Network controller: LAN HPE Embedded Dual Port 361i Adapter - RAID controller: HP H240 Smart Host Bus Adapter Controller RAID - Form Factor: 1U Rackmount 	1
13	Speakerphone	<ul style="list-style-type: none"> - Speaker 10 W, max. SPL 95 dB at a distance of 0.5 m - Microphones - 3 unidirectional full-duplex microphones with a common capture at 360 ° - Voice capture range of at least 9 meters - PC connection - via USB - Full duplex echo cancellation - Advanced noise reduction features - broadband voice processing - The ability to combine incoming calls on the phone and USB in one call - Warranty at least 3 years 	14
14	Wide resolution screen 65"	<ul style="list-style-type: none"> - Screen size not less than 65 "; - Screen resolution of at least 1920x1080; - Availability of LED backlight; - Color depth of at least 24 bits; - Viewing angles of at least 175 degrees in horizontal and vertical; - Availability of USB port for connecting drives; - Availability of 2 HDMI ports; - Availability of a set of composite and component ports; - Built-in functionality for playing media files; - Support for VESA mounts 	14
15	Stand for wide resolution screen	<ul style="list-style-type: none"> - Supported maximum screen weight of at least 50kg; - The supported mounting dimensions are VESA 150x150, 200x100, 200x150, 200x200, 400x200, 400x400; - Material produced in aluminum or steel; - Availability of height adjustment (maximum height not less than 1700 mm); - Availability of wheels for movement of the rack (at least 2 wheels with a stopper); - The presence of a shelf with a size of at least 500x300mm; - Availability of mount for PTZ camera. 	14

7. Requirements for the composition and content of work to create a system

7.1 Testing of equipment

Before installation, all equipment must be checked for completeness, the availability of software, and each piece of equipment must undergo a “cold start” procedure, i.e. electrical power must be supplied and all equipment components and modules, including the operability software, checked.

7.2 Installation of equipment.

- Telecommunication cabinets must be connected to an information ground loop.

- It is recommended to provide power to all active network equipment by connecting it and uninterrupted or independent power supply sources.

8. Requirements for the degree of adaptability of the system to changes

It is necessary to foresee changes in the automation object:

- Change the number of users of the system;
- Changing the physical location of workplaces within work groups;
- Changes in the composition and number of working user groups;

To provide flexible management of workplace movements within any one object, provide ways to reconfigure the system:

- At the level of physical switching of switching cables;
- At the configuration level of the active network devices.

The operation of the system should not depend on the type of computing devices used (computing platform) and allow them to be replaced by other type of equipment.

9. Requirements for the possibility of modernization and development of the system

The system should have the ability to upgrade and develop without a fundamental change in its structure and composition, if necessary, the use of more modern high-performance technologies. Provide the possibility of adding new devices to existing equipment or providing a possibility of stepwise updates - meaning that newer devices can be operated in the existing system in parallel with previously installed ones.

The complex should include the following modernization options:

- Ability to increase the number of ports of active network equipment by adding additional equipment;
- Ability to install new types of active network equipment, providing increased performance if necessary;
- The possibility of expanding the server and computer park.

10. Security and protection of information

10.1 Security and protection of information.

To address the issues of security and information protection as part of the complex, to provide opportunities implemented at the hardware level:

- The complex should include administrative measures to identify unauthorized changes in the system.

Within the framework of the project, it is necessary to develop documents reflecting the current state of physical switching (at the level of the data transmission medium).

It is necessary to provide a procedure to reflect all cases of changes in the system configuration.

10.2 Security and protection of information.

The data equipment control system must provide a flexible strategy for the allocation of user rights (user authentication according to the object + operation), based on the rules of administrative responsibility. The data equipment control system should provide simple and

convenient tools for copying data, which simplifies the task for the administrator. The data equipment control system should ensure the provision of detailed logs for users and operational tasks.

11. Requirements for ergonomics and technical aesthetics

The appearance of the complex component must fully meet the international level of office space design. Elements of the complex should not violate the general appearance of the interior space.

12. Requirements for the use of modern technology in design solutions

When designing the complex, the most modern technological achievements in the field of network technologies should be used.

The project should use equipment produced by the world's leading manufacturers of equipment and solutions in the field of creating and building a videoconference system with the participation of the Central Office and territorial administrations.

13. Requirements for operating conditions and environmental characteristics

The operating conditions of the complex and the environmental characteristics of the working premises for personnel must comply with the requirements of sanitary standards and rules established in the Republic of Uzbekistan.

A videoconference system with the participation of the Central Office and territorial administrations should provide for work in standard operating conditions, with the service schedule recommended by the Equipment Manufacturer.

14. Requirement for the replacement of equipment.

During the period of warranty and maintenance in case of equipment malfunction, the Supplier must, within a period of not more than 48 hours, carry out a temporary replacement with the original or similar in functionality equipment from the customer's spare parts warehouse, with its further replacement with original equipment from the Equipment Manufacturer in a period not exceeding 30 days.

During the warranty period, the replacement of faulty equipment is free of charge, with the exception of the cost of sending the faulty equipment to the Equipment Manufacturer.

15. The order of control and acceptance system

The order of control and acceptance of the system is determined by the program and method of testing the system, which is part of the design documentation developed by the Contractor.

Delivery and acceptance of work must be carried out in accordance with the program and testing methodology and schedule approved by the Customer and the Contractor.

Delivery-acceptance of work is carried out by the commission, the composition and regulations of which are determined by the Customer.

Acceptance of the System is carried out by the commission appointed by the Customer. The status and composition of the commission is determined by the Customer. The chairman of the acceptance committee is the representative of the Customer.

The date of entry of the video conferencing system (its elements) into action shall be the date of signing of the act of entering the video conferencing system into commercial operation.

16. Documentation requirements

The contractor must provide a set of acceptance documentation in accordance with the requirements of O'z DSt 1986: 2010 - "Information technology. Information systems, stages of creation ", O'z DSt 1987: 2010 - " Information technology. Terms of Reference for the creation of an information system ", RH 45-004-2008 - " The procedure for planning, developing, creating, approving and registering regulatory documents. "

- Documentation must be transferred to the Customer in two forms - on paper and electronic media.
- Documentation is provided in Russian. In the absence of documentation by the manufacturer of the equipment in Russian, it is allowed to provide documentation in English, and must also be submitted in paper and in electronic form in one copy.
- All documentation must comply with accepted standards. If possible, standardized symbols and terms recommended by ITU-T, ETSI, IETF should be used.
- Operational documentation not related to the day-to-day work of service personnel, as well as subject to frequent adjustments when changing software versions, should be submitted electronically in Russian and English.
- The documentation transferred to the Customer must be executed in paper and electronic form on a medium provided by the Customer.

LOT No.2
TERMS OF REFERENCE AND TECHNICAL SPECIFICATIONS
Supply and installation of a videoconferencing network
for General Prosecutor office of the Republic of Uzbekistan and its
territorial bodies

General information

4.1. Full name of the project and its symbol

The full name of the project: to create a videoconferencing network
for the prosecution authorities of the Republic of Uzbekistan
Short name of systems: video conferencing system

4.2. Beneficiary

Client: **General Prosecutor's Office of the Republic of Uzbekistan.**
Phone number: (0 371) 232-45-23;
Address: 66, Yakhyo Gulyamov st., Tashkent, Republic of Uzbekistan.

4.3. Contractor

The contractor is selected on the basis of competitive and / or tender bidding, or by other means, in accordance with the requirements of current laws, regulations, resolutions and other regulatory documents.

4.4. Basis for development

The basis for the development of this Terms of Reference are such regulations as:

- Law of the Republic of Uzbekistan "On informatization".
- Resolution of the President of the Republic of Uzbekistan dated November 16, 2015 Number PP-2433 "On measures to further the introduction of modern information and communication technologies into the activities of the prosecution authorities."
- Resolution of the President of the Republic of Uzbekistan dated November 2, 2017 No. PP-3371.
- Presidential Decree No. PP-1730 dated March 21, 2012 "On measures for the further introduction and development of modern information and communication technologies";

4.5. Planned dates of commencement and completion

Terms of work: 120 calendar days.
Commencement date: ____ date
Completion date: ____ date

The dates of commencement and completion of work on the supply and installation/creation of systems should be fixed in the calendar plan, which is an integral part of the contract between the Customer and the system supplier. The breakdown by the time of creation of the systems should be submitted to the Customer at the stage of submitting the technical and commercial proposal at the stage of the tender (competitive) bidding.

4.6. Sources of funding

Sources of funding will be financed by own funds.
Payment modality 70% of the contract amount will be done within 30 days after supply of the equipment as per TOR, the rest 30% is paid within 30 days after installation and acceptance by

Parties.

4.7. The procedure for registration and presentation of the results of work

Works on the construction of a video conference system between the General Prosecutor's Office and regional prosecutor's offices are carried out by the Contractor in stages in accordance with the project schedule. At the end of each of the stages of work, the Contractor shall submit to the Customer the relevant reporting documents of the stage, the composition of which will be determined by the Agreement between the Customer and the Contractor of the System.

