CTBTO PREPARATORY COMMISSION | preparatory commission for the comprehensive nuclear-test-ban treaty organization

REQUEST FOR PROPOSAL

To: ALL BIDDERS

CTBTO Ref. No.: **2022-0046/THORVALDSDOTTIR**
(PLEASE QUOTE ON ALL COMMUNICATIONS)

Tel. No.: +43 (1) 26030-6350
E-mail: procurement@ctbto.org

Attn:
Phone:
Fax:
Email:

Date: ***12 July*** 22

Subject: Deployable Video Surveillance and Security System for BOO and In - Field Equipment Prototype Build

Deadline for Submission: 12 August 22 ***Vienna Local Time:*** 17:00

The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (hereinafter referred to as the 'Commission') hereby invites you to submit a proposal that meets the requirements of the attached documents.

You are kindly requested to complete and return the acknowledgement form by email as soon as possible.

If you have any questions you should contact the email address indicated above.

Yours Sincerely,

Nodira Alimdjanova
OiC, Procurement Section

CTBTO PREPARATORY COMMISSION | preparatory commission for the comprehensive nuclear-test-ban treaty organization

ACKNOWLEDGEMENT FORM

Solicitation No: 2022-0046 ***Title:*** Deployable Video Surveillance and Security System for BOO and In - Field Equipment Prototype Build	***Closing Date:*** ***12 Aug 22*** ***Vienna Local Time:*** 17:00

Procurement Staff: Thorvaldsdottir ***CTBTO Req. No.:*** 0010019724

Please complete 'A' or 'B' or 'C'
and Return

WITHIN FIVE (5) DAYS

THE PREPARATORY COMMISSION FOR THE
COMPREHENSIVE NUCLEAR-TEST-BAN TREATY ORGANIZATION (CTBTO)

by email to
procurement@ctbto.org

A: We shall submit our proposal

Company Name: _____

By: _____ Contact Name: _____
(date)

Email/Tel: _____

B: We may submit and will advise

Company Name: _____

By: _____ Contact Name: _____
(date)

Email/Tel: _____

C: We will not submit a proposal for the following reason(s)

___ our current workload does not permit us to take on additional work at this time;
___ we do not have the required expertise for this specific project;
___ insufficient time to prepare a proper submission;
___ other (please specify) _____

Company Name: _____

Contact Name: _____

Email/Tel: _____

INSTRUCTIONS FOR PREPARATION AND SUBMISSION OF PROPOSALS

1. General

The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (the Commission) with its headquarters in Vienna is the International Organization mandated to establish the global verification system foreseen under the Comprehensive Nuclear-Test-Ban Treaty (CTBT), which is the Treaty banning any nuclear weapon test explosion or any other nuclear explosions. The Treaty provides for a global verification regime, including a network of 321 stations worldwide, a communication system, an International Data Centre and on-site inspections to monitor compliance with the Treaty.

This Request for Proposal (RFP) is for the provision of ***Deployable Video Surveillance Security System for Base of Operation and In-Field Equipment Prototype Build*** (hereinafter referred to as the "System" and/or the "Equipment" and/or the "Services" and/or the "Goods") as described in the attached Terms of Reference, including its Addendum No. 1, *Technical Design.*

The Proposal shall meet all requirements stated in the Terms of Reference. For this project, the Commission is seeking capabilities, which will ensure that the Services and Equipment are delivered and that the tasks are accomplished expeditiously and at a reasonable cost.

Bidders are encouraged to refer to Addendum No. 1 to the Terms of Reference (*Technical Design*) when preparing the proposal. The Commission however reserves the right to accept offers that may include suggestions of potential improvement of the current design. Any suggestions of potential improvement, that may be included at the sole discretion of the respective bidder, shall be clearly indicated and reflected both in the technical and the financial proposals.

2. Documents included in this RFP

This RFP consists of the following documents:

(a) Letter of Invitation
(b) These Instructions for Preparation and Submission of Proposals with its Attachments:
- Attachment 1: Mandatory Requirements of the Technical Proposal
- Attachment 2: Format of Financial Proposal
- Attachment 3: Evaluation Criteria
- Attachment 4: Procedure for submission of electronic bids

(c) List of CTBTO Member States
(d) Statement of Confirmation
(e) Vendor Profile Form
(f) The Commission's Model Contract and its Annexes A – B;
  - The Commission's General Conditions of Contract (Annex A)
  - Terms of Reference (Annex B), including its Addendum No. 1.

Note: In the event of award, the Proposal will be incorporated as Annex C to the Contract.

3. Amendment of RFP Documents

At any time prior to the closing date for submission of Proposal, the Commission may, for any reason, modify the RFP documents by amendment. The Commission may consider

extending the deadline in order to allow adequate time for considering the modifications in the preparation of the Proposal.

4. Language of the Proposal

The Proposal and all correspondence and documents relating to it shall be in English.

5. Format and Submission of the Proposal

The Proposal shall be typed, dated and signed by an official legally authorized to enter into contracts on behalf of your organization. The Proposal shall not contain any interlineation, erasures or overwriting except as necessary to correct errors, in which case such corrections shall be initialled by the authorized person(s) signing the Proposal.

The Proposal shall be submitted electronically according to the attached "PROCEDURE FOR SUBMISSION OF ELECTRONIC BIDS".

The Proposal shall be received not later than the closing date indicated in the Letter of Invitation.

6. Request for Clarifications and Contacting the Commission

The Commission will issue clarifications, if required. Bidders are requested to e-mail any questions pertaining to this RFP as soon as possible after receipt of the solicitation documents, but in any case, no later than 10 business days prior to the Closing Date. No requests for clarifications will be entertained after this time. Questions will only be accepted via e-mail and should be sent to:

E-mail: procurement@ctbto.org
Subject: Request for Clarifications re RFP No. 2022-0046/THORVALDSDOTTIR

The Commission will make all reasonable efforts to issue the clarifications not later than 10 business days prior to the Closing Date.

Except in the case of responding to an RFP clarification, no bidder shall contact the Commission on any matter relating to the Proposal after its submission and until the award of the Contract. Any attempt to influence the Commission in its evaluation of the Proposal or the contract award decision may result in the rejection of the Proposal.

7. Eligible Goods and Services

The Services and Goods to be rendered under the Contract shall have their origin in the States Signatories of the Comprehensive Nuclear-Test-Ban Treaty (CTBT), the list of which is attached to this RFP. For purposes of this paragraph, "the origin" means the place from where the materials, Goods and/or from which the Services are supplied.

8. Type of Contract and Payment

The Commission intends to conclude firm fixed unit prices based on the attached Model Contract. The terms and conditions of payment for services are described in Clause 12 of the attached Model Contract.

Applicable Taxes payable by the Contractor and/or its subcontractor(s) shall be invoiced separately or be separately identified on the invoice. Actual payment of the Taxes must primarily be supported by original documentation such as invoices, bank account statements, transfer orders, or receipts issued by the local tax or customs authorities. If submission of such original documentation is not possible for justifiable reasons, their copies could be accepted by the Commission provided that they are duly signed and certified by local tax or customs authorities. In case the currency in which the taxes are levied is not the currency of the Contract, bank statements (or equivalent) showing the exchange rate used for the conversion shall be submitted to the Commission, in addition to any other supporting documentation.

"Taxes" means all direct and indirect taxes (including value added tax, general sales tax or goods and services tax), assessments, fees, customs duties, liens and charges in as much as they are levied in conclusion or implementation of the Contract, including customs restrictions and charges of similar nature in respect of articles imported or exported for the Commission's official use.

9. Preparation of the Proposal

The Proposal shall contain, but not necessarily be limited to, the information described below.

The Proposal shall be composed of the following separate parts:

I. **Technical Proposal**; and
II. **Financial Proposal**;

providing, but not limited to, the following information:

PART I: TECHNICAL PROPOSAL

Please state the reference number and the date of this RFP in the Proposal and any correspondence relating to it.

Point of Contact
The Proposal shall state the contact details and address (name, telephone and fax numbers, and e-mail address) of the person/point of contact in your company dealing with this RFP.

Mandatory Outline and Requirements of the Technical Proposal
The Technical Proposal shall be written in accordance with the structure set out in *Attachment 1 ("Mandatory Requirements of the Technical Proposal")* attached hereto. Bidders shall provide all the information requested in this document but may provide additional related content, including any potential suggestions of improvement to the Design, as attachments. Where applicable, minimum requirements have also been referenced from the Terms of Reference for the convenience of the Bidder.

Statement of Confirmation
The attached Statement of Confirmation shall be duly signed and submitted together with the Proposal.

Description of Services
An explanation of the bidder's understanding of the Services to be provided and an overall preliminary operational plan for the execution of the services.

Specifications
The Proposal shall include a detailed description of the items proposed and include relevant technical literature.

The Proposal shall also provide any other relevant issue which the bidder would like to bring to the attention of the Commission whether or not having cost implications.

Commission's Inputs
A description of the expected inputs/resources to be made available by the Commission and at what stage of the services.

Qualifications
Documentary evidence of the bidder's qualifications to provide the Services, which shall establish to the Commission's satisfaction that the bidder has technical capability necessary to perform the Contract and other necessary ongoing services as required.

Personnel
Curriculum vitae of key personnel proposed for this contract, including technical experience to perform the Work.

Please note that it is the bidder's responsibility alone to obtain **work permits or visa or similar** for the personnel proposed to implement this project. The Commission will make no effort nor accept any responsibility for obtaining work permits or visa or similar for the Contractor's personnel.

Use of former Preparatory Commission for the CTBTO ("Commission") employees in the preparation of Quotations:

A Bidder must not, in the absence of prior written approval from the Commission, permit a person to contribute to, or participate in, any process relating to the preparation of a Quotation or the procurement process if the person:

a. At any time during the 12 months immediately preceding the date of issue of the Solicitation was an official, agent, servant or employee of, or otherwise engaged by the Commission;
b. At any time during the 24 months immediately preceding the date of issue of the Solicitation was an employee of the Commission personally engaged, directly or indirectly, in the definition of the requirements, project or activity to which the Solicitation relates.

Sub-Contractors
Names, legal status, address and qualifications of subcontractor(s), if any, and the scope of the subcontracted services. The Proposal shall provide a statement that your organization shall be fully responsible for the performance of sub-contractors. All sub-contractors shall be legally established in one of the CTBTO Member States.

Model Contract
A statement that the bidder has carefully reviewed the Model Contract and its Annexes and is in agreement with all its terms and conditions.

Vendor Profile Form (VPF)

The attached Vendor Profile Form, if not previously submitted to the Commission, shall be duly signed and submitted together with the Proposal

PART II: FINANCIAL PROPOSAL

(i) The Bid shall include the costs of the Services and of the Equipment, its packing and handling, insurance, transportation and freight, customs clearance (if and as applicable) and delivery to Seibersdorf, Austria to the CTBTO TeST Centre. The delivery terms shall be DAP (Delivered At Place; Incoterms 2020) door-to-door CTBTO, TeST Centre, Seibersdorf, Austria.