4.8. Terms and definitions

Table 2. Terms and definitions

Short designation	Interpretation of designation
LAN	Local area network
AWS	Automated work station
FO	Fiber optic
VC	Video conferencing network
PC	Personal computer
ПО	Программное обеспечение
FTP	File Transfer Protocol
RTP	Real-time Transport Protocol
DHCP	Dynamic Host Configuration Protocol
HTTP	HyperText Transfer Protocol
FE	Fast Ethernet или 100BASE-T
GE	Gigabit Ethernet
	Internet Group Management Protocol
IPv4	Fourth version of IP protocol
IPv6	New version of IP protocol
IPSec	IP Security
MAC	Media Access Control
Ethernet	Local networks
LAN	Local area network
VP8, H.264, H.263	Video protocols
Opus, iSAC, Speex, G.711, G.722, G.723.1, G.728, G.729	Audio protocols
Gatekeeper	Controller zones
NAT	network address translation
SIP	Session Initiation Protocol
SNMP	Simple Network Management Protocol

2. Purpose and objectives of the project

2.1 Purpose of the project

Videoconferencing network (hereinafter referred to as VC) is intended for:

- providing meetings, conferences, video and audio information sharing;
- ensuring operational videoconferencing with the participation of territorial units;

This technical specification provides for the construction of a video conferencing network with

18 units connected.

2.2 Goals and objectives of the project

The main objectives of building a video conferencing network are:

- ensuring more effective and more efficient interaction with territorial divisions and decision-making by transmitting video and audio information;
- reduction of expenses on travel expenses, including travel expenses, expenses for accommodation and meals for employees from territorial divisions, as well as other organizational expenses for holding group video conferences or distance learning;
- creation of a technological platform for building a large-scale video conferencing system and its further development in the framework of interagency cooperation.

The main objective of the project is to provide operational videoconferencing between the General Prosecutor's Office of the Republic of Uzbekistan (hereinafter – GPO) and regional prosecutor's offices (hereinafter – regional prosecutor's offices).

3. Characteristics of the object information and equipment

3.1 Brief information about the object

The Prosecutor's Office of the Republic of Uzbekistan is a single centralized system of prosecution bodies headed by the Prosecutor General of the Republic of Uzbekistan.

The list of prosecution bodies is formed in accordance with the Law of the Republic of Uzbekistan "On Prosecutor's Office" (in a new edition).

The system of prosecutors are:

- General Prosecutor's Office of the Republic of Uzbekistan;
- Prosecutor's Office of the Republic of Karakalpakstan, regions and the city of Tashkent;
- Prosecutor's offices of districts (cities);
- Military Prosecutor's Office of the Republic of Uzbekistan;
- Transport Prosecutor's Office of the Republic of Uzbekistan;
- The Department for Combating Economic Crimes at the General Prosecutor's Office of the Republic of Uzbekistan;
- Bureau of Compulsory Enforcement at the General Prosecutor's Office of the Republic of Uzbekistan.;

Currently, there are 234 prosecutor's offices of districts (cities) and equivalent prosecutor's offices, 16 regional and equivalent prosecutor's offices, including prosecutors of the Republic of Karakalpakstan, regions, the city of Tashkent, Transport and Military Prosecutor's offices of the Republic of Uzbekistan.

In order to increase the efficiency, and transparency of the prosecution authorities, improve the implementation of supervisory functions, enhance effective control over the implementation of legislation, ensure the protection of the rights and legitimate interests of citizens and business entities, they widely introduce modern information and communication technologies.

In this regard, the main objectives of the introduction and development of modern information and communication technologies (ICT) in the activities of the prosecution authorities are to increase the efficiency, efficiency and transparency of their activities, to improve the methods of exercising supervisory functions, strengthening effective control over the implementation of legislation, ensuring the protection of rights and legitimate interests citizens and private entrepreneurs.

To achieve these goals, it is necessary to solve such basic tasks as:

- Improving the efficiency of data provision and reducing the time of their collection,

processing, systematization and analysis, as well as improving information support for activities in such areas as strengthening the rule of law, combating crime, preventing and preventing crime, ensuring effective oversight of investigating criminal cases, execution of judicial decisions;

- ensuring the automation of the timely consideration of appeals of individuals and legal entities, of the clerical processes to the decision-making stage.

Acceleration of the implementation of these processes was promoted by the adoption of a number of legal acts:

- Decree of the President of the Republic of Uzbekistan of September 29, 2017 No. UP-5196 “On introducing amendments and addenda to some acts of the President of the Republic of Uzbekistan and decisions of the Government of the Republic of Uzbekistan”;
- Resolution of the President of the Republic of Uzbekistan dated November 16, 2015 No. PP-2433 “On measures for further introduction of modern information and communication technologies into the activities of prosecution authorities”;
- Resolution of the President of the Republic of Uzbekistan dated July 29, 2017 Number PP-2568 "On measures for the widespread introduction of information and communication technologies in the activities of the prosecution authorities of the Republic of Uzbekistan".

In the ongoing work, increased attention is paid to the creation of an information infrastructure for the prosecution authorities and integration into e-government, in particular, to:

- creating a secure corporate computer network based on fiber-optic communication lines to the district level;
- building a data center;
- introduction of secure e-mail and electronic document management;
- creating an IP telephony network;
- transition to electronic document flow;
- creation of information systems and software products of the prosecution authorities;
- organization of interdepartmental information interaction;
- equipping with computer and peripheral equipment, software.

The Decree of the President of the Republic of Uzbekistan No. PP-2433 of November 16, 2015, approved a program of measures for introducing modern information and communication technologies into the work of the prosecution authorities.

In the framework of the Program, in order to increase the efficiency of the prosecution authorities, a data processing center was built and a secure corporate computer network was created, prosecutors' offices were equipped with computer and peripheral equipment and software.

Works are completed on connecting all regional divisions to optical communication lines. In addition, a project was implemented to equip each workplace with a modern digital IP phone.

In addition to creating an information infrastructure, measures are being implemented to strengthen interagency electronic interaction.

However, due to the lack of a video conferencing system, it is impossible to conduct remote meetings for full control over the activities of lower-level organizations.

As part of the videoconferencing system being created, it is necessary to equip VC studios with a modern set of audiovisual facilities designed for comfortable and efficient holding of meetings.

Objects of equipment supply of this project are:

1. General Prosecutor's Office of the Republic of Uzbekistan (Tashkent)
2. Prosecutor's Office of the Republic of Karakalpakstan (Nukus city)
3. Prosecutor's office of the Andijan region (Andijan city)
4. Prosecutor's office of the Namangan region (Namangan city)

5. Prosecutor's office of the Fergana region (Fergana city)
6. Prosecutor's office of the Sirdarya region (Gulistan city)
7. Prosecutor's office of the Jizzakh region (Jizzakh city)
8. Prosecutor's office of the Samarkand region (Samarkand city)
9. Prosecutor's office of the Kashkadarya region (Karshi city)
10. Prosecutor's office of the Surkhandarya region (Termez city)
11. Prosecutor's office of the Navoi region (Navoi city)
12. Prosecutor's office of the Bukhara region (Bukhara city)
13. Prosecutor's office of the Khorezm region (Urgench city)
14. Prosecutor's office of the Tashkent region (Tashkent city)
15. Prosecutor's office of the Tashkent city (Tashkent city)

The project plans connection to a single video conference system and equipping the following types of premises with necessary equipment:

- The main hall at the General Prosecutor's Office (1 hall), is a room measuring 20 to 17 meters and designed for 260 people. In this room there is an established table 10 meters long with 5 seats.

- The large conference hall in the regional prosecutor's offices represents rooms with a size of 60 sq.m. and designed for more than 50 people.

Approximate schemes, technical dimensions of all rooms with the list of installed equipment in the premises are indicated in the attached file called "Schemes of rooms".

3.2 The composition of VC system

The project provides for the comprehensive installation and launch of software, the supply and installation of turnkey equipment in the premises of the Prosecutor's Office.

The system of the main VC studio at the GPO must include the following subsystems:

- Software (non-hardware) solution for video conferencing;
- Information display subsystem, including video wall and duplicate information display systems;
- Congress discussion subsystem with built-in speakerphones;
- Simultaneous translation subsystem for 2 (two) languages;
- Integrated control subsystem of 2 (two) or more cameras.;

The following subsystems must be included in the system of the VC regional studios:

- VC equipment, including a camera and a speakerphone;
- Information display systems;
- Sound transmission system.

A complete list of hardware and software is provided in Chapter 7.

3.2 Information about the terms of the project

In order to implement the project, a fully functional ICT infrastructure is being implemented. The project implementation involves the solution of several main tasks:

- acquisition and commissioning of the necessary equipment;
- test operation of implemented technical solutions;
- putting the entire complex into operation;
- personnel training.

The supplier should provide start-up and personnel training, as well as subsequent technical support within 1 year after the launch of the equipment and the system as a whole.

4. System requirements

6.2 GENERAL REQUIREMENTS

The projected network of video conferencing should:

- be a software solution and not depend on special terminal devices;
- provide high quality video conferencing with support for quality Full HD and 16K p30 (30 frames per second) and combine up to 250 simultaneous users in one conference and up to 50 speakers on one screen;
- have sufficient performance to provide multimedia services, transfer audio and video presentations, and also have sufficient reliability and fault tolerance;
- to provide the required functionality, achieved through careful design of software and hardware systems used as the basis for the videoconference system between the Center and its branches.

The main indicators of the functional effectiveness of the video conferencing system are:

- **reliability** - availability of video conferencing 24 hours a day, 7 days a week;
- security - ensuring the integrity of transmitted video and audio services preventing unauthorized access to network equipment and information
- flexibility - the ability to upgrade major components without significant additional costs;
- scalability - the ability to increase the capacity and capacity of the system's functionality in accordance with the growing needs, while maintaining all of its existing properties, without sacrificing performance, reliability and manageability;
- manageability - managing the entire network and services from a single center, remotely configuring all network elements and subsystems, monitoring the status and performance of all network elements in real time;
- compatibility - network equipment and software should be based on international standards and requirements, ensure complete information technology compatibility between individual subsystems, with external systems, as well as with modern developing unified communications systems without adding additional hardware resources, exclusively through additional licensing.
- productivity - the ability of the system to perform the tasks of processing, storing, presenting and replicating data with the required speed;
- adaptability - the ability of the system to change (adjust) the characteristics of functioning in accordance with current tasks and conditions of activity;
- operational manufacturability - the ability to provide ease of maintenance and ease of administration.

Project implementation should be based on the following key principles:

- Compliance with national and international standards in the design and development of the architecture of a video conference system;
- unification of the technologies used, which implies the existence of a unified architecture, common protocols for information exchange, common procedures for aggregation and data transfer, common software and hardware, etc.;
- provision of sufficient transport and network resources, taking into account the increase in workload and the provision of the necessary capacity reserve;
- use of modern technical solutions selected on the basis of the best world experience in building complex information technology systems;
- unification and standardization, involving the use of typical technical solutions (structural units) at all levels;
- the possibility of adaptive (depending on current needs) modernization throughout the entire life cycle, ensuring full compatibility with the applied (business) technologies appearing during the modernization of information technologies.
- centralization of necessary information resources while preserving the possibility of resource allocation;

- unification of technical solutions based on the use of a limited set of typical configurations and constituent elements of infrastructure solutions;
- ensuring openness, modularity and scalability of technical solutions based on the concept of providing infrastructure services;
- phased enhancement of the functionality of the architecture components.

Along with the above, when developing solutions for creating a videoconference system between the Center and the branches, it is necessary to consider the implementation of the following requirements:

- to ensure the compliance of the system being created with the technical requirements of national and international legal acts of the Republic of Uzbekistan and regulatory and technical documents in the field of application of information and telecommunication technologies in the Republic of Uzbekistan;
- propose technical solutions that provide fault-tolerant operation by backing up critical components of hardware failures and using software to protect applications and data;
- to offer economically sound solutions, to ensure an acceptable cost, safety of investments and the possibility of "seamless" integration into the existing information and telecommunications infrastructure;
- to ensure the minimum terms of design and commissioning;
- to provide for continuous round-the-clock operation of the videoconference system.

4.1.1. Requirements for the number and qualifications of the system personnel and the mode of its operation

To ensure the operation of the system being created, it is supposed to involve at least one employee in each branch responsible for the technical support and support of the VCS system. The implementation of the VKS system should be carried out during the daytime working hours according to the mode of operation of these employees.

4.1.2. Operating conditions and environment

Operating conditions and environment of the automation object:

- The system should be operated on equipment intended for use in a videoconference system with the participation of the Center and territorial regions;
- Server power supply should be stabilized and be $220 \pm 2\%$ with a frequency of 50 Hz, the equipment of the video conference system with the participation of the Center and territorial regions must be connected to the power grid through an uninterruptible power supply (UPS) installed at the Customer.

4.1.3. Operating conditions and environment

The following operating conditions for video conferencing equipment should be ensured:

- The system should be operated on equipment intended for use in a videoconference system with the participation of the Center and territorial regions;
- ambient air temperature 5 - 25° C;
- air humidity 30 - 80% (without condensation);
- server power supply should be stabilized and be $220 \pm 2\%$ with a frequency of 50 Hz, the equipment of the video conference system with the participation of the Center and territorial regions must be connected to the power grid through an uninterruptible power supply (UPS) installed at the Customer.
- the quality of electrical energy must meet the requirements of GOST 13109-97 "Electric energy. Electromagnetic compatibility of technical equipment. Standards of quality of electrical energy in general-purpose power supply systems";

- The power supply to the VC equipment must be connected via European type electrical outlets or directly connected to the electrical switchboard.
- Power supply system power requirements should be aligned with the results of calculations of the total power consumed by the VC equipment

4.1.4. Requirements for lighting and acoustics of VC rooms

The lighting requirements for videoconferencing facilities are determined, first of all, by occupational health requirements and the conditions for maintaining color reproduction during video conferences. The lighting system should provide:

- blocking incoming sun color;
- color temperature depending on the color of the walls and the type of video camera used (recommended values are 3200-3600°K);
- light intensity for the table in the range of 800-1400 L;
- light intensity for walls in the range - minimum $\frac{1}{2}$ light intensity value for a table, maximum $\frac{3}{4}$ of this value;
- low contrast light intensity.

A prerequisite for the correct operation of the video conferencing system is compliance with the requirements of SNiP 32-05-95.

Acoustic parameters must meet the following characteristics:

- the noise level in the premises when the equipment is turned on should not exceed 40 dB;
- the echo should be without reverberation and is within 0.3 - 0.5 sec.

4.1.5. Reliability requirements

The reliability of the videoconference system should be achieved by coordinated use of a set of organizational, procedural and software and technical measures during the operation of the system.

To ensure the reliability of the system, all central nodes of the system (servers, storage systems, switches, routers) should be backed up.

The complex should ensure the work of users 24 hours a day, 7 days a week, 365 days a year.

Resiliency of the service level, unified ways of providing services for any type of inclusions, availability of the network and services 24 hours a day, 7 days a week, reservation of communication channels and main modules, processing large amounts of data should be provided.

4.1.6. Safety requirements

Requirements for security during installation, commissioning, operation, maintenance and repair of technical means of the videoconference system, at permissible levels of illumination, vibration and noise loads are not presented to the videoconference system.

4.1.7. Requirement for patent cleanliness

Components of a video conference system with the participation of the Central Office and territorial administrations must have patent purity in the territory of the Republic of Uzbekistan.

4.1.8. Requirements for licence frequency

Licensed software should be used in the video conference system with the participation of the Central Office and territorial administrations.

It is obligatory to have a letter of permission for the installation and implementation of software directly from the software manufacturer on company letterhead, signed and stamped by the software manufacturer, prior to the competition.

4.1.9. Requirements for ergonomics and technical aesthetics

The automated workplaces of users of the videoconference system with the participation of the Central Office and territorial administrations should be equipped in accordance with Sanitary Regulations and Regulations No.0205-06 “Sanitary rules and hygienic requirements when working on personal computers, display terminals”.

4.1.10. Requirements for standardization and unification

Within the framework of the project, standard products, ready-made devices and parts should be used whenever possible to create a videoconference system with the participation of the Central Office and territorial administrations.

It is not allowed to use and supply specialized connectors manufactured exclusively by one manufacturer. All spare parts of the equipment should be easily interchangeable and, if necessary, generally available for sale in local markets for computer components.

4.1.11. Transportability requirements for mobile systems

Constructive requirements that ensure the transportability of technical means of a videoconference system with the participation of the Central Office and territorial administrations, as well as vehicle requirements, are not imposed on a videoconference system with the participation of the Central Office and territorial administrations.

4.1.12. Requirements for the operation and maintenance of components

The video conference system being developed with the participation of the Central Office and territorial administrations does not require the presentation of requirements for the operation, maintenance, repair and storage of components. All major system components are reserved.

4.1.13. Requirements for information safety from unauthorized access

In the system of video conferencing with the participation of the Central Office and territorial administrations, monitoring and control means should be provided that limit the rights of users of the video conference system with the participation of the Central Administration and territorial administrations.

Access to the videoconference system with the participation of the Central Office and territorial administrations should be provided only for registered users who have passed the identification and authentication procedure.

4.1.14. Requirements for the safety of information in case of accidents

In the system of video conferencing with the participation of the Central Office and territorial administrations, means of backup, archiving and recovery of data should be provided. The servers on which information systems operate should be provided with uninterrupted power supply for at least 15 minutes to shut down the operating system and applications upon termination of the primary power supply.

4.1.15. Requirements for protection against the impact of external influences

Climate conditions determined by the requirements of the manufacturers of the used technical equipment should be provided in the premises with the placed technical facilities on which the videoconference system operates with the participation of the Central Office and territorial administrations.

6.3 REQUIREMENTS FOR THE TYPES OF COLLATERAL

4.1.16. Requirements for mathematical supply

The system being developed does not require requirements for mathematical software.

4.1.17. Requirements for information support

The information support of the videoconference system must be sufficient to perform all the automated functions of the videoconference system.

4.1.18. Requirements for linguistic support

Simultaneous translation subsystem along with a video conferencing system must support at least 2 (two) additional translation languages and be available to delegates to listen to a specific translation channel on any of the consoles of the discussion system of the GPO.

4.1.19. Requirements for methods and means of communication

For the functioning of the Video Conferencing System with the participation of the Central Office and territorial administrations, all devices within one object of connection to the Video Conferencing System with the participation of the Central Administration and territorial administrations must be combined into a local area network using the TCP / IP transport protocol.

Another important component of the engineering support of the Videoconferencing System is the transport telecommunication infrastructure that provides communication for the videoconferencing facilities. To create a video conferencing system, the project provides for the use of rented data transmission channels of the existing telecommunications operator..