(ii) The Bidder is required to prepare the Price Schedule using the *Format of Financial Proposal* attached to these Instructions for Preparation and Submission of Bids as Attachment 2 or an equivalent form. In presenting the cost for each item, adequate justification and calculation must be included in the cost. All individual costs shall be stated in EURO or US Dollars and be computed to constitute the total Contract Price. Bidders shall provide all the information requested in this matrix but may provide additional related content as attachments.

This will be evaluated as part of the responsiveness of the Financial Proposal. A Proposal that fails to meet this requirement may be disqualified and not be considered for further evaluation.

(iii) The Bidder shall quote firm fixed person-day fees/rates (as applicable) for the Services in EURO or US Dollars. The quoted fees/rates should include all overheads and ancillary expenses, unless included as firm-fixed *"Other Costs"*, or otherwise stated in *Attachment 2 "Format of Financial Proposal"*.

(iv) Estimated costs for travel (as applicable) based on the most economic and direct route shall be specified in the Financial Proposal. Costs for DSA shall be paid based on the UN DSA rate applicable at the time when the Services are executed, as applicable. Estimated costs will be invoiced based on actual costs against relevant supporting documentation e.g. invoices for travel, shipping etc. and shall not exceed 10% of the estimate. Daily Subsistence Allowance (DSA) for on-site Services shall be reimbursed based on the applicable United Nations DSA rate.

Indirect Taxes

In principle the Commission is exempt from taxes. Since the arrangement under which such exemption is respected varies from country-to-country, the selected bidder will be informed by the Commission whether tax exemption will occur at source or whether taxes paid by the selected bidder will be reimbursed by the Commission upon submission of the original supporting documentation. **"Taxes"** means all direct and indirect taxes (including value added tax, general sales tax or goods and services tax), assessments, fees, customs duties, liens and charges in as much as they are levied in conclusion or implementation of the Contract, including customs restrictions and charges of similar nature in respect of articles imported or exported for the Commission's official use.

For Austrian companies

The price quoted shall be net of Taxes. All applicable Taxes payable by the selected bidder at the conclusion or implementation of the Contract in respect of the Goods/Services shall be quoted separately or be separately identified on the Proposal together with information on the nature of the tax and its method of calculation.

For European Union (EU) Companies

The price quoted shall be net of Taxes. All applicable Taxes payable by the selected bidder at the conclusion or implementation of the Contract in respect of the Goods/Services shall be quoted separately or separately identified on the Proposal together with information on the nature of the Tax and its method of calculation. Due to the VAT exemption applicable to the Commission, no VAT will be charged to the Commission by the EEC Suppliers under the Contract (Ref. EU VAT Council Directive 2006/112/EC, Article 151).

For Non-EU Companies

The price quoted shall be net of Taxes. All applicable Taxes payable by the selected bidder at the conclusion or implementation of the Contract in respect of the Goods/Services shall be quoted separately or be separately identified on the Proposal together with information on the nature of the tax and its method of calculation. For deliveries to Vienna, Austria, and due to the tax exemption at source applicable to the Commission, no Taxes shall be charged to the Commission under the Contract.

Note that clear and detailed explanations would enable us to evaluate the Proposal promptly and proceed with fewer requests for clarifications/justifications in a later stage. This is also a factor influencing the decision for Contract award.

10. Completeness and Correctness of the Proposal

The Commission reserves the right to verify all information furnished by you in the Proposal through a source of its choice. Any inaccurate information so given may lead to the rejection of the Proposal.

11. Validity of Proposal

The Proposal shall be valid for 90 (ninety) days after the deadline for its submission to the Commission, unless an extension of validity has been requested by the Commission.

12. Correction of Errors

The Commission will check the Proposal for any arithmetic errors. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected.

13. Evaluation of Proposal

(a) The Commission will first conduct a technical evaluation based on the following main evaluation criteria:

- Meeting the overall Requirements
- Requirements for the Contractor
- Capacity and Technical Expertise to deliver the Services and Equipment detailed in the Terms of Reference

Please see *Attachment 1 (Mandatory Requirements of the Technical Proposal), and Attachment 3 (Evaluation Criteria)* for a complete list of the criteria that form the basis of the technical evaluation for each of the above listed categories. If the Proposal fails to meet the minimum technical requirements for any one criterion, the entire proposal will not be considered further.

Only the Financial Proposals of those bidders that meet or exceed the minimum technical requirements of all items will be opened and evaluated for its commercial acceptability and to determine the financial score for each responsive Bidder. The Commission will evaluate the following:

(i) Proposed unit prices comprising the Equipment; See pricing requirements in *Attachment 2 (Format of Financial Proposal)*;

(ii) Contractual compliance.

(b) The Commission, based on the evaluation method given above, will determine the Proposal that 'most effectively satisfies the technical and operational requirements set out in the solicitation documents'. The relative weighting of each component of the Proposal is **60%** for the Technical Proposal and **40%** for the Financial Proposal.

(c) The Contract will be awarded to a Contractor who receives the highest combined technical and financial score.

14. Negotiations of the Proposal and Award

The Commission reserves the right to request clarifications on the Proposal and to enter into negotiations regarding technical or commercial aspects of the Proposal before awarding the Contract under this RFP.
The Commission also reserves the right to split the award for this project if so deemed desirable.

15. Modification and Withdrawal of Proposal

Bidders may modify or withdraw their Proposals after their submission, provided that written notice of the modification or withdrawal is received by the Commission by the closing date for the submission of the Proposal. The Proposal may not be modified subsequent to the closing date.

16. The Commission's Right to Reject the Proposal

The Commission reserves the right to accept or reject the Proposal or to annul this procurement process at any time prior to the award of Contract without having to inform the bidders of the grounds therefore, without thereby incurring any liability to the bidders.

17. Costs of preparation and submission of the Proposal

Bidders shall bear all the costs associated with the preparation and submission of their Proposal and the Commission will not be responsible or liable for those costs, regardless of the outcome of this RFP.

18. Proprietary Information

All documentation and information contained in this RFP are proprietary to the Commission and shall not be duplicated, used or disclosed -in whole or in part- for any purpose other than to evaluate them and respond to the Commission's request for Proposal or otherwise without prior written agreement of the Commission.

ATTACHMENT 1

Mandatory Requirements of the Technical Proposal

RFP 2022-0046/THORVALDSDOTTIR

DEPLOYABLE VIDEO SURVEILLANCE AND SECURITY SYSTEM FOR THE BASE OF OPERATIONS AND IN FIELD EQUIPMENT

The proposal, excluding the financial proposal, shall be submitted as a single Word or searchable pdf file, i.e., scanned information should be excluded with the exception of certificates or similar relevant information.

The Technical evaluation is strictly based on the requirements outlined in the Terms of Reference. In this respect, bidders shall provide information in line with the evaluation criteria set out in the technical evaluation matrix.

The proposal must be set out in the following order:

- Executive Summary:
  - Provide an overview of the proposal
- Background information:
  - Background of company, ownership, size, location, profile Sub-contractors (if any).
- Requirements for the Contractor:
  - For each of the criteria set out in the evaluation matrix, provide relevant information
- Requirements for the System:
  - For each of the criteria set out in the evaluation matrix, provide relevant information
- Requirements for the documentation:
  - For the criteria set out in the evaluation matrix, provide relevant information

In addition to the above, the Contractor is expected to submit a proposal that addresses the content of the ToR in a comprehensive and detailed manner in order to demonstrate:

- **understanding of the requirements as well as the responsibilities and duties expected of them.**

In the proposal, the Contractor shall **explicitly tabulate** how the Contractor meets the requirements set out in section 7 of the ToR. Each proposal is assessed and marked exclusively on the technical criteria set out in Attachment 2: Evaluation Methodology.

A technical proposal shall be submitted as a single Word or searchable pdf file i.e., scanned information should be excluded with the exception of certificates or similar relevant information. Please refer to solicitation documents including Attachment 1.

ATTACHMENT 3

Format of Financial Proposal

2022-0046/THORVALDSDOTTIR

Item	Description (ToR)	Unit	Qty.	Unit Price (USD or EUR)	Person day-rate	Security System	Travel	Ttechnical Support
1*	Consultation, Final Design and Architecture of the proposed System	Person/Day						
2**	Fully Integrated, modular Security System	LOT	1					
2	Shipping costs of the System to the CTBTO TeST Centre, Seibersdorf, Austria (DAP, Incoterms 2020)	Lot	1					
3	Training, in person in accordance with the ToR	Person/Day						
4	Set-up, configuration and site-test in Seibersdorf	Lot	1					
5	Remote Technical Support during 130 consecutive days	Lot	1					
6***	Estimated travel cost: Return Ticket per person per trip (RT).	RT	1					
7****	Estimated DSA:	DSA	1					

* The Commission reserves the right to approve suggested improvement of the current design, if so deemed desireable

** All unit prices comprised in the Security System shall be clearly indicated in the offer to be opted for or not at the sole discretion of the Commission

NB:

1) Please complete all applicable columns as applicable

2) Please specify currency (USD or Euro only). The rates shall be firm and fixed throughout the term of the Contract.

*** 3) All estimated travel costs shall be included to the proposed prices. Travel costs will be reimbursed by the Commission as follows:

- International/regional travel by air: simple economy return airfare for the most direct route between the place of establishment of the Contractor and the premises of the Commission in Seibersdorf, Austria. In exceptional circumstances and with prior written approval of the Commission, the Contractor may be reimbursed for flexible economy return airfare but it remains for the Commission to approve the type of airfare that will be reimbursed.
- International travel by other means than air travel: the rate accepted by the Commission for the most direct route between the place of establishment of the Contractor and the premises of the Commission in Seibersdorf, Austria.
- Reasonable terminal expenses, if any: at cost against supporting documents.
- The actual travel costs paid by the Commission shall not exceed the estimate by more than 10%.

**** 4) Daily Subsistence Allowance (DSA) shall be calculated based on the values provided by the UN " International Civil Service Commission (ICSC)" for Vienna, during the month when the work shall take place.