The main software solution is planned to be installed on the server equipment of the Video conferencing system for further use of the existing high-speed communication channels with a bandwidth sufficient for simultaneous operation of at least 100% of the connected users of the system.

4.1.20. Requirements for communication channels for video conferencing

Approaching the issue of using video conferencing, it is needed to pay special attention to the requirements of communication channels. The required bandwidth of the channel is divided into several streams - incoming flows and outgoing flows, which, in turn, may differ from each other.

The table below shows the recommended values for incoming / outgoing flows for Full HD quality with the participation of 18 (eighteen) users. For maximum performance, it is recommended to have a 50% bandwidth margin. However, during video conferencing, scalable video coding (SVC) of the video conferencing server must adaptively adjust the flow rate to varying network conditions.

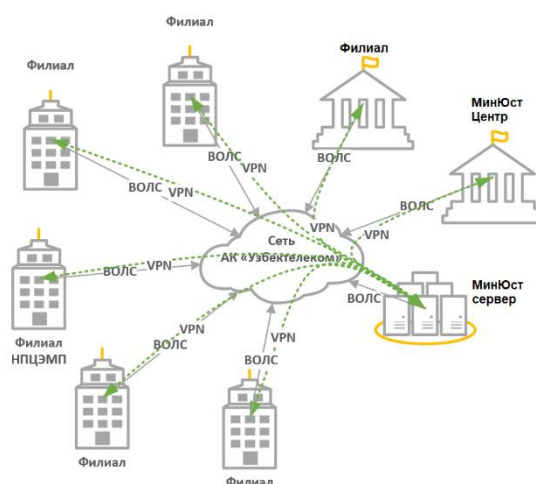
Table 3. Required bandwidth

Type of connection	Server		Client	
	Incoming	Outgoing	Incoming	Outgoing
Symmetrical Full HD for 25 pax	18 Mbit/s	38.9 Mbit/s	2.1 Mbit/s	1 Mbit/s
Asymmetrical Full HD for 25 pax	18 Mbit/s	13.2 Mbit/s	2.1 Mbit/s	1 Mbit/s
Role-playing Full HD for 25 pax, 1 lecturer	1 Mbit/s	11 Mbit/s	0.7 Mbit/s	1 Mbit/s
Role-playing Full HD for	6 Mbit/s	28.2 Mbit/s	1.6 Mbit/s	1 Mbit/s

25 pax, 1 lecturer				
Videocall SD	1 Mbit/s	1 Mbit/s	0.5 Mbit/s	0.5 Mbit/s
Videocall HD	2 Mbit/s	2 Mbit/s	1 Mbit/s	1 Mbit/s
Videocall Full HD	4 Mbit/s	4 Mbit/s	2 Mbit/s	2 Mbit/s
Videocall WQHD	8 Mbit/s	8 Mbit/s	4 Mbit/s	4 Mbit/s
Videocall Ultra HD 4 K	16 Mbit/s	16 Mbit/s	8 Mbit/s	8 Mbit/s
WebRTC video translation for 1 extra participant	+0.5 Mbit/s	+0.8 Mbit/s	+0.8 Mbit/s	+0.5 Mbit/s

4.1.21. Requirements for connecting to a data network

To ensure the necessary connection speed and meet the requirements of reliability of the data transmission network, prosecutor's offices must be connected using optical communication lines.



Picture 2. Connection scheme of the objects of the Video conference system to the data transmission network of the operator

*Филиал – Regional prosecutor's office

МинЮст Центр1 – GPO

МинЮст Центр2 – Server of GPO

ВОЛС – optic fibre lines

Сеть АК «Узбектелеком» - Lines of SC "Uzbektelecom" (national internet provider)

When designing a videoconference system, it is necessary to take into account the possibility of expanding the system by connecting additional points of videoconferencing systems in other prosecution bodies.

Considering that information will be exchanged via the Video conferencing system network, the use of L2 VPN technology will be provided using IPSEC, SSL, TS protocols, which allows organizing isolated data transfer channels between the Video Conferencing System objects connected to the System.

In the prosecutor's office there is a structured cable system.

5. Software requirements

Table 5. Technical requirements for software

Item number	Name of the indicator, technical, functional parameter, its value, value, etc	Required value (availability of function and	Specific indicators proposed for
-------------	---	--	----------------------------------

		parameter values)	software delivery
	Granting non-exclusive rights to use (license) software Number: 25 subscribers.		
1. Licence system			
1.1	Type of video conferencing system	Software	
1.2	Type of licence:	Indefinite	
1.3	Total number of online connections. "Online" users are those who are connected to the server and logged in to their account, has the status of "online" in the Address Book. Users who are connected to the server, but behave passively, do not hold conferences, are also considered "online" users. To release the point, the user must log out / disconnect from the server.	At least 35	
1.4	The possibility of user login to the system without reference to the equipment	Availability	
2. Used technologies and protocols			
2.1	Audio Codec:	Opus, iSAC, Speex, G.711, G.722, G.723.1, G.728, G.729	
2.2	Video codec:	VP8, H.264, H.263	
2.3	HD quality support	Availability	
2.4	Scalable video coding (SVC) support	Availability	
2.5	4K quality support in a group conference	Availability	
2.6	WebRTC technology support	Availability	
2.7	Improving the quality of speech Fullduplex	Availability	
3. Platforms			
3.1	Ability to participate in conferences via the web interface	Availability	
3.2	The ability to manage the server using the web interface	Availability	
3.3	Availability of special client applications with support for multipoint video conferencing for operating systems	Windows, Mac OS X, Linux, Android (including up to 5.0 version), iOS	
4. Functionality			
4.1	Maximum number of participants in one conference	At least 35	
4.2	Number of participants simultaneously on the screen	At least 35	
4.3	Adaptation of resolution and stream fps to network capacity of the workplace of the multipoint video conferencing participant (SVC)	Availability	
4.4	Scheduler	Availability	
4.5	Availability of an address book with contact status	Availability	
4.6	Whiteboard.	Availability	

4.7	Presentation Demonstration	Availability	
4.8	Demonstration of presentations at WebRTC conferences	Availability	
4.9	Public chat	Availability	
4.10	Private chat	Availability	
4.11	Chatting without creating a conference	Availability	
4.12	Desktop demo	Availability	
4.13	File Transfer	Availability	
4.14	Possibility of modernization	Availability	
4.16	The ability to invite an external user	Availability	
4.18	The possibility of recording video conferencing from the client application with the notification and with the permission of the opposite party	Availability	
4.19	Ability to record the conference on the server	Availability	
4.20	Ability to use UDP Multicast protocol	Availability	
4.21	Ability to select specific video conferences for recording (on the server / client software)	Availability	
4.22	Support for recording video conferencing resolution	720p, 480p, 360p	
4.23	Showing the desktop without using third-party software	Availability	
4.24	Remote control of another party's desktop	Availability	
4.25	Display of the bitrate of the input / output stream in the client application in real time	Availability	
4.26	The mode of saving traffic when displaying video in small windows.	Availability	
4.27	Personal or shared address book	Availability	
4.28	Ability to display each participant in the conference in a separate window (on a separate screen), with the possibility of resizing this window.	Availability	
4.29	The ability to display the public chat of the conference in a separate window (on a separate screen), with the ability to change the size of this window.	Availability	
4.30	The ability to display the conference presentation in a separate window (on a separate screen), with the ability to resize this window.	Availability	
4.31	Integration with user repositories via LDAP or using its own built-in storage	Availability	
4.32	Software installation without using dongles	Availability	
4.33	Informing the administrator about system failures by email	Availability	
4.35	Manage your traffic (on / off the video / audio of other participants)	Availability	
4.36	The ability to transfer video streams directly between participants in the video call mode.	Availability	
4.37	Ability to schedule video conferencing with an arbitrary number of participants in the	Availability	

	stands from 1 to 6.		
4.38	Supports video conferencing via RTSP protocol to external broadcast systems.	Availability	
4.39	Ability to publish video conferencing with RTSP Push to broadcast servers and CDN services.	Availability	
4.40	API for working with the user's address book.	Availability	
4.41	API for working with group conferences (creating, editing conferences, viewing the list of conferences).	Availability	
5. Technical requirements			
5.1	Minimum bandwidth of the communication channel for participation in an audio conference	No more than 16 kb/s	
5.2	The minimum bandwidth of the communication channel for participation in video conferencing	No more than 32 kb/s	
5.3	Supported operating systems for hosting a server without virtualization tools	MS Windows Server	
6. Integration			
6.1	Remote Server Management (API)	Availability	
6.2	Integration with corporate Slack Messenger	Availability	
6.3	Integration with ECM / CRM / ERP / Internet sites	Availability	
7. Security			
7.1	Autonomous work in closed networks	Availability	
7.2	Client-server connection on one TCP port	Availability	
7.3	SSL - Encryption	Availability	
8. Extra subsystems			
8.1	Multimedia Conference System Management Module	Availability	
8.2	Module of the channel language selection function. AI. Version	Availability	
8.3	Translation Training and Management Module	Availability	

6. Requirements for video conferencing equipment and software

Table 6. Table of technical requirements for hardware and software Video conferencing systems

№	Type of equipment	Characteristics	Parameters	Quantity	Dislocation
1.	Server	Server for video conferencing	<p>The server must meet the following requirements:</p> <ul style="list-style-type: none"> - housing for installation in a 19 "rack, height not exceeding 1U, availability of a kit for fasteners; - the presence of at least 1 64-bit processor with x86-64 architecture, at least 10 processor cores, a base clock frequency of at least 2.2 GHz, a cache size of at least 13 MB, with support for HyperThreading technology or similar, the possibility of installing two such processors; - the presence of at least 48 GB of RAM DDR4 ECC RDIMM operating at a frequency of at least 2666 MHz, with parity, with the possibility of installing at least 768 GB; - the ability to install at least 8 SAS hard drives form factor 2.5 "hot-swappable, support for SSD and NVMe; - availability of a RAID controller with support for RAID0, 1, 5, 6, 10 with at least 2 GB of cache memory; - the presence of at least 6 hard drives with a capacity of at least 300GB, 2.5 "form factor with an SAS 12G connection interface, a spindle speed of at least 10,000 rpm; - at least 2 embedded network interfaces (LOM) 10GE; - the presence of at least 2 PCI-Express 3.0 slots, for the installation of general purpose cards, including at least 1 x16 slot; - at least 2 power supplies operating in 1 + 1 mode with hot-swappable; - manufacturer's warranty of at least 3 years, 	1	GPO

			providing firmware updates, advice on setting up, replacing bad equipment;		
2.	PTZ camera	PTZ camera	<ul style="list-style-type: none"> - Sensor: 1 / 1.7 inch 12-megapixel CMOS sensor; - Lens: 12x optical zoom, 12x digital zoom - Viewing angle: min. 72.5 °. - Number of presets: 128; - Focal length: from 5.8 to 203mm. - Supports mirroring; - Panning angle: 360 °; - Tilt angle: -30 ° ~ + 90 °; - Rotation speed: min. 120 ° per second; - Video: HDMI / RJ45 / SDI / USB3.0 - Management: RS232 (Sony Visca), RJ45 (Onvif); - POE support; - Video coding standard: H.264 / H.265; - Video transfer rate: 30720 Kbps; - The frame rate is 3840 * 2160: 60 frames per second. - Protocol: TCP / IP, HTTP, RTSP, RTMP, Onvif, DHCP - Warranty at least 3 years 	<p>36*</p> <p>* 2 pcs. for the presidium and the hall in each object</p>	<p>GPO</p> <p>Pros. Office of Rep. Karakalpakstan Regional pros. off. 12 regions</p> <p>Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office, Zarafshan district pros. office</p>
3.	Speakers	Ceiling speakers built-in	<p>Frequency range: 60 Hz - 20000 Hz</p> <p>Bass speaker size: 6.5 inches</p> <p>Tweeter size: at least 1 inch</p> <p>Resistance: 16 Ohm / 100 Volt</p> <p>Transformer power: 2.5 - 5 - 10 - 20 W</p> <p>Maximum modes: 16 Ohms / 60 W, 100 V / 32 W</p> <p>Sound pressure: not less than 100 dB</p> <p>Sound dispersion: 180 degrees. (1 kHz), 80 degrees. (4 kHz), 45 degrees (8 kHz)-</p> <p>availability of a RAID controller with support for RAID0, 1, 5, 6, 10 with at least 2 GB of cache memory;</p> <p>- the presence of at least 4 hard drives with a capacity of at least 600GB, 2.5" form factor</p>	<p>144*</p> <p>*Based on the size of the premises for 8 pcs.</p>	<p>GPO</p> <p>Pros. Office of Rep. Karakalpakstan Regional pros. off. 12 regions</p> <p>Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office, Zarafshan district pros. office</p>

			<p>with an SAS 12G connection interface, a spindle speed of at least 10,000 rpm;</p> <ul style="list-style-type: none"> - at least 2 embedded network interfaces (LOM) 10GE; - the presence of at least 2 PCI-Express 3.0 slots, for the installation of general purpose cards, including at least 1 x16 slot; - at least 2 power supplies operating in 1 + 1 mode with hot-swappable; - unlimited license for VMware vSphere 6 Standard virtualization software; - manufacturer's warranty of at least 3 years, providing firmware updates, advice on setting up, replacing bad equipment; 		
4.	Mixer amplifier for ceiling speakers	An ordinary audio mixer cannot handle that amount of speakers, and 4 speakers for a hall with an average size of 20 by 15 meters will be very small, it will be very difficult without a separate mixer for speakers	<p>RMS output power: 240 W</p> <p>Types of outputs: 100V / 70V / 4 Ohm</p> <p>Frequency range: 60 Hz - 20 kHz</p> <p>Cooling system preferably convection</p>	18	<p>GPO</p> <p>Pros. Office of Rep. Karakalpakstan Regional pros. off. 12 regions</p> <p>Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office, Zarafshan district pros. office</p>
1.	Audio mixer	Mixing console with a converter for connecting XLR microphones to a mixer	<p>Echo cancellation;</p> <p>Noise suppression;</p> <p>Full duplex communication;</p> <p>De-reverb filter;</p> <p>Automatic gain control;</p> <p>Formation of a distributed array;</p> <p>Automatic mixing;</p> <p>Zoning;</p> <p>Bridge connection</p> <p>Microphone input: 4 pcs., Balanced.</p> <p>Amplification: 14 dB to 42 dB in 4 dB</p>	18	<p>GPO</p> <p>Pros. Office of Rep. Karakalpakstan Regional pros. off. 12 regions</p> <p>Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office,</p>

			<p>steps.</p> <p>Input resistance: min 20 kΩ.</p> <p>Speaker input: USB or analog. Analog: Linear 2V ptp. Input impedance: 20 kΩ</p> <p>Speaker output. No gain: Linear level: 2V ptp, output impedance: less than 100 ohms.</p> <p>Four outputs with gain: 15 W at 8 ohms each.</p>		Zarafshan district pros. office
2.	Processor of suppression of feedback with mixing function		<p>Power Supply: AC 100-240V 50Hz / 60Hz</p> <p>Frequency response: 50 Hz - 15 kHz</p> <p>Nonlinear distortion factor: <0.05%</p> <p>Signal to noise ratio> 86 dB</p> <p>Input impedance: 10 kOm</p> <p>Output impedance: 1 kOm</p>	18	<p>GPO</p> <p>Pros. Office of Rep. Karakalpakstan Regional pros. off. 12 regions</p> <p>Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office, Zarafshan district pros. office</p>
7.	Control unit	The control unit of the negotiation system with the camera control function to automatically monitor the speaker.	<p>Built-in USB connector for recording conferences.</p> <p>Power supply parameters: AC 220V ± 10% 50Hz</p> <p>Rated voltage: 100Hz-12.5Hz</p> <p>Output impedance: REC: 200Ω LINE: 200Ω</p> <p>BALANCE: 300Ω UNBALANCE: 400Ω</p> <p>Input resistance: LINE: 50KΩ PBIN: 50KΩ</p> <p>S / N ratio: 100dB (1KHz THD1%)</p>	18	<p>GPO</p> <p>Pros. Office of Rep. Karakalpakstan Regional pros. off. 12 regions</p> <p>Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office, Zarafshan district pros. office</p>
8.	Delegate microphone		<p>Microphone type: Unidirectional condenser microphone</p> <p>LCD screen: min. 128 * 64 points</p>	90	<p>GPO</p> <p>Pros. Office of Rep. Karakalpakstan</p>

			<p>Frequency response: 50 - 1700 Hz</p> <p>Sensitivity: -45 ± 2 dB / 1KHz</p> <p>Power supply: DC 9V (from control unit)</p> <p>Minimum input resistance: 1KΩ</p> <p>S / N ratio: 68 dB</p>		<p>Regional pros. off.</p> <p>12 regions</p> <p>Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office, Zarafshan district pros. office</p>
9.	Chair microphone		<p>Directivity pattern: Unidirectional (ultra-cardioid)</p> <p>LCD screen min. 128 * 64 points</p> <p>Microphone Case: Gooseneck</p> <p>Signal-to-noise ratio, dB: 70 dB</p> <p>Microphone Connection Type: Wired</p> <p>Frequency response: 50Hz-17KHz</p> <p>Sensitivity: -45 ± 2dB @ 1KHz</p>	18	<p>GPO</p> <p>Pros. Office of Rep. Karakalpakstan Regional pros. off. 12 regions</p> <p>Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office, Zarafshan district pros. office</p>
10.	Radio microphone equipment	Base station complete with 2 handheld microphones	<p>Number of channels: 2</p> <p>Oscillation type: synthesized PLL</p> <p>Modulation Mode: FM</p> <p>Frequency range: UHF 500 ~ 900 MHz</p> <p>Frequency stability: + 0.001%</p> <p>Max. deviation range of no more than 50 kHz</p> <p>S / N ratio: at least 105 dB</p> <p>Nonlinear distortion factor no more than 0.5% @ 1KHz</p> <p>Sensitivity: 1.2/UV@S/N=12 dB</p> <p>Power supply: 12 ~ 17V</p> <p>Audio output: Independent 0-400 mV Mixed: 0-300 mV</p>	18	<p>GPO</p> <p>Pros. Office of Rep. Karakalpakstan Regional pros. off. 12 regions</p> <p>Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office, Zarafshan district pros. office</p>
11.	Video wall	Video wall 2 by 2 110 "diagonal complete with matrix switcher	<p>110 inch diagonal;</p> <p>4 (four) commercial panels with a diagonal</p>	18	<p>GPO</p> <p>Pros. Office of Rep.</p>