Attachment No. 2

EVALUATION METHODOLOGY

Table 1 "Evaluation Matrix"

TOR Reference (Qualifying Criteria)	Description of Qualifications		Max Points	Weight	Max. Score (Weight x Points)
CATEGORY - OVERALL REQUIREMENTS					
1	Extent to which the bidder demonstrates an understanding of the scope of the project described in the ToR, the resources required, and detail provided.	E	3	2	6
	SubTotal Technical Score - General Requirements:		**3**		**6**
CATEGORY - SUPPLIER (SECTION 3)					
2	The Bidder demonstrates five (5) or more years experience in the delivery of static or mobile security systems for areas including access control, and perimeter security. More experience is considered an asset.	E	5	1	5
3.1.1	The Bidder provides assurances of Phase 1 deliverables within 6 week time-frame (from signing of contract).	E	3	1	3
3.2.1	The Bidder provides assurance of Phase 2 deliverables within 6 month time-frame (from signing of contract).	E	3	1	3
7	The Bidder provides assurance on ability to fulfil requirements, including any appropriate certifications.	E	3	2	6
8	The Bidder provides assurance of technical support for 12 months from testing and acceptance, including the 130 consecutive days system test, including any rectifications. Additional technical support is considered an asset.	E	5	2	10
8	The bidder provides option for 24 months technical support.	E	3	1	3
9	The Bidder has experience in the use of the English language, both written and oral, when communicating with international clients.	E	3	1	3
7	The Bidder provides adequate assurance on its overall ability to meet all requirements and is properly prepared, experienced and certified to supply and perform the required systems and activities of this ToR.	E	3	1	3
9	The Bidder offers a warranty period of two (2) years after the completion of the user acceptance testing. Longer warranty period is considered an asset. Warranty shall include complete replacement of any equipment and systems provided by the Supplier, which at any time during the warranty period, due to manufacturing faults or poor workmanship, does not meet at least one requirement of the Terms of Reference.	E	5	2	10
9	Terms and conditions of post-warranty support are available and clearly specified.	E	3	1	3
7	The Bidder provides references of supplying similar functionally equivalent to the offered equipment. A minimum of three (3) such references are required from the last three (3) years. Additional time is considered an asset.	E	5	2	10
7	The Bidder provides adequate assurance on its overall ability to meet all the requirements and it is properly prepared, experienced and certified to supply and perform the required systems and activities of this ToR. Provision of qualification certificates is considered an asset.	E	5	2	10
8	The Bidder anticipates the offered equipment or equipment functionally equivalent and compatible with the offered equipment, to be available at least until 2025 for possible additional purchases to scale the System up.	E	3	1	3
	SubTotal Technical Score - Supplier:		**49**		**72**
CATEGORY - SYSTEM (SECTION 4)					
	Main Operational Requirements				
4.2	Modularized for rapid deployment with clearly defined and identified assembly and inter-connections, quick start guides and pre-configured default templates.	E	3	2	6
4.2	Scalable and adaptable to easily adopt to available infrastructure and requirements.	E	3	1	3
4.2	Transportable within standard containerized solutions (see Figure 2) under IATA DGR 63rd edition regulations with no items causing exceptions due to excess dimensions, hazardous goods, export control, stringent environmental or handling requirements.	E	3	1	3
4.2	Individual items to be packed within ruggedized transport cases with custom foam inserts to maximize protection (for example Zarges K470 product line, or Pelican cases or similar) and compact modular storage – any exceptions to be itemized and justified e.g. supplied in custom Pelicase, with no item exceeding 50kg for a two man lift without being noted as an exception	E	3	1	3
4.2	Suitable for deployment and operation in widest possible range of remote and extreme environmental conditions with all outdoor components suitably ingress protected and braced or stable enough to sustain high winds. Maximum flexibility for operating conditions is considered an asset.	E	5	2	10
4.2	Compatible with the Commission's Global Communication Network, based around in-field proprietary 4G LTE Band 20 network and global VSAT communication.	E	3	1	3
4.2	Capacity for 130 days continuous operation with minimal maintenance, including battery backup for power outages. Longer operation time or backup time is considered an asset.	E	5	1	5
4.2	Capable of accessing status, viewing video and images, generating and managing alarms to mobile Android smartphones and tablet devices.	E	3	1	3
4.2	All field deployed enclosures should be tamper protected, and any item should generate an alarm where forced opening, loss of data communications or loss of power is detected.	E	3	1	3
4.2	Capable of working on self-contained networks without needing any online licensing, subscription, updating, verification, cloud storage, processing or analytics.	E	3	1	3
	BOO Perimeter & Sensitive Area Surveillance				
4.3.1	Two perimeter masts with five (5) cameras each.	E	3	1	3
4.3.1	Two sensitive area masts with three (3) cameras each.	E	3	1	3
4.3.1	Near field fixed cameras - operated via cable connection. Minimum of 50m IR, day/night camera, 3MP. 3-9mm bullet or better. Best performance technical option for purpose considered an asset.	E	5	2	10
4.3.1	Far field fixed cameras - operated via cable connection. Minimum of150m IR, day/night camera, 3MP. 9-22mm bullet or better. Best performance technical option for purpose considered an asset.	E	5	2	10
4.3.1	Perimiter PTZ camera operated via cable connection. Minimum of 200m IR illuminiation, 30 x zoom, 4-130mm or better. Best performance technical option for purpose considered an asset.	E	5	2	10
4.3.1	Spare cameras included in plan.	E	3	1	3
	Sensitive Area Access Control				
4.3.2	Provision of six accesss control points each containing one pole/tripod to host cardreader and electronics suitable for mounting on rough ground, one card reader, two short range PIR devices, one enclosure with POS/battery, tamper alarm, electronic module and ethernet communications to central controls tation or camera cluster with all necessary cables and attachments.	E	3	2	6
4.3.2	Units run from single phase power 110-240 V AC or at 50 or 60 Hz as available.	E	3	1	3
4.3.2	Units capable of running for minimum of 24 hours on battery without power. Additional battery backup time considered an asset.	E	5	2	10
4.3.2	Provision of one of the six systems with magnetic locks and exit button with the intention to be fittted to ULD container housing the security system once procured. Proof of capability that electronic modules are able to support physical locks and push-to-exit buttons.	E	3	1	3
	Field Deployable Surveillance				
4.3.3	One camera tripod capable of supporting up to four cameras.	E	3	1	3
4.3.3	Near field fixed cameras - operated via cable connection. Minimum of 50m IR, day/night camera, 3MP. 3-9mm bullet or better. Best performance technical option for purpose considered an asset.	E	5	2	10
4.3.3	Far field fixed cameras - operated via cable connection. Minimum of200m IR, day/night camera, 2MP. 4-130mm bullet or better, 30x zoom. Best performance technical option for purpose considered an asset.	E	5	2	10
4.3.3	Audio recording provided on at least one camera	E	3	1	3
4.3.3	4G LTE Band 20 modem and Cat 7 Ethernet connection (to Motorola VML750 modem where existing as part of asset under surveillance.	E	3	1	3
4.3.3	Alarm notification and response capability to Android 6 devices.	E	3	1	3
4.3.3	Enclosure(s) with tamper and environmental protection for electronic and battery components.	E	3	1	3
4.3.3	Industrial network video recording (NVR) supporting expansion up to four cameras, with high ruggedness and wide analytics capability for alarm event notification. Best performance technical option for purpose considered an asset.	E	5	2	10
4.3.3	14 days recording capacity for 2 cameras, 7 days recording capacity for 4 cameras at full resolution and frame rate.	E	5	2	10
4.3.3	Solar charging capability with capacity to recharge within 8 hours.	E	3	1	3
4.3.3	Battery supply for 24 hours operation, better hours are considered an asset.	E	5	2	10
4.3.3	2nd lower capacity data stream for transmission over the LTE network on demand.	E	3	2	6
4.3.3	All mechanical attachments, fasteners, antennae and cables included.	E	3	1	3
	Central Control Station				
4.3.4	Uninterruptable power supply with battery backup. Longer backup time considered an assset.	E	5	1	5
4.3.4	Video recording capability.	E	3	1	3
4.3.4	Networking, cable management and marshaling, including armoured fiber and Ethernet cables to remote outposts.	E	3	1	3
4.3.4	Card reader or other necessary equipment, including 100 cards or tags proposed.	E	3	1	3
4.3.4	Proposed design can be broken down into stackable 19" rack transport cases, with no case ecteeding a gross 50kg two man lift, or exceptions are noted. Logical separation of cases in proposal.	E	3	2	6
4.3.4	Operator console for system configuration, camera control, video review, analytics and alarm response.	E	3	1	3
4.3.4	UPS capable of running system for one hour in the event of loss of external power with alarm generated. Additional time considered an asset.	E	5	2	10
4.3.4	Video recording sufficient to record all cameras for 130 days in high quality at full frame rate. Any compression efficiencies and storage requirements from previous similar projects are noted and justified. Storage proposed in redundant disk arrays to ensure no risk of data loss from a single disk failure.	E	3	1	3
4.3.4	The cable and network marshaling allows for both fiber optic and CAT 7 Ethernet cabling. Sufficient ports for four additional connections to the Commission's other systems, 4G in-field mobile network, GCI VSAT system, and BOO office connections noted in proposal.	E	3	1	3
4.3.4	Has the ability to •enroll users with differing control and access privileges and issue cards or tags; •modify the configuration of cameras, recording parameters, overlay components; •control the PTZ cameras either on full manual control, configured set points, alarm response or roaming patterns; •adjust zoom and focus of fixed orientation camera; •distribute alarms by email or text message to configured users and groups of users; •manage video stream quality for remote access devices with low bandwidth with either live streaming or recorded video; •control physical audio or visual indicators; •provide access to mobile Android devices;	E	3	2	6
4.3.4	Has the facility to integrate with the remote field security systems, record all alarms, alarm on loss of control to the system and download video associated with each alarm.	E	3	1	3
4.3.4	Licensing nature of software, licence terms for expansion and any additional features priced included in proposal.	E	3	2	6
4.3.4	System software analytics includes the detection of: •movements within an area; •people within an area; •loitering within an area; •unusual flow of movement; •object removal from area; •object addition to an area; •loud audio.	E	3	2	6
	Operating conditions and overall system:				
4.3.3	Operational temperature range: at least -30°C to +50°C. Better operational temperature range is considered an asset.	E	5	1	5
4.3.3	The system is waterproof (at least IP67 or equivalent performance). Better performance (than IP67 or equivalent) is considered an asset.	E	5	1	5
7	Compatible with 240 V / 50 Hz and European plug type C, E or F	E	3	1	3
	SubTotal Technical Score - System:		**177**		**253**
CATEGORY - DOCUMENTATION (SECTION 5)					
32	Draft manual provided in English with Phase 2 for any amendments during system acceptance and training. Proposed manual to include documentation of all indivudial system components, including certificaiton of confirmity, country of origin certificate, Material Safety Data Sheets where applicable, software licence certificates etc.	E	3	2	6
	SubTotal Technical Score - Software:		**3**		**6**
	Grand Total Technical Score		**232**		**337**

For the Essential criteria (E), points will be awarded for each of the evaluation criteria of Table 1 "Evaluation Matrix" in accordance with Table 2 "Scoring Breakdown" below.

Should bidders be assigned less than 3 points for any of the essential (E) evaluation criteria, they will be deemed not technically compliant; consequently, they will be disqualified and their proposals not further evaluated.

Bidders that fully satisfy the criteria to the minimum acceptable level will be assigned **3** points. Bidders whose proposals demonstrate that they satisfy the criteria beyond the minimum level will be assigned additional points up to **5**, as per Table 2 below:

Table 2 "Scoring Breakdown" for Essential criteria

Points	Criteria
1	Response incomplete, inadequate and/or non-responsive to the criterion. Bidder does not clearly understand the criterion. Does not meet the minimum technical, functional, or performance related criterion.
2	Meets the criterion in most areas, but is lacking details and responsiveness in some areas of the criterion.
3	Meets the set minimum criterion.
4	Meets the criterion to minimum acceptable levels in all areas, and exceeds it in **some** areas.
5	Response exceeds the criterion in **all** areas and adds additional technical, functional and performance related value to the proposed services.