			of 55 "according to the 2 on 2 scheme 4K video wall resolution 16: 9 aspect ratio viewing angle of 178 degrees (horizontal / vertical) total screen gap at the junction of 1.8 mm brightness min 500kd / m ² 1400: 1 contrast ratio response time 6 m / s; refresh rate 60 Hz 1.07 billion colors built-in media player with support for external USB-drives Speakers 10 watts. MTBF is more than 100,000 hours; Operating mode: 7x24x365 hours; Warranty not less than 3 years		Karakalpakstan Regional pros. off. 12 regions Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office, Zarafshan district pros. office
12.	Wall mount for wall panels		Rack floor "turnkey" Load capacity at least 60 kg. Warranty not less than 3 years	18	GPO Pros. Office of Rep. Karakalpakstan Regional pros. off. 12 regions Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office, Zarafshan district pros. office
13.	TV (presidium)		At least 54 "diagonal Screen format 16: 9 Resolution 3840x2160 Full HD yes, 4K UHD LED backlight, Edge LED Refresh rate 50 Hz 3D technology no Smart TV technology is Interfaces AV, Component, HDMI x4, USB x2 Inputs	18	GPO Pros. Office of Rep. Karakalpakstan Regional pros. off. 12 regions Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office,

					Zarafshan district pros. office
14.	Interactive monitor / tablet for the tribune		Full HD, 20 "included with Mini PC - Core i5 / 8GB RAM / 256 GB SSD	18	GPO Pros. Office of Rep. Karakalpakstan Regional pros. off. 12 regions Pros. Office of Tashkent city, Muynak pros. office, Denau district regional pros. office, Zarafshan district pros. office

7. Requirements for the composition and content of work to create a system

6.1 TESTING OF EQUIPMENT

Before installation, all equipment must be checked for completeness, the availability of software, and each piece of equipment must undergo a “cold start” procedure, i.e. electrical power must be supplied and all equipment components and modules, including the operability software, checked.

6.2 INSTALLATION OF EQUIPMENT.

- Telecommunication cabinets must be connected to an information ground loop.
- It is recommended to provide power to all active network equipment by connecting it and uninterrupted or independent power supply sources.

8. Requirements for the degree of adaptability of the system to changes

It is necessary to foresee changes in the automation object:

- Change the number of users of the system;
- Changing the physical location of workplaces within work groups;
- Changes in the composition and number of working user groups;

To provide flexible management of workplace movements within any one object, provide ways to reconfigure the system:

- At the level of physical switching of switching cables;
- At the configuration level of the active network devices.

The operation of the system should not depend on the type of computing devices used (computing platform) and allow them to be replaced by other type of equipment.

9. Requirements for the possibility of modernization and development of the system

The system should have the ability to upgrade and develop without a fundamental change in its structure and composition, if necessary, the use of more modern high-performance technologies. Provide the possibility of adding new devices to existing equipment or providing a possibility of stepwise updates - meaning that newer devices can be operated in the existing system in parallel with previously installed ones.

The complex should include the following modernization options:

- Ability to increase the number of ports of active network equipment by adding additional equipment;
- Ability to install new types of active network equipment, providing increased performance if necessary;
- The possibility of expanding the server and computer park.

10. Security and protection of information

6.1 SECURITY AND PROTECTION OF INFORMATION.

To address the issues of security and information protection as part of the complex, to provide opportunities implemented at the hardware level:

- The complex should include administrative measures to identify unauthorized changes in the system.

Within the framework of the project, it is necessary to develop documents reflecting the current state of physical switching (at the level of the data transmission medium).

It is necessary to provide a procedure to reflect all cases of changes in the system configuration.

6.2 SECURITY AND PROTECTION OF INFORMATION.

The data equipment control system must provide a flexible strategy for the allocation of user rights (user authentication according to the object + operation), based on the rules of administrative responsibility. The data equipment control system should provide simple and convenient tools for copying data, which simplifies the task for the administrator. The data equipment control system should ensure the provision of detailed logs for users and operational tasks.

11. Requirements for ergonomics and technical aesthetics

The appearance of the complex component must fully meet the international level of office space design. Elements of the complex should not violate the general appearance of the interior space.

12. Requirements for the use of modern technology in design solutions

When designing the complex, the most modern technological achievements in the field of network technologies should be used.

The project should use equipment manufactured by the world's leading manufacturers of equipment and solutions in the field of creating and building a videoconference system.

13. Requirements for operating conditions and environmental characteristics

The operating conditions of the complex and the environmental characteristics of the working premises for personnel must comply with the requirements of sanitary standards and rules established in the Republic of Uzbekistan.

The videoconferencing system should provide for work in standard operating conditions, with the maintenance schedule recommended by the Equipment Manufacturer.

14. Requirement for the replacement of equipment

During the period of warranty and maintenance in case of equipment malfunction, the Supplier must, within a period of not more than 48 hours, carry out a temporary replacement with the original or similar in functionality equipment from the customer's spare parts warehouse, with its further replacement with original equipment from the Equipment Manufacturer in a period not exceeding 30 days.

During the warranty period, the replacement of faulty equipment is free of charge, with the exception of the cost of sending the faulty equipment to the Equipment Manufacturer.

15. The order of control and acceptance system

The order of control and acceptance of the system is determined by the program and method of testing the system, which is part of the design documentation developed by the Contractor.

Delivery and acceptance of work must be carried out in accordance with the program and testing methodology and schedule approved by the Customer and the Contractor.

Delivery-acceptance of work is carried out by the commission, the composition and regulations of which are determined by the Customer.

Acceptance of the System is carried out by the commission appointed by the Customer. The status and composition of the commission is determined by the Customer. The chairman of the acceptance committee is the representative of the Customer.

The date of entry of the video conferencing system (its elements) into action shall be the date of signing of the act of entering the video conferencing system into commercial operation.

16. Documentation requirements

The contractor must provide a set of acceptance documentation in accordance with the requirements of O'z DSt 1986: 2010 - "Information technology. Information systems, stages of creation", O'z DSt 1987: 2010 – "Information technology. Terms of Reference for the creation of an information system", RH 45-004-2008 – "The procedure for planning, developing, creating, approving and registering regulatory documents."

- Documentation must be transferred to the Customer in two forms - on paper and electronic media.
- Documentation is provided in Russian. In the absence of documentation by the manufacturer of the equipment in Russian, it is allowed to provide documentation in English, and must also be submitted in paper and in electronic form in one copy.
- All documentation must comply with accepted standards. If possible, standardized symbols and terms recommended by ITU-T, ETSI, IETF should be used.
- Operational documentation not related to the day-to-day work of service personnel, as well as subject to frequent adjustments when changing software versions, should be submitted electronically in Russian and English.
- The documentation transferred to the Customer must be executed in paper and electronic form on a medium provided by the Customer.

SECTION 5B: OTHER RELATED REQUIREMENTS

Further to the Schedule of Requirements in the preceding Table, Bidders are requested to take note of the following additional requirements, conditions, and related services pertaining to the fulfillment of the requirements for each Lot separately:

Delivery Term [INCOTERMS 2010] <i>(Pls. link this to price schedule)</i>	CIP Tashkent
Exact Address of Delivery/Installation Location	As per list of beneficiary installation sites indicated in the TOR for each lot
Mode of Transport Preferred	Air or Land freight
UNDP Preferred Freight Forwarder, if any ²	N/A
Distribution of shipping documents <i>(if using freight forwarder)</i>	On vendor's responsibility
Customs, if required, clearing shall be done by:	UNDP
Ex-factory / Pre-shipment inspection	Vendor will carry out the pre-shipment inspection
Inspection upon delivery	Vendor will carry out the inspection upon delivery
Installation Requirements	Vendor will carry out the installation
Testing Requirements	Vendor together with a representative of the Ministry of Justice, General Prosecutor's Office and their regional offices will conduct tests
Scope of Training on Operation and Maintenance	Vendor will conduct training on Operation and Maintenance for staff responsible for video conferencing systems of the Ministry of Justice and its regional offices.
Commissioning	Vendor will provide "turn-key" video conferencing systems
Warranty Period	Vendor will provide 3-year warranty period
Local Service Support	Vendor will provide maintenance service over the warranty period
Technical Support Requirements	Vendor will provide technical assistance in the operation of the equipment

²A factor of the Incoterms stipulated in the ITB. The use of a UNDP preferred freight forwarder may be considered for purposes of ensuring forwarder's familiarity with procedures and processing of documentary requirements applicable to UNDP when clearing with customs authority of the country of destination.