The overall technical score assigned to each bidder will be the sum of the scores obtained

Once the technical evaluation is finalized, the Commission will evaluate the financial proposals of the technically compliant bidders. The financial proposals will be evaluated in accordance with the formula given below:

X= Max Available Score * Y/Z
Legenda
X= score to be assigned to the offer being evaluated
Y= price of the lowest priced, technically compliant offer
Z= price of the offer being evaluated

The Contract will be awarded to the bidder who receives the highest combined score resulting from the technical and financial evaluation. The weight of the technical and commercial evaluation components is **60% and 40%** respectively.

The Commission expects bidders to fully accept the Commission's General Conditions of Contract as well as its Model Contract. Any proposed deviations will be a factor in the Commission's contract award decision.

PROCEDURE FOR SUBMISSION OF ELECTRONIC BIDS IN 2 SEALED FILES

Given the current logistics restrictions at the Vienna International Centre as a result of the COVID-19 situation, the Commission invites you to submit your sealed bids in response to **Request for Proposal No. No. 2022-0046/THORVALDSDOTTIR:** ***Deployable Video Surveillance Security System for Base of Operation and In-Field Equipment Prototype Build***

Please be sure to follow the instructions below very carefully, so that the documents you submit are encrypted, and cannot be opened without an encryption key (password). If the documents are not encrypted, they will not be accepted as part of this Tender process.

CRITICAL INFORMATION:

Create separate zip files for technical bids and financial bids (labeling them clearly in the title) with different encryption keys. Instructions for how to do this are provided below.

Step 1: You provide the encryption key (password) for the *Technical Bid only* (in accordance with the below instructions)!

Step 2: After the Commission has performed the evaluation of the Technical Bids, if your Technical Bid is considered to be acceptable, the Commission will request the encryption key (password) for the Financial Bid you have already submitted by the Tender Deadline.

Should you have any questions, please send an email to procurement@ctbto.org.

We recommend that you leave yourself plenty of time to complete the below process (including getting any necessary assistance from the Commission), as late bids will not be accepted.

INSTRUCTIONS:

In a WINDOWS environment, one way of meeting the requirements is as follows.

We recommend using the open-source, free software **7-zip**, but if you are comfortable with other tools, the result should be the same, as long as you can apply encryption to the archive. In the below, we'll use 7-zip as an example. (You can download the 7-zip code for Windows at: 7-zip.org)

In LINUX, you can use, for instance, 'sha1sum' on the command line.

Creating the archives for submission

Regardless of whether the bid is a single file, or a collection of files, the files are easier to manage if delivered as a single, compressed file. Compressing the archive is a common way to meet size limitations in email systems.

As an example of how to submit your bid in the required format: assuming you are supplier "SOFTCOMP" and have the following files related to the bid for "RFP 2020-0010/EDWALD". *(You will need to replace these elements with the real information for your actual bid.)* Assuming further that you have installed the 7-zip software on the Windows system you are using. We will only go through the creation of the Technical bid component; the Financial bid component is similar.

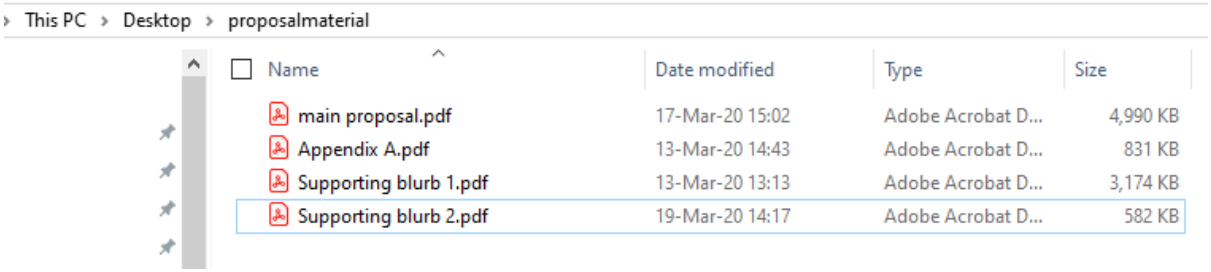

Figure 1 An example set of files to be submitted

Select the four files and right-click; a Dialog box pops up, with one of the options being "**7-ZIP >**". Hover your cursor over the " >" part and a few more options appear, select the "**Add to archive**" option.
Another dialog box pops up (see 'Figure 2, *Creating an Archive*', next page):

Using the standard Windows methods, select a suitable location for the archive (if you don't change it, the archive gets created right where the selected files are), and give it a name in the form of: "SOFTCOMP-2020-0010-EDWALD-TECHNICAL-BID", of course replacing all the elements with the true values for the bid in question: the actual company indicator, and the actual RFP identification string. Note that it is not possible to put a slash "/" in the filnename, and therefore put a dash "-" instead. Leave the file extension ".zip' as is.

Leave all the other settings as is, except: **add a password to the encryption** (see figure 2 below). This is done by typing the same password (of your choosing) twice in the two text fields in the lower right hand corner. ***Make a note of this password. You must choose different passwords for the two zip archives, that is, the Technical and the Financial bids.***

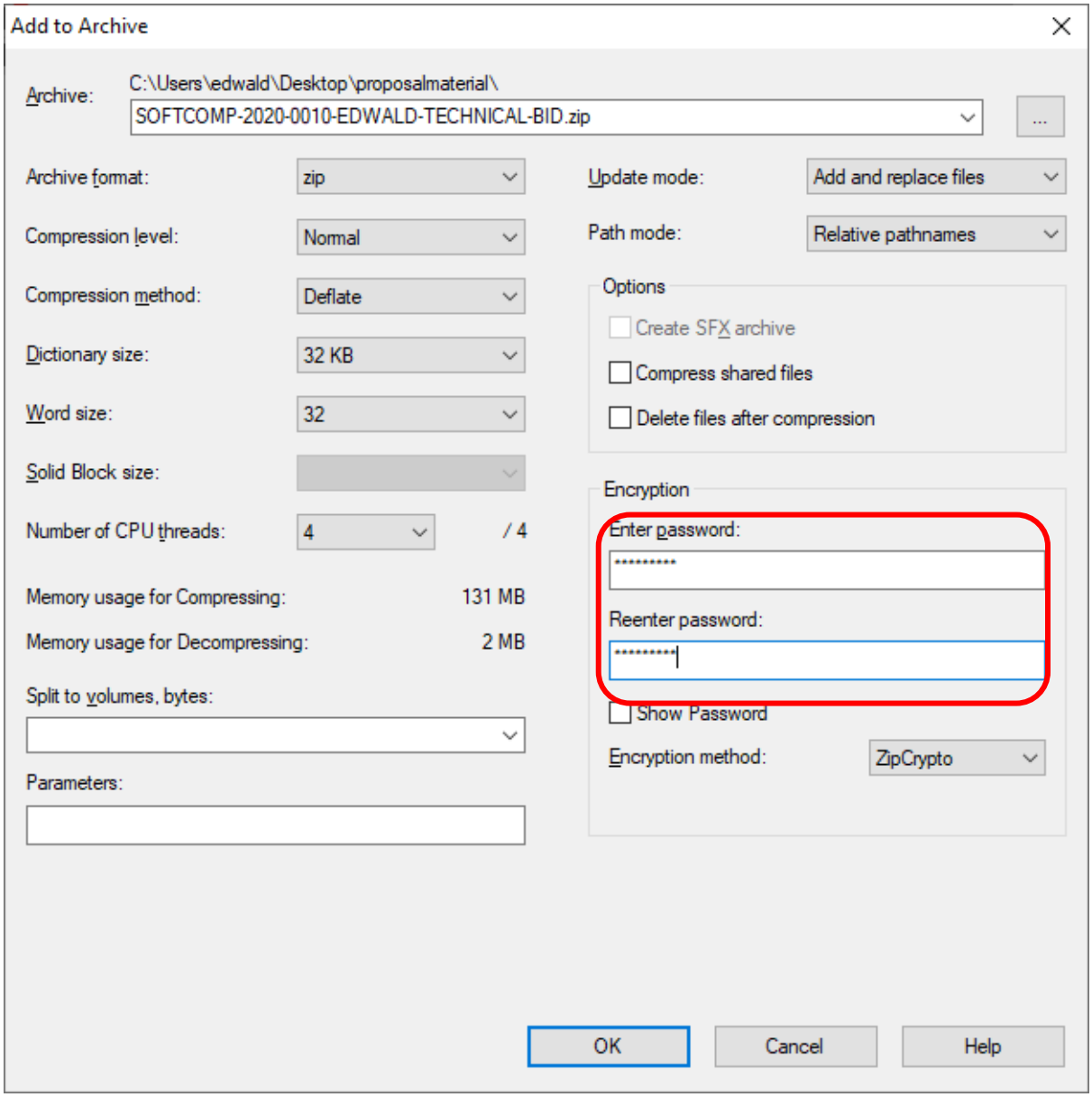

Figure 2 Creating an Archive

Now, we seek the "SHA1 Hash", and electronic fingerprint of the archive you have just created. The hash is a string calculated from your file(s) and can be used to guarantee that the file hasn't been modified since you created it. Any change to the file will result in a different hash value.

There are many ways of calculating this; two common options are decribed below.
If the appropriate functionality is available in your Windows environment: Select the compressed archive in the Windows file manager, (eg. SOFTCOMP-2020-0010-EDWALD-TECHNICAL-BID.zip) and right click. One of the options to select is "**CRC SHA >**". Hovering over the " **>**" brings a few more options to light, select the **SHA-1** option. A smaller dialog pops up: (see Figure 3, *SHA1* below).
Clicking Ctrl-C grabs the contents of this box. You can close the box after copying the contents. (You can paste the contents into a mail message, for instance.)

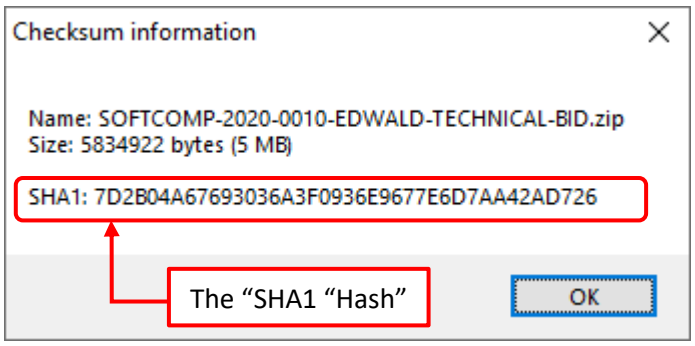

Figure 3 SHA1

If this CRC SHA function is not available by 'right-click' on your Windows version, you can also do this from 'the command line', a slightly more complicated way. Open a CMD window (see sidebar below), move to the folder where your archive is, and execute the command: "`certutil -hashfile SOFTCOMP-2020-0010-EDWALD-TECHNICAL-BID.zip sha1`" where you obviously replace the name of the file with your real file name. The output of this command is the SHA1 "hash". You can copy-and-paste the string for use in the email (below).

Sidebar: How to open a CMD window in Windows:

The way to open a Command window (or 'terminal') depends on the version of Windows you have. The different methods are very clearly described in the following article, but a quick internet search will find multiple descriptions.

https://www.lifewire.com/how-to-open-command-prompt-2618089

Finally,

1. Create a new email, Subject: example- "SOFTCOMP-2020-0010-EDWALD". Add the two compressed archives, that is, the Technical Bid and the Financial Bid archives as attachments. The text of the email should contain the SHA1 information for both archives.
   SEND THIS TO: sealed_bids@ctbto.org (note that there is an underscore "_" between "sealed" and "bids"). (Should the email become larger than your mail system allows, you can try sending the two archives in separate emails. Take care to include the right SHA1 information with each file.)

2. Create a new email, Subject: example- "SOFTCOMP-2020-2010-EDWALD-Technical Bid" the contents of which must contain the Encryption Key for the Technical Bid (the password you used when creating the Technical Bid). (Again, note the underscore between 'bid' and 'keys'.)
   SEND THIS TO: bid_keys@ctbto.org

   IMPORTANT NOTE: As stated above, only send the Encryption Key for the Technical Bid to the bid_keys@ctbto.org mailbox when sending your Technical and Financial Bids to the sealed_bids@ctbto.org mailbox. You shall only send the Encryption Key for the Financial Bid

to the Commission if and when informed by the Commission that your Technical Bid had been evaluated as “technically acceptable”.

The Financial Bid Encryption Key will need to be provided by you to the same e-mail (bid_keys@ctbto.org) within 48 hours of the Commission’s request, clearly marked in Subject: Encryption Key for (example):“SOFTCOMP 2020-2010 EDWALD-Financial Bid”. If your Bid is not considered “technically acceptable”, the Commission will not request an Encryption Key for your Financial Proposal, and it will remain unopened.

As mentioned above, should you have questions or difficulties, please send an e-mail to procurement@ctbto.org.

We recommend that you leave yourself plenty of time to complete the above process (including getting any necessary assistance from the Commission), as late bids will not be accepted.

CTBTO PREPARATORY COMMISSION | preparatory commission for the comprehensive nuclear-test-ban treaty organization

CONTRACT No. 2022-XXXX

between

THE PREPARATORY COMMISSION

FOR THE COMPREHENSIVE NUCLEAR-TEST-BAN TREATY

ORGANIZATION

and

NAME OF THE CONTRACTOR

for

the provision of services pertaining to

DEPLOYABLE VIDEO SURVEILLANCE AND SECURITY SYSTEM FOR BASE OF OPERTAION AND IN-FIELD EQUIPMENT PROTOTYPE BUILD

This Contract comprises this cover page, a table of contents, 8 (eight) pages of text, a signatories page, a List of Annexes and 3 (three) Annexes (A to C)

June 2022

TABLE OF CONTENTS

MODEL CONTRACT NO. 2022-XXXX

This CONTRACT is entered into between the PREPARATORY COMMISSION FOR THE COMPREHENSIVE NUCLEAR-TEST-BAN TREATY ORGANIZATION (hereinafter referred to as the "Commission"), having its office located at Wagramer Strasse 5, 1400 Vienna, Austria, and _____ (hereinafter referred to as the "Contractor"), having its registered office located at _____ [address] (both hereinafter individually referred to as the "Party" and collectively as the "Parties").

The Parties hereto mutually agree as follows:

1. DEFINITIONS

In this Contract, words and expressions shall have the same meanings as respectively assigned to them in the General Conditions of Contract and the Terms of Reference. In addition, the following words and expressions shall have the meanings hereby assigned to them:

"Annex A" means the Commission's General Conditions of Contract.

"Annex B" means the Commission's Terms of Reference.

"Annex C" means the Contractor's Proposal

"Contract" means this document, its Annexes and any further modifications or such further documents as may be expressly incorporated in this Contract by the Parties in accordance with Clause 20 below.

"Contractor" means the legal entity named in the preamble of this Contract or its successors. The Contractor shall be the only interface for all matters pertaining to execution of the work under this Contract.

"Party(ies)" means the Commission and/or the Contractor, as the context requires.

"**Rule(s)"** means any regulation(s), official directive(s), ordinance(s), guideline(s), customs and practices.

"Taxes" means all direct and indirect taxes (including value added tax, general sales tax or goods and services tax), assessments, fees, customs duties, liens and charges in as much as they are levied in conclusion or implementation of the Contract, including customs restrictions and charges of similar nature in respect of articles imported or exported for the Commission's official use.

2. AIM OF THE CONTRACT

The aim of this Contract is to provide services, namely, Deployable Video Surveillance and Security System for Base of Operation and In-Field Equipment Prototype Build (hereinafter referred to as the "Services" and/or "Work" and/or the "Equipment"), for the Commission.

3. ENTRY INTO FORCE AND DURATION OF THE CONTRACT

This Contract shall enter into force upon the date of the last signature by the authorized representatives of the Parties (hereinafter referred to as the "Effective Date") and it shall remain in force until the Parties fulfill all their obligations hereunder.

4. COMMENCEMENT AND COMPLETION OF THE SERVICES

The Contractor shall commence the Services on the Effective Date. The Services shall be completed not later than 31 December 2022.

The Commission has the option to extend the Services for further 12-month periods, subject to the availability of funds, under the same terms and conditions as those of this Contract. The Commission will inform the Contractor about the intention to extend the Services at least one (1) month prior to the completion date. The optional extension will be implemented through a written notification to the Contractor by the Commission.

5. STANDARD OF WORK

The Contractor shall furnish the highest skill and judgement and cooperate with the Commission, including all the Commission's consultants and agents, in best furthering the interests of the Commission and the aim of this Contract. The Contractor shall provide efficient business administration and supervision, and perform the Work in the best way and in the most expeditious and economical manner consistent with the requirements set forth in this Contract.

6. RESPONSIBILITIES OF THE CONTRACTOR

(a) The Contractor shall provide the Services described in Annex B and C.

(b) The Contractor shall provide qualified English-speaking personnel as necessary to perform the Services under this Contract. The key persons shall be available for possible tasks related to the Services throughout the duration of the Contract period. Any replacement of the key personnel shall be made in accordance with Clause 7 of Annex A.

7. WARRANTY

The provisions of Clause 28 of Annex A shall apply to the Services performed by the Contractor.

8. PERMITS, NOTICES, LAWS AND ORDINANCES

(a) The Contractor shall obtain and pay for all permits and inspections necessary for the proper execution and completion of the Work that are customarily obtained upon execution of this Contract and that are legally required at the time the Proposal is received by the Commission.

(b) The Contractor shall give all notices required by the nature of the Work.

(c) If the Contractor notices that the Work or any part thereof required under this Contract is not in accordance with applicable laws and Rules, or with technical or safety standards, it shall promptly notify the Commission thereof in writing.

9. PROTECTION OF PERSONS AND PROPERTY

(a) The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programmes in connection with the Work.

(b) The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury and loss to:

(i) all employees on the Commission's premises and all other persons who may be affected thereby;

(ii) all the Work, Equipment, its spare parts, materials and supplies to be incorporated therein, whether in storage on or off the Commission's premises, which are under the care, custody or control of the Contractor or any of its subcontractors; and

(iii) other property on the Commission's premises or adjacent thereto.

(c) The Contractor shall give all notices and comply with all applicable laws and Rules bearing on the safety of persons and property and/or their protection from damage, injury and loss.

(d) The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for the safety and protection of persons and property, including posting danger signs and other warnings against hazards and promulgating safety regulations.

(e) When the use or storage of combustible, explosive or other hazardous materials is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

(f) The Contractor shall be responsible for the prevention of accidents on the Commission's premises during the execution of the Work.

(g) In any emergency affecting the safety of persons or property, the Contractor shall promptly act to prevent threatened damage, injury and loss.

(h) The Contractor shall promptly remedy all damage and loss to any property, referred to in Sub-Clause (b) above, caused in whole or in part by the Contractor, any subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible under Sub-Clause (b) above, except damage and loss attributable to the acts or omissions of the Commission or anyone directly or indirectly employed by it, or of anyone for whose acts the Commission may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to its obligations under Clause 9 of Annex A.

10. RESPONSIBILITIES OF THE COMMISSION

The Commission shall designate members of its staff to act as points of contact for the Contractor to ensure that the Services are carried out in accordance with Annexes B and C, and shall promptly notify the Contractor thereof. The Commission shall respond promptly to requests for information by the Contractor regarding the Services.

11. CONTRACT PRICE

(a) The Commission shall pay to the Contractor, in consideration of the full and proper performance of its obligations under the Contract, a firm fixed price of [EURO/US$] _____ [in numbers and words], hereinafter referred to as the "Contract Price".

(b) The Contract Price shall cover all costs and expenses, excluding Taxes, incurred by the Contractor for the full and proper performance of all obligations under the Contract (including travel, allowances, management and remuneration of the personnel, national income tax, medical insurance, and social security contributions). It also includes work performed by the Contractor's personnel outside the Commission's normal working hours.

(c) The Contract Price shall be firm and fixed and shall not be subject to escalation. The Contractor shall not do any work, provide any materials or equipment, or perform any services which may result in any charges to the Commission over and above the Contract Price without the prior written consent of the Commission and a formal written amendment to this Contract.

(d) The Contractor shall be reimbursed by the Commission for such taxes on the basis of actual amounts paid and duly documented by the Contractor as per Clause 12 (e).

OR

No Taxes are applicable under this Contract.

12. PAYMENT

(a) The Contract Price shall be paid in accordance with the following payment schedule and subject to the following conditions:

A progress payment schedule based on milestone deliveries may be included in the proposal. Any applicable Taxes shall be identified separately, and not be included in the Contract amount, i.e. "Upon [milestone] the amount of [EURO/US$] _____ [in numbers and words], and [indicate the applicable Tax] in the amount of [EURO/US$] _____ [in numbers and words].

(b) The Commission shall make the payments to the Contractor on the basis of an invoice submitted by the Contractor as per 12 (d) below. All payments shall be made within 30 (thirty) days of the receipt and acceptance of the invoice, provided that the Work has been satisfactorily completed and has been accepted by the Commission.

(c) The making of any payment hereunder by the Commission shall not be construed as an unconditional acceptance by the Commission of the Work accomplished by the Contractor up to the time of such payment.

(d) The Contractor shall submit an invoice electronically, from the Contractor's official e-mail address in PDF format, duly signed and sealed by the Contractor and submitted to the Commission's email address specified in Clause 21 below. Each invoice shall contain the Contract number (CTBTO and SAP numbers), detailed banking instructions, including the name and address of the Contractor's bank, account number, account holder's name and SWIFT, IBAN and/or ABA codes for payment by electronic transfer.

(e) Applicable Taxes payable by the Contractor and/or its subcontractor(s) in respect of the Work shall be invoiced separately or be separately identified on the invoice. Actual payment of the Taxes must primarily be supported by original documentation such as invoices, bank account statements, transfer orders, or receipts issued by the local tax or customs authorities. If submission of such original documentation is not possible for justifiable reasons, their copies could be accepted by the Commission provided that they are duly signed and certified by local tax or customs authorities. In case the currency in which the Taxes are levied is not the currency of the Contract, bank statements (or equivalent) showing the exchange rate used for the conversion should be submitted to the Commission, in addition to any other supporting documentation.

13. TEMPORARY SUSPENSION OF WORK

The Commission may, at any time, temporarily suspend the Work, in whole or in part, being performed by the Contractor under this Contract by giving 30 (thirty) days' advance notice in writing to the Contractor. The Work so suspended shall be resumed by the Contractor on the basis of a revised time schedule and on terms and conditions to be mutually agreed upon between the Parties.

14. DELAYS AND EXTENSION OF TIME

(a) If the Contractor is delayed at any time in the progress of the Work by any act or omission of the Commission or by any of its employees, or by any other contractor employed by the Commission, or by changes in the Work ordered by the Commission, or by any causes beyond the Contractor's reasonable control, or by any other cause which the Commission determines may justify the delay, then the time for completion of

the Work shall be extended by an amendment to this Contract in accordance with Clause 20 below for such reasonable time as the Commission may determine.

(b) Any request for extension of the time for reasons referred to in Clause 14 (a) above shall be submitted to the Commission not later than 20 (twenty) days after the commencement of the delay, otherwise said request shall be deemed to be waived. Such request shall state grounds for the delay and shall provide an estimate of the probable effect of such delay on the progress of the Work.

15. CONTRACTOR'S CLAIMS AND REMEDIES

In no event shall the Contractor make any claim against the Commission for or be entitled to additional costs or compensation resulting from any delays in the progress or completion of the Work or any portion thereof, whether caused by the acts or omissions of the Commission, including, but not limited to, damages related to overheads, loss of productivity, acceleration due to delay and inefficiency. The Contractor's sole remedy in such event shall be an extension of time for completion of the Work, provided the Contractor otherwise meets the requirements and conditions set forth in this Contract.

16. ENTIRE AGREEMENT

This Contract represents the final agreement in respect of the Services and shall supersede all prior agreements and representations between the Parties in this respect. Annexes A to C shall constitute integral parts of this Contract and shall be of full force and effect.

17. DISCREPANCIES

If there are discrepancies or conflicts between any of the documents that are part of this Contract, the document to prevail shall be given precedence in the following order:

(i) this document;

(ii) General Conditions of Contract (Annex A);

(iii) Terms of Reference (Annex B);

(iv) Contractor's Proposal (Annex C).

18. SEVERABILITY

If any term and/or provision of this Contract is or becomes invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions of this Contract shall not in any way be affected or impaired thereby.

19. NO WAIVER

Failure by a Party to enforce a right shall not be deemed to be a waiver of that right unless otherwise expressly provided in this Contract.

20. CONTRACT AMENDMENT

No modification of, or change in, this Contract, or waiver of any of its provisions, or additional contractual relationship with the Contractor shall be valid unless approved in the form of a written amendment to this Contract, signed by duly authorized Representatives of the Contractor and of the Commission.

21. TRANSMISSION OF NOTICES AND OTHER DOCUMENTS

Notices, invoices, reports and other documentation under the Contract shall be delivered or sent to the relevant Party as follows (or to such person/title, address, facsimile number or email address as the Party may substitute by notice after the date of the Contract):

(a) The Commission:

For Contractual Issues:

Chief, Procurement Section
Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO)
Vienna International Centre
Wagramerstrasse 5, P.O. Box 1200
1400 Vienna, Austria
Tel: + (43 1) 26030 6350
E-mail: procurement@ctbto.org

For invoices:
Accounts Payable
CTBTO Financial Services Section
Vienna International Centre
Wagramerstrasse 5, P.O. Box 1200
1400 Vienna, Austria
Tel: + (43 1) 26030 6292
E-Mail: Payable_Invoices@ctbto.org

For related enquiries:
Payments@ctbto.org

(b) The Contractor:

22. EFFECTIVENESS

(a) Except as provided below, any communication in connection with the Contract will be deemed to be given as follows:

(i) if delivered in person, at the time of delivery;

(ii) if by registered mail or courier, when received;

(iii) if by fax, when received in legible form;

(iv) if by electronic communication, when retrievable by the Commission in document form.

(b) A communication given under Clause 22 (a) above that is received or becomes retrievable on a non-working day or after business hours at the seat of the Commission will only be deemed to be given on the next working day of the Commission.

IN WITNESS hereof, the duly authorized Representatives of the Parties have executed this Contract:

For and on behalf of the **PREPARATORY COMMISSION FOR THE COMPREHENSIVE NUCLEAR-TEST-BAN TREATY ORGANIZATION:**

_____

Chief, Procurement Section

Date: _____ Place: _____

For and on behalf of **CONTRACTOR:**

_____

[Name, Position/Title]

Date: _____ Place: _____

LIST OF ANNEXES

ANNEX A: THE COMMISSION'S GENERAL CONDITIONS OF CONTRACT

ANNEX B: THE COMMISSION'S TERMS OF REFERENCE

ANNEX C: THE CONTRACTOR'S PROPOSAL

ANNEX A

CTBTO PREPARATORY COMMISSION | preparatory commission for the comprehensive nuclear-test-ban treaty organization

General Conditions of Contract

1. DEFINITIONS

(a) In these general conditions of contract the terms beginning with a capital letter shall have the meaning as defined in the Contract.
(b) "Services" means all services to be rendered under the Contract.
(c) "Goods" shall mean all goods, equipment, materials and/or other supplies to be provided under the Contract.
(d) "Taxes" shall mean all direct and indirect taxes (including value added tax, general sales tax or goods and services tax), assessments, fees, customs duties, liens and charges in as much as they are levied in conclusion or implementation of the Contract, including customs restrictions and charges of similar nature in respect of articles imported or exported for the Commission's official use.

2. LEGAL STATUS

The Contractor shall be considered as having the legal status of an independent contractor vis-à-vis the Commission. Neither the Contractor and any subcontractor, nor their personnel shall be considered to be an employee or an agent of the Commission.

3. ASSIGNMENT

The Contractor shall not assign, transfer, pledge or make other disposition of the Contract or any part thereof, or any of the Contractor's rights, claims or obligations under the Contract except with the prior written consent of the Commission.

4. SUBCONTRACTING

In the event the Contractor requires the services of one or more subcontractors, the Contractor shall obtain the prior written approval and clearance of the Commission for such subcontractor(s). The Commission's approval of a subcontractor shall not relieve the Contractor of any of his obligations under the Contract, and the terms of any subcontract shall be subject to and in conformity with the provisions of the Contract.

5. SOURCE OF INSTRUCTIONS

(a) The Contractor shall neither seek nor accept instructions from any authority external to the Commission in connection with the performance of its obligations under the Contract. The Contractor shall refrain from any action which may adversely affect the Commission and shall fulfil its commitments with the fullest regard to the interests of the Commission.
(b) While present at the Commission's premises, personnel of the Contractor shall, at all times, obey and conform to all requests and instructions of the Commission's officials and the United Nations Security Staff.

6. CONTRACTOR'S RESPONSIBILITY FOR EMPLOYEES

The Contractor shall be responsible for the professional and technical competence of its employees and will select, for the performance under the Contract, reliable individuals who will perform effectively in the implementation of the Contract, respect the local laws and customs and conform to a high standard of moral and ethical conduct.

7. ASSIGNMENT OF PERSONNEL

(a) The Contractor shall not replace or withdraw any personnel referred to in the Contract for the performance of the Services without the prior written approval of the Commission or unless requested by the Commission.
(b) Prior to assignment, replacement or withdrawal of personnel for the performance of the Services, the Contractor shall submit to the Commission for its consideration, the curriculum vitae or detailed justification to permit evaluation by the Commission of the impact which such assignment, replacement or withdrawal would have on the Services.
(c) In the event of withdrawal of personnel, all costs and additional expenses resulting from the replacement, for whatever reasons, of any of the Contractor's personnel shall be for the account of the Contractor. Such withdrawal shall not be considered as termination in part or in whole of the Contract.

8. CONFLICT OF INTEREST

No employee, officer, adviser, agent and/or subcontractor of the Contractor assigned to perform Services under the Contract shall engage, directly or indirectly, in any business, profession or occupation connected or related to the Services or Goods to be provided under the Contract if this constitutes a conflict of interest.

9. INSURANCES

(a) The Contractor shall provide and thereafter maintain appropriate insurance, or its equivalent, with respect to its employees to cover claims for personal injury or death in connection with the Contract.
(b) The Contractor shall provide and thereafter maintain insurance against all risk in respect of its property and any equipment used for the execution of the Contract.
(c) The Contractor shall also provide and thereafter maintain liability insurance in an adequate amount to cover third party claims for death, bodily injury, loss of and damage to property arising from any operations carried out by the Contractor in performing its obligations in connection with the Contract or from operation of any vehicles, boats, airplanes and other equipment owned or leased by the Contractor or its agents, servants, employees or subcontractors.
(d) Except for insurance mentioned in paragraph (a), the insurance policies under this clause shall:
  (i) Name the Commission as additional beneficiary;
  (ii) Include a waiver of subrogation of the Contractor's rights to the insurance carrier against the Commission.
(e) The Contractor shall, upon request, provide the Commission with satisfactory evidence of the insurance required under the Contract.
(f) Any amounts not insured, not recovered from or not claimed by the insurer shall be borne by the Contractor.
(g) Information concerning reduction of coverage shall be furnished by the Contractor to the Commission with at least thirty (30) days prior written notice.
(h) The Contractor undertakes that provisions to the same effect as the provisions in sub-clauses (a) through (c) above will be inserted in all subcontracts made in performance of the Contract, except sub-contracts exclusively for furnishing Goods.

10. ENCUMBRANCES/LIENS

The Contractor shall not cause or permit any lien, attachment or other encumbrance by any person to be placed on file in any public office or on file with the Commission against any monies due or to become due for any Services or Goods provided under the Contract, or by reason of any other claim or demand against the Contractor.

11. OBSERVANCE OF THE LAW

(a) The Contractor shall comply with all laws, ordinances, rules and regulations, including but not limited to health, environmental and labour laws bearing upon the performance of its obligations under the terms of the Contract.
(b) In particular, the Contractor shall comply with the labour laws of the country in which the Services or Goods are to be furnished providing for benefits covering injury or death in the course of employment.

12. CONFIDENTIALITY

(a) All technical, financial or other documentation and data the Contractor compiled for or received from the Commission under the Contract shall be treated as confidential and shall be delivered only to the Commission's authorized officials on completion of the Services or as requested by the Commission.
(b) Either Party acknowledges that all knowledge and information concerning the other Party that may be acquired in connection with the performance of its obligations under the Contract, including but not limited to, any information relating to its operations and procedures, are confidential and proprietary information of the other Party and it shall receive such confidential and proprietary information of the other Party in confidence and shall not disclose or permit disclosure of any such knowledge or information to any person and/or entity without the prior written consent of the other Party.
(c) The Contractor shall not, at any time, use such confidential information to its own advantage.
(d) The restrictions on confidentiality shall not apply to the information which:
  (i) presently is in the public domain;
  (ii) hereafter becomes part of the public domain without the other Party's fault;
  (iii) was in the possession of the other Party at the time of the disclosure, as shown by written evidence;
  (iv) is disclosed to the other Party at any time hereafter by a third Party.
  (v) is required to be disclosed to governing bodies, or to governmental authorities to the extent required by law or to obtain needed authorization to perform the Contract or pursuant to reporting requirements imposed by those governing bodies or the government of the State of the Contractor.
(e) These obligations do not lapse upon satisfactory completion of the Services, delivery of the Goods or termination of the Contract by the Commission.

13. LANGUAGES, WEIGHTS AND MEASURES

Unless otherwise specified in the Contract, the English language shall be used by the Contractor in all written communications to the Commission with respect to the Services or Goods to be provided and all documents procured or prepared by the Contractor. The Contractor shall use metric units, except when otherwise specified in the Contract.

14. PUBLICITY

(a) The Contractor shall not advertise or otherwise make public the fact that it is providing or has provided Services and Goods for the Commission. Also, the

Contractor shall not, in any manner whatsoever, use the name, emblem or official seal of the Commission or any abbreviation of the name of the Comprehensive Nuclear-Test-Ban Treaty Organization in connection with its business or otherwise.

(b) These obligations do not lapse upon satisfactory completion of the Services, delivery of the Goods or termination of the Contract.

15. OFFICIALS NOT TO BENEFIT/CONTINGENT FEES

(a) The Contractor warrants that:
   (i) No person or selling agency has been employed or retained by it to solicit or secure the Contract upon an agreement or understanding for a commission, percentage, brokerage, contingent fee or retainer, except regular employees or bona fide and officially established commercial or selling agencies maintained by the Contractor for the purpose of securing business;
   (ii) No official or servant or retired employee of the Commission who is not a regular employee of the Contractor, has been or shall be admitted by the Contractor to any direct or indirect benefit arising from the Contract or the award thereof.

(b) In case of breach by the Contractor of the warranties referred to in previous clauses, the Commission shall have the right to deduct from the Contract Price, or otherwise recover from the Contractor, the full amount of any such commission, percentage, brokerage, contingent fee or retainer so paid.

16. INTELLECTUAL PROPERTY AND OTHER PROPRIETARY RIGHTS

(a) Except to the extent the Contractor has granted a license to the Commission, the Commission, shall be entitled to all intellectual property, including but not limited to copyrights, patents and trademarks, with regard to products, documents or other materials which bear a direct relation to or are produced or collected under the Contract. The Contractor shall take all necessary steps, prepare and process all necessary documents and assist in securing such property rights and transferring them to the Commission and/or to the government where the Services or Goods are to be provided, in compliance with the requirements of the applicable law.

(b) The Contractor declares that it does not know of any intellectual property rights of third parties, which might be infringed in the execution of the Contract. Should, contrary to the Contractor's expectation, claims be raised against the Commission charging it with infringement of intellectual property rights, the Contractor shall hold harmless the Commission and shall indemnify it to the full extent of any damages or awards arising from such claims. This obligation of the Contractor shall continue to be in full force and effect up to the expiration of such intellectual property rights.

(c) The Commission shall give the Contractor due notice in writing of any charges of infringement brought against the Commission and of the filing of any suit for infringement of intellectual property rights of third parties due to the execution of the Contract, and, without prejudice to the immunity enjoyed by the Commission as an international organization from every form of legal process, including enforcement and execution, the Commission shall give the Contractor the opportunity to defend the Commission against the said suit at its discretion and shall not, without the Contractor's consent in writing, make any admission or consent to any claim of any third party, which might be prejudicial to the Contractor's position.

17. DEFAULT BY THE CONTRACTOR

(a) In case the Contractor fails to fulfil its obligations and responsibilities under the Contract and provided the Contractor has not remedied such failure(s) within thirty (30) days of having been given written notification by the Commission of the nature of the failure(s), the Commission may, at its entire discretion and without prejudice to its right to withhold payment(s), hold the Contractor in default under the Contract.

(b) When the Contractor is thus in default, the Commission may, by giving written notice to the Contractor, terminate the Contract as a whole or such part or parts thereof in respect of which the Contractor is in default. Upon such notice, the Commission shall have the right to seek completion, at the Contractor's expense, of that part or those parts of the Contract with respect to which the Contractor is in default.

(c) The Contractor shall, in this case, be solely responsible for any reasonable costs of completion of the Services and/or delivery of Goods, including such costs, which are incurred by the Commission over and above the originally agreed Contract Price.

18. WITHHOLDING OF PAYMENT

(a) The Commission may withhold any payment to the Contractor or, on account of subsequently discovered evidence, nullify the whole or part of any payment approval theretofore given, to such an extent as may be necessary to protect the Commission from loss under the Contract on account of:
   (i) The Contractor's failure to carry out its obligations or to make adequate progress with the obligations, except for failure arising out of force majeure;
   (ii) The Contractor's failure to remedy unsatisfactory performance, when such failure has been drawn to his attention by the Commission;
   (iii) The Contractor's failure to submit on time the reports required.

(b) The withholding by the Commission of any interim payment shall not affect the Contractor's obligation to continue performance of his obligations under the Contract.

(c) No interest shall accrue on payments eventually withheld by the Commission in application of the stipulations of this paragraph.

19. LIQUIDATED DAMAGES

Subject to Clause 20 below (force majeure), if the Contractor fails to deliver any or all of the Services and/or Goods within the latest time period(s) specified in the Contract, the Commission may, without prejudice to its other remedies under the Contract, deduct from the Contract Price as liquidated damages, a sum equivalent to 0.2 per cent of the portion of the Contract Price for the delayed Services and/or Goods for each working day of delay until actual performance, up to a maximum of sixty (60) working days. The recovery by the Commission of proven damages shall not be excluded.

20. FORCE MAJEURE

(a) Force majeure as used herein shall mean acts of God, industrial disturbances, acts of the public enemy, civil disturbances, explosions and any other similar cause of equivalent force not caused by nor within the control of either party and which neither party is able to overcome.
(b) As soon as possible after the occurrence of any cause constituting force majeure, the Contractor shall give notice and full particulars in writing to the Commission of such force majeure if the Contractor is thereby rendered unable, wholly or in part, to perform its obligations and meet its responsibilities under the Contract.
(c) In this event, the following provisions shall apply:
    (i) The obligations and responsibilities of the Contractor under the Contract shall be suspended to the extent of its inability to perform them and for as long as such inability continues;
    (ii) The term of the Contract shall be extended for a period equal to the period of suspension taking, however, into account any special conditions which may cause the time for completion of the obligations to be different from the period of suspension;
    (iii) If the Contractor is rendered permanently unable, wholly or in part, by reason of force majeure to perform its obligations and meet its responsibilities under the Contract, the Commission shall have the right to terminate the Contract on the same terms and conditions as are provided for in the Termination Clause of the Contract, except that the period of notice may be seven (7) days instead of thirty (30) days;
    iv) For the purpose of the preceding sub-clause, the Commission may consider the Contractor permanently unable to perform in case of any period of suspension in excess of ninety (90) days. Any such period of ninety (90) days or less shall be deemed temporary inability to perform.

21. INSOLVENCY AND BANKRUPTCY

Should the Contractor be insolvent, adjudged bankrupt, or should the Contractor make a general assignment for the benefit of its creditors, or should a receiver be appointed on account of the Contractor's insolvency, the Commission may, without prejudice to any other right or remedy it may have under the terms of the Contract, terminate the Contract forthwith by giving the Contractor written notice of such termination.

22. INDEMNIFICATION

The Contractor shall indemnify, hold and save harmless and defend at its own expense the Commission, its officers, agents, servants and employees from and against all suits, claims, demands and liability of any nature or kind, including cost and expenses arising out of acts or omissions of the Contractor or its employees or subcontractors in the performance of the Contract. This requirement shall extend, inter alia, to claims or liabilities in the nature of workers' compensation and to claims or liabilities pertaining to intellectual property rights. The obligations under this clause do not lapse upon termination of the Contract.

23. AMICABLE SETTLEMENT

The parties shall use their best efforts to settle amicably through negotiation any dispute, controversy or claim arising out of, or relating to, the Contract or the breach, termination or invalidity thereof. If the parties cannot reach such amicable settlement through negotiations, the matter shall first be referred to conciliation, by a request by either party for conciliation procedures. The conciliation shall take place in accordance with the United Nations Commission on International Trade Law (UNCITRAL) Conciliation Rules then prevailing, or according to such other procedure as may be agreed between the parties, within a time period of ninety (90) days. There shall be one conciliator. The conciliation shall be in Vienna, Austria, and it shall be conducted in the English language.

24. ARBITRATION

(a) In the event of a failure to reach an amicable settlement in accordance with Clause 23 above (Amicable Settlement), any dispute arising out of the interpretation or application of the terms of the Contract or any breach thereof shall be settled in accordance with the arbitration rules established by UNCITRAL as at present in force. The number of arbitrators shall be one. The arbitration shall be in Vienna, Austria, and it shall be conducted in the English language.
(b) The arbitrator shall take into account the internationally recognized general principles of commercial transactions. The arbitrator shall have no authority to award punitive damages, nor to award interest in excess of five (5) per cent, and any such interest shall be simple interest only. The parties shall be bound by any arbitration award rendered as a result of such arbitration as the final adjudication of any such dispute.

25. PRIVILEGES AND IMMUNITIES

Nothing in or relating to the Contract shall be deemed a waiver, express or implied, of any of the privileges and immunities of the Commission and its employees.

25(a). TAX EXEMPTION

In principle, the Commission is exempt from all Taxes. Since the arrangement under which such exemption is respected varies from country-to-country, the Contractor shall collaborate with the Commission to achieve Tax exemption at source or to pursue reimbursement of Taxes paid by the Commission, as the case may be.

26. TERMINATION

The Commission may terminate the Contract in whole or in part, and at any time, upon thirty (30) days' notice of termination to the Contractor. In the event such termination is not caused by the Contractor's negligence or fault, the Commission shall be liable to the Contractor for payment in respect of Services already satisfactory accomplished or Goods delivered and accepted and in conformity with the terms of the Contract, for necessary terminal expenses of the Contractor, and for the cost of such urgent work as is essential and as the Contractor is asked by the Commission to complete. The Contractor shall keep expenses at a minimum and shall not undertake any forward commitment from the date of receipt of the Commission's notice of termination.

27. GOODS

In the event that the Contract requires the Contractor to supply Goods, Clauses 28-35 shall apply in addition to the above.

28. WARRANTY

(a) The Contractor warrants that the Goods, including packaging, conform to the specifications for the Goods ordered under the Contract and are fit for the purpose for which such Goods are ordinarily used and for purposes expressly made known to the Contractor by the Commission, and are new and free from defects in design, workmanship and materials.
(b) This warranty shall remain valid for twenty-four (24) months after the Goods or any part thereof have been delivered and accepted, whichever is later, unless the Contractor has granted a longer period. Should the Commission transfer the title of the Goods to a third party during the warranty period, the right to enjoy the warranty shall be transferable to the new title-holder.
(c) If, during the warranty period mentioned in sub-clause (b) above, the Goods or any part thereof are found to be defective or not in conformity with the specifications under the Contract, the Contractor shall, upon notification, promptly and at its own expense correct all such defects and non-conformities. If these defects and non-conformities cannot be corrected, the Commission shall have the right, at the Contractor's expense, to either demand replacement of the defective item, or receive appropriate reimbursement, or have the defective item repaired or otherwise procured from a third party.

29. INSPECTIONS AND TESTS

(a) The Commission shall have the right to inspect and/or to test the Goods to confirm their conformity to the technical specifications. The technical specifications shall specify what inspections and tests the Commission requires.
(b) The inspections and tests may be conducted on the premises of the Contractor or its subcontractor(s), at a point of delivery designated by the Commission and/or at the Goods' final destination. The Contractor shall give all reasonable facilities and assistance-including drawings and production data-to the Commission at no charge to the Commission.
(c) Should any inspected or tested Goods fail to conform to the technical specifications, the Commission reserves the right to reject them and the Contractor shall either replace the rejected Goods or make all alterations necessary to meet specification requirements free of cost to the Commission.
(d) The Commission's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival at the point of delivery designated by the Commission or at the Commission's offices, shall in no way be limited or waived by reason of the Goods' having previously been inspected, tested and passed by the Commission.
(e) Nothing in this Section on Inspections and Tests shall in any way release the Contractor from any warranty or other obligations under the Contract.
(f) All equipment/material supplied under the Contract may be subject to pre-shipment inspection by a third party to be specified by the Commission. The Contractor is not liable for cost of this inspection.

30. PACKING

The Contractor shall comply or ensure compliance with the following provisions concerning packing:

(a) The Goods shall be packed as is required to prevent their damage or deterioration during transit to their final destination. The packing shall be sufficient to withstand, without limitation, rough handling during transit.
(b) In the case of a cross-border shipment, the Goods shall have appropriate export packing. If necessary, all cases/crates must be wrapped inside with heavy-duty plastic lined paper, should be steel-strapped and must be able to withstand tough handling. Skids for truck handling are imperative if the gross weight is more than 30 kilograms.
(c) The consignment shall be marked and shipped as per address shown on the Purchase Order Form.
(d) Neither partial delivery nor transhipment shall be made unless specifically agreed by the Commission in writing.
(e) Each case/crate/package shall carry a consecutive number, dimensions, volume, and weight (i.e. Case No. X of Y cases, A x B x C cm, E m3, D Kg.) and shall be marked as follows:

EQUIPMENT FOR
THE PREPARATORY COMMISSION FOR THE
COMPREHENSIVE NUCLEAR-TEST-BAN
TREATY ORGANIZATION.
[point of delivery]

PURCHASE NO._____
GROSS WEIGHT _____
NET WEIGHT _____

(f) Markings shall be done with weatherproof materials. All non-containerized Goods shall be shipped below deck.
(g) Each case/crate/carton shall carry (outside) a copy of the packing list describing the contents of the case/crate/carton. Outside Case No. 1 should be attached with invoice covering the actual delivery. The accompanying papers must be made out in the English language.
(h) Prior to delivery, a fax (or a letter by courier service) shall be sent to the consignee, if any, advising of the following:
- purchase order/Contract number;
- waybill number or equivalent reference number of the shipment (if any);
- number of boxes/cartons/crates/etc.;
- estimated time of departure (ETD);
- point of departure and name of freight carrier;
- estimated time of arrival (ETA) to final destination.

(i) The following documents shall be enclosed with the shipment in case of shipping by air:
- airway bill;
- proforma or commercial invoice;
- packing list.

(j) The above documents are indispensable and must reach the consignee, if any, on time to permit customs clearance and in order to avoid demurrage charges.

31. DELIVERY AND TRANSPORTATION

(a) Delivery of the Goods shall be made by the Contractor in accordance with the terms specified in the Contract, and the Goods shall remain at the risk of the Contractor until delivery has been completed.
(b) Transport of the Goods to the port of discharge or such other point in the country of destination and/or forwarding to the consignee, if any, (door-to-door) specified in the Contract shall be arranged and paid for by the Contractor and the cost thereof shall be included in the Contract Price.

32. TAKE-OVER/HAND-OVER

Upon successful completion of delivery or of installation and a testing and evaluation period, as specified in the Contract, responsibility for the Goods will be handed over to the consignee or other designated entity.

33. EXPORT LICENCES

If an export licence or any other governmental authorization is required for the Goods, it shall be the obligation of the Contractor to obtain such licence or governmental authorization. In the event of failure to obtain such licence or authorization within reasonable time, the Commission may declare the Contract null and void.

34. SPARE PARTS

In accordance with the Contract, the Contractor may be required to provide any or all of the following materials and notifications pertaining to spare parts manufactured and/or distributed by the Contractor:

(a) Such spare parts as the Commission may choose to purchase from the Contractor, provided that the Contractor is not relieved of any warranty obligations under the Contract;
(b) In the event of termination of production of the spare after delivery of the Goods:
  (i) advance notification to the Commission of the pending termination, in sufficient time to permit the Commission to place a final order;
  (ii) following such termination, furnishing at no cost to the Commission, the blueprints, drawings and specifications of the spare parts, if and when requested.

35. UNITED NATIONS CONVENTION ON CONTRACTS FOR THE INTERNATIONAL SALE OF GOODS

Questions concerning matters arising under the Contract, but not settled in it, shall be settled in conformity with the United Nations Convention on Contracts for the International Sale of Goods (Vienna, 1980), which shall be applicable to the Contract. The applicable language version of the Convention shall be the version in which the Contract is written.

36. SUSTAINABLE BUSINESS PRACTICES

The Commission requires the Contractor and its personnel to:
(a) support and respect the protection of internationally proclaimed human rights[1] and to observe the highest standards of ethics and integrity throughout its supply chains.
(b) abide by the United Nations Supplier Code of Conduct[2].
(c) to take appropriate steps, whenever possible to perform its obligations in a manner that takes into account economic, environmental and social considerations.
(d) certify that they have not and will not engage in harassment or sexual harassment, proscribed practices or any further practice described in Clauses 37, 38, 39, 40

[1] UN Guiding Principles on Business and Human Rights, available at https://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf.

[2] Available at https://www.un.org/Depts/ptd/about-us/un-supplier-code-conduct.

and 41, during the procurement process and the performance of the Contract.

37. PREVENTION OF HARRASSMENT AND SEXUAL HARRASSMENT

(a) The Commission is committed to providing a professional work environment that upholds the highest standards of equality, respect and dignity for all. In this regard, and without limitation to any other provision contained herein:
   (i) The Contractor shall adhere to zero tolerance for harassment and therefore accepts and agrees to refrain from any conduct which could, in the view of the Commission, meet the definition of harassment and/or sexual harassment. For the avoidance of doubt, "harassment" shall be understood as any improper or unwelcome conduct that might reasonably be expected or be perceived to cause offence or humiliation to another person when such conduct interferes with work, is made a condition of employment, or creates an intimidating, hostile or offensive work environment. "Sexual harassment" shall be understood as harassment of a sexual nature, and the above definition of harassment applies equally to sexual harassment. Sexual harassment may occur between persons of opposite sex or of the same sex.
   (ii) The Contractor shall take all reasonable and appropriate measures to prevent and deter harassment and sexual harassment or abuse of anyone by its employees, agents, officials or any other persons engaged or controlled by the Contractor to perform the Services.
   (iii) The Contractor shall promptly report to the Commission any actual, reported or suspected cases of harassment, sexual harassment or abuse of anyone by its employees, agents, officials or any other persons engaged or controlled by the Contractor to perform the Services of which the Contractor becomes aware. Such reports to the Commission may be on a no name basis, if necessary.
   (iv) In addition to notifying the Commission pursuant to sub-clause (iii) above, on becoming aware of any allegation of harassment, sexual harassment or abuse of anyone, the Contractor shall take all reasonable and appropriate measures to address the matter, including engaging in good faith consultations with the Commission, while ensuring minimum impact and/or disruption of the Services.

(b) The Contractor acknowledges and agrees that any breach of the provisions of this Clause 37, as determined by the Commission, shall permit the Commission, at its sole discretion, to:
   (i) Request the Contractor to remove, temporarily or permanently, from the relevant assignment, any Contractor's personnel reported for having committed harassment, sexual harassment or abuse of anyone.
   (ii) Terminate the Contract, and/or any other agreement, arrangement or partnership concluded by the Commission with the Contractor, immediately upon written notice to the Contractor, without any liability for termination charges or any other liability of any kind, on the terms and conditions as are provided for in Clause 26 (Termination) above; and/or
   (iii) Exclude the Contractor from participating in any ongoing or future solicitations, and/or entering into any future contractual or collaborative relationships with the Commission and/or suspend the Contractor from the Commissions supplier roster.

(c) The Commission shall be entitled to report any breach of the provisions of this Clause 37, as determined by the Commission, to the Commission's governing bodies, other UN agencies and/or donors.

38. PROSCRIBED PRACTICES

The Commission requires that the Contractor and its personnel certify that they have not and will not engage in proscribed practices and proscribed conduct during the procurement process and the performance of the Contract. The Commission defines Proscribed Practices as follows:

Fraudulent practice: is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;

Corrupt practice is the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;

Coercive practice is the impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of any party in order to influence the actions of that party;

Collusive practice is the proposing or entering into an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party**;**

Unethical practice is conduct or behaviour that is contrary to the conflict of interest, gifts and hospitality, post-employment provisions or other published requirements of doing business with the Commission;

Obstructive practice is any act which deliberately and in an effort to compromise an investigation, destroys, falsifies, alters or conceals information or documents that may be relevant to a fraud and corruption investigation, or material that could become evidence as a result of such investigation; or the making of false statements to investigators during such an investigation.

39. CHILD LABOUR

The Contractor represents and warrants that neither it, its parent entities (if any), nor any of the Contractor's subsidiary or affiliated entities (if any) is engaged in any practice inconsistent with the rights set forth in the Convention on the Rights of the Child, including Article 32 thereof, which, inter alia, requires that a child shall be

protected from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development.

40. MINES

The Contractor represents and warrants that neither it, its parent entities (if any), nor any of the Contractor's subsidiaries or affiliated entities (if any) is engaged in the sale or manufacture of anti-personnel mines or components utilized in the manufacture of anti-personnel mines.

41. TERRORISM

The Contractor shall ensure that none of the funds received from the Commission under the Contract are used, directly or indirectly, to provide support to individuals or entities subject to sanctions or other measures promulgated by the United Nations Security Council and appearing in the Consolidated United Nations Security Council Sanctions List. This provision shall be included in all subcontracts or sub-agreements entered into under the Contract.

42. FULL DISCLOSURE

(a) The Contractor will immediately notify the Commission upon becoming aware of any Proscribed Practices or other prohibited practices or conduct or suspicion thereof, as per Clauses 37-41, by itself or its personnel during the procurement process or the performance of the Contract. The Contractor will take all appropriate measures to prohibit and prevent its personnel from engaging in Proscribed Practices or any other prohibited conduct, as well as to investigate allegations thereof