After-sale services Requirements	<input checked="" type="checkbox"/> Warranty on Parts and Labor for minimum period of 1 year <input checked="" type="checkbox"/> Technical Support <input checked="" type="checkbox"/> Provision of Service Unit when pulled out for maintenance /repair? <input type="checkbox"/> Others <i>[pls. specify]</i>
Payment Terms <i>(max. advanced payment is 20% as per UNDP policy)</i>	70% within 30 days upon delivery of the goods as specified, the rest 30% upon completion of installation works and acceptance by UNDP
Conditions for Release of Payment	<input checked="" type="checkbox"/> Pre-shipment inspection <input checked="" type="checkbox"/> Inspection upon arrival at destination <input checked="" type="checkbox"/> Installation <input checked="" type="checkbox"/> Testing <input checked="" type="checkbox"/> Training on Operation and Maintenance <input type="checkbox"/> Others <i>[pls. specify]</i> <input checked="" type="checkbox"/> Written Acceptance of Goods based on full compliance with ITB requirements
All documentations, including catalogues, instructions and operating manuals, shall be in this language	Russian and/or English

SECTION 6: RETURNABLE BIDDING FORMS / CHECKLIST

This form serves as a checklist for preparation of your Bid. Please complete the Returnable Bidding Forms in accordance with the instructions in the forms and return them as part of your Bid submission. No alteration to format of forms shall be permitted and no substitution shall be accepted.

Before submitting your Bid, please ensure compliance with the Bid Submission instructions of the BDS 22.

Technical Bid:

Have you duly completed all the Returnable Bidding Forms?	
▪ Form A: Bid Submission Form	<input type="checkbox"/>
▪ Form B: Bidder Information Form	<input type="checkbox"/>
▪ Form C: Joint Venture/Consortium/ Association Information Form	<input type="checkbox"/>
▪ Form D: Qualification Form	<input type="checkbox"/>
▪ Form E: Format of Technical Bid/Bill of Quantities	<input type="checkbox"/>
▪ Form G: Form of Bid Security	<input type="checkbox"/>
▪ [Add other forms as necessary]	<input type="checkbox"/>
Have you provided the required documents to establish compliance with the evaluation criteria in Section 4?	<input type="checkbox"/>

Price Schedule:

▪ Form F: Price Schedule Form	<input type="checkbox"/>
-------------------------------	--------------------------

6.1 FORM A: BID SUBMISSION FORM

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		
Lot No	[Insert Lot Number]]		

We, the undersigned, offer to supply the goods and related services required for [Insert Title of goods and services] in accordance with your Invitation to Bid No. [Insert ITB Reference Number] and our Bid. We hereby submit our Bid, which includes this Technical Bid and Price Schedule.

Our attached Price Schedule is for the sum of [Insert amount in words and figures and indicate currency].

We hereby declare that our firm, its affiliates or subsidiaries or employees, including any JV/Consortium /Association members or subcontractors or suppliers for any part of the contract:

- a) is not under procurement prohibition by the United Nations, including but not limited to prohibitions derived from the Compendium of United Nations Security Council Sanctions Lists;
- b) have not been suspended, debarred, sanctioned or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization;
- c) have no conflict of interest in accordance with Instruction to Bidders Clause 4;
- d) do not employ, or anticipate employing, any person(s) who is, or has been a UN staff member within the last year, if said UN staff member has or had prior professional dealings with our firm in his/her capacity as UN staff member within the last three years of service with the UN (in accordance with UN post-employment restrictions published in ST/SGB/2006/15);
- e) have not declared bankruptcy, are not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against them that could impair their operations in the foreseeable future;
- f) undertake not to engage in proscribed practices, including but not limited to corruption, fraud, coercion, collusion, obstruction, or any other unethical practice, with the UN or any other party, and to conduct business in a manner that averts any financial, operational, reputational or other undue risk to the UN and we embrace the principles of the United Nations Supplier Code of Conduct and adhere to the principles of the United Nations Global Compact.

We declare that all the information and statements made in this Bid are true and we accept that any misinterpretation or misrepresentation contained in this Bid may lead to our disqualification and/or sanctioning by the UNDP.

We offer to supply the goods and related services in conformity with the Bidding documents, including the UNDP General Conditions of Contract and in accordance with the Schedule of Requirements and Technical Specifications.

Our Bid shall be valid and remain binding upon us for the period specified in the Bid Data Sheet.

We understand and recognize that you are not bound to accept any Bid you receive.

I, the undersigned, certify that I am duly authorized by [Insert Name of Bidder] to sign this Bid and bind it should UNDP accept this Bid.

Name: _____

Title: _____

Date: _____

Signature: _____

[Stamp with official stamp of the Bidder]

6.2 FORM B: BIDDER INFORMATION FORM

Legal name of Bidder	[Complete]
Legal address	[Complete]
Year of registration	[Complete]
Bidder's Authorized Representative Information	Name and Title: [Complete] Telephone numbers: [Complete] Email: [Complete]
Are you a UNGM registered vendor?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, [insert UGNM vendor number]
Are you a UNDP vendor?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, [insert UNDP vendor number]
Countries of operation	[Complete]
No. of full-time employees	[Complete]
Quality Assurance Certification (e.g. ISO 9000 or Equivalent) <i>(If yes, provide a Copy of the valid Certificate):</i>	[Complete]
Does your Company hold any accreditation such as ISO 14001 or ISO 14064 or equivalent related to the environment? <i>(If yes, provide a Copy of the valid Certificate):</i>	[Complete]
Does your Company have a written Statement of its Environmental Policy? <i>(If yes, provide a Copy)</i>	[Complete]
Does your organization demonstrates significant commitment to sustainability through some other means, for example internal company policy documents on women empowerment, renewable energies or membership of trade institutions promoting such issues	[Complete]
Is your company a member of the UN Global Compact	[Complete]
Contact person that UNDP may contact for requests for	Name and Title: [Complete] Telephone numbers: [Complete]

clarifications during Bid evaluation	Email: [Complete]
Please attach the following documents:	<ul style="list-style-type: none"> ▪ Company Profile, which should <u>not</u> exceed fifteen (15) pages, including printed brochures and product catalogues relevant to the goods and/or services being procured ▪ Certificate of Incorporation/ Business Registration ▪ Tax Registration/Payment Certificate issued by the Internal Revenue Authority evidencing that the Bidder is updated with its tax payment obligations, or Certificate of Tax exemption, if any such privilege is enjoyed by the Bidder ▪ Trade name registration papers, if applicable ▪ Quality Certificate (e.g., ISO, etc.) and/or other similar certificates, accreditations, awards and citations received by the Bidder, if any ▪ Environmental Compliance Certificates, Accreditations, Markings/Labels, and other evidences of the Bidder's practices which contributes to the ecological sustainability and reduction of adverse environmental impact (e.g., use of non-toxic substances, recycled raw materials, energy-efficient equipment, reduced carbon emission, etc.), either in its business practices or in the goods it manufactures ▪ Patent Registration Certificates, if any of technologies submitted in the Bid is patented by the Bidder ▪ Certification or authorization to act as Agent on behalf of the Manufacturer, or Power of Attorney. ▪ Export Licenses, if applicable ▪ Local Government permit to locate and operate in assignment location, if applicable ▪ Official Letter of Appointment as local representative, if Bidder is submitting a Bid on behalf of an entity located outside the country

6.3 FORM C: JOINT VENTURE/CONSORTIUM/ASSOCIATION INFORMATION FORM

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

To be completed and returned with your Bid if the Bid is submitted as a Joint Venture/Consortium/Association.

No	Name of Partner and contact information <i>(address, telephone numbers, fax numbers, e-mail address)</i>	Proposed proportion of responsibilities (in %) and type of goods and/or services to be performed
1	[Complete]	[Complete]
2	[Complete]	[Complete]
3	[Complete]	[Complete]

Name of leading partner (with authority to bind the JV, Consortium, Association during the ITB process and, in the event a Contract is awarded, during contract execution)	[Complete]
--	------------

We have attached a copy of the below referenced document signed by every partner, which details the likely legal structure of and the confirmation of joint and severable liability of the members of the said joint venture:

☐ Letter of intent to form a joint venture **OR** ☐ JV/Consortium/Association agreement

We hereby confirm that if the contract is awarded, all parties of the Joint Venture/Consortium/Association shall be jointly and severally liable to UNDP for the fulfillment of the provisions of the Contract.

Name of partner: _____ Name of partner: _____

Signature: _____ Signature: _____

Date: _____ Date: _____

Name of partner: _____ Name of partner: _____

Signature: _____ Signature: _____

Date: _____ Date: _____

6.4 FORM D: ELIGIBILITY AND QUALIFICATION FORM

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

If JV/Consortium/Association, to be completed by each partner.

History of Non- Performing Contracts

<input type="checkbox"/> Non-performing contracts did not occur during the last 3 years			
<input type="checkbox"/> Contract(s) not performed in the last 3 years			
Year	Non- performed portion of contract	Contract Identification	Total Contract Amount (current value in US\$)
		Name of Client: Address of Client: Reason(s) for non-performance:	

Litigation History (including pending litigation)

<input type="checkbox"/> No litigation history for the last 3 years			
<input type="checkbox"/> Litigation History as indicated below			
Year of dispute	Amount in dispute (in US\$)	Contract Identification	Total Contract Amount (current value in US\$)
		Name of Client: Address of Client: Matter in dispute: Party who initiated the dispute: Status of dispute: Party awarded if resolved:	

Previous Relevant Experience

Please list only previous similar assignments successfully completed in the last 3 years.

List only those assignments for which the Bidder was legally contracted or sub-contracted by the Client as a company or was one of the Consortium/JV partners. Assignments completed by the Bidder's individual experts working privately or through other firms cannot be claimed as the relevant experience of the Bidder, or that of the Bidder's partners or sub-consultants, but can be claimed by the Experts themselves in their CVs. The Bidder should be prepared to substantiate the claimed experience by presenting copies of relevant documents and references if so requested by UNDP.

Project name & Country of Assignment	Client & Reference Contact Details	Contract Value	Period of activity and status	Types of activities undertaken

Bidders may also attach their own Project Data Sheets with more details for assignments above.

☐ Attached are the Statements of Satisfactory Performance from the Top 3 (three) Clients or more.

Financial Standing

Annual Turnover for the last 3 years	Year	USD
	Year	USD
	Year	USD
Latest Credit Rating (if any), indicate the source		

Financial information (in US\$ equivalent)	Historic information for the last 3 years		
	Year 1	Year 2	Year 3
	<i>Information from Balance Sheet</i>		
Total Assets (TA)			
Total Liabilities (TL)			
Current Assets (CA)			
Current Liabilities (CL)			
	<i>Information from Income Statement</i>		
Total / Gross Revenue (TR)			
Profits Before Taxes (PBT)			
Net Profit			
Current Ratio			

☐ Attached are copies of the audited financial statements (balance sheets, including all related notes, and income statements) for the years required above complying with the following condition:

- Must reflect the financial situation of the Bidder or party to a JV, and not sister or parent companies;
 - Historic financial statements must be audited by a certified public accountant;
 - Historic financial statements must correspond to accounting periods already completed and audited.
- No statements for partial periods shall be accepted.

6.5 FORM E: FORMAT OF TECHNICAL BID

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

The Bidder's Bid should be organized to follow this format of the Technical Bid. Where the bidder is presented with a requirement or asked to use a specific approach, the bidder must not only state its acceptance, but also describe how it intends to comply with the requirements. Where a descriptive response is requested, failure to provide the same will be viewed as non-responsive.

SECTION 1: Bidder's qualification, capacity and expertise

- 1.1 General organizational capability which is likely to affect implementation: management structure, financial stability and project financing capacity, project management controls, extent to which any work would be subcontracted (if so, provide details).
- 1.2 Relevance of specialized knowledge and experience on similar engagements done in the region/country.
- 1.3 Quality assurance procedures and risk mitigation measures.
- 1.4 Organization's commitment to sustainability.

SECTION 2: Scope of Supply, Technical Specifications, and Related Services

This section should demonstrate the Bidder's responsiveness to the specification by identifying the specific components proposed, addressing the requirements, as specified, point by point; providing a detailed description of the essential performance characteristics proposed; and demonstrating how the proposed bid meets or exceeds the requirements/specifications. All important aspects should be addressed in sufficient detail.

- 2.1 A detailed description of how the Bidder will deliver the required goods and services, keeping in mind the appropriateness to local conditions and project environment. Details how the different service elements shall be organized, controlled and delivered.
- 2.2 Explain whether any work would be subcontracted, to whom, how much percentage of the requirements, the rationale for such, and the roles of the proposed sub-contractors and how everyone will function as a team.
- 2.3 The bid shall also include details of the Bidder's internal technical and quality assurance review mechanisms.
- 2.4 Implementation plan including a Gantt Chart or Project Schedule indicating the detailed sequence of activities that will be undertaken and their corresponding timing.
- 2.5 Demonstrate how you plan to integrate sustainability measures in the execution of the contract.

Lot No.1

Goods and services to be Supplied and Technical Specifications	Your response				
	Compliance with technical specifications		Delivery Date (confirm that you comply or indicate your delivery date)	Quality Certificate/Export Licenses, etc. (indicate all that apply and attach)	Comments
	Yes, we comply	No, we cannot comply (indicate discrepancies)			

Other Related services and requirements (based on the information provided in Section 5b)	Compliance with requirements		Details or comments on the related requirements
	Yes, we comply	No, we cannot comply (indicate discrepancies)	
e.g. Delivery Term			
Warranty			
Local Service Support			

Lot No.2

Goods and services to be Supplied and Technical Specifications	Your response				
	Compliance with technical specifications		Delivery Date (confirm that you comply or indicate your delivery date)	Quality Certificate/Export Licenses, etc. (indicate all that apply and attach)	Comments
	Yes, we comply	No, we cannot comply (indicate discrepancies)			

Other Related services and requirements (based on the information provided in Section 5b)	Compliance with requirements		Details or comments on the related requirements
	Yes, we comply	No, we cannot comply (indicate discrepancies)	
e.g. Delivery Term			
Warranty			
Local Service Support			

SECTION 3: Management Structure and Key Personnel

- 3.1 Describe the overall management approach toward planning and implementing the project. Include an organization chart for the management of the project describing the relationship of key positions and designations. Provide a spreadsheet to show the activities of each personnel and the time allocated for his/her involvement.
- 3.2 Provide CVs for key personnel that will be provided to support the implementation of this project using the format below. CVs should demonstrate qualifications in areas relevant to the scope of goods and/or services.

Format for CV of Proposed Key Personnel

Name of Personnel	[Insert]
Position for this assignment	[Insert]
Nationality	[Insert]
Language proficiency	[Insert]
Education/Qualifications	<i>[Summarize college/university and other specialized education of personnel member, giving names of schools, dates attended, and degrees/qualifications obtained.]</i> [Insert]
Professional certifications	<i>[Provide details of professional certifications relevant to the scope of goods and/or services]</i> <ul style="list-style-type: none">▪ Name of institution: [Insert]▪ Date of certification: [Insert]
Employment Record/Experience	<i>[List all positions held by personnel (starting with present position, list in reverse order), giving dates, names of employing organization, title of position held and location of employment. For experience in last five years, detail the type of activities performed, degree of responsibilities, location of assignments and any other information or professional experience considered pertinent for this assignment.]</i> [Insert]
References	<i>[Provide names, addresses, phone and email contact information for two (2) references]</i> Reference 1: [Insert] Reference 2: [Insert]

I, the undersigned, certify that to the best of my knowledge and belief, the data provided above correctly describes my qualifications, my experiences, and other relevant information about myself.

Signature of Personnel

Date (Day/Month/Year)

6.6 FORM F: PRICE SCHEDULE FORM

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

The Bidder is required to prepare the Price Schedule following the below format. The Price Schedule must include a detailed cost breakdown of all goods and related services to be provided. Separate figures must be provided for each functional grouping or category, if any.

Any estimates for cost-reimbursable items, such as travel of experts and out-of-pocket expenses, should be listed separately.

LOT No.1
TERMS OF REFERENCE AND TECHNICAL SPECIFICATIONS
Supply and installation of a videoconferencing network
for the Ministry of Justice of the Republic of Uzbekistan
between the central office of the ministry
and territorial bodies of justice

Currency of the Bid: [Insert Currency]

Price Schedule

Item #	Description	UOM	Quantity	Unit Price	Total Price
FCA charges, if any					
Bid Subtotal FCA (Incoterms 2010) (please state FCA International Airport):					
Transportation/Delivery Cost					
Cost of Insurance					
Bid Total CIP Tashkent, Uzbekistan (Incoterms 2010)					
Installation					
Training					
Warranty					
After Sales					
GRAND TOTAL					

Name of Bidder: _____

Authorised signature: _____

Name of authorised signatory: _____

LOT No.2
TERMS OF REFERENCE AND TECHNICAL SPECIFICATIONS
Supply and installation of a videoconferencing network
for General Prosecutor office of the Republic of Uzbekistan and its
territorial bodies

Currency of the Bid: [Insert Currency]

Price Schedule

Item #	Description	UOM	Quantity	Unit Price	Total Price
FCA charges, if any					
Bid Subtotal FCA (Incoterms 2010) (please state FCA International Airport):					
Transportation/Delivery Cost					
Cost of Insurance					
Bid Total CIP Tashkent, Uzbekistan (Incoterms 2010)					
Installation					
Training					
Warranty					
After Sales					
GRAND TOTAL					

Name of Bidder: _____

Authorised signature: _____

Name of authorised signatory: _____

Functional Title: _____

6.7 FORM G: FORM OF BID SECURITY

**Bid Security must be issued using the official letterhead of the Issuing Bank.
Except for indicated fields, no changes may be made on this template.**

To: UNDP
[Insert contact information as provided in Data Sheet]

WHEREAS [Name and address of Bidder] (hereinafter called "the Bidder") has submitted a Bid to UNDP dated [Click here to enter a date.](#) to execute goods and/or services [Insert Title of Goods and/or Services] (hereinafter called "the Bid"):

AND WHEREAS it has been stipulated by you that the Bidder shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security if the Bidder:

- a) Fails to sign the Contract after UNDP has awarded it;
- b) Withdraws its Bid after the date of the opening of the Bids;
- c) Fails to comply with UNDP's variation of requirement, as per ITB instructions; or
- d) Fails to furnish Performance Security, insurances, or other documents that UNDP may require as a condition to rendering the contract effective.

AND WHEREAS we have agreed to give the Bidder such Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Bidder, up to a total of *[amount of guarantee] [in words and numbers]*, such sum being payable in the types and proportions of currencies in which the Price Bid is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of *[amount of guarantee as aforesaid]* without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

This guarantee shall be valid up to 30 days after the final date of validity of bids.

SIGNATURE AND SEAL OF THE GUARANTOR BANK

Signature: _____

Name: _____

Title: _____

Date: _____

Name of Bank _____

Address _____

[Stamp with official stamp of the Bank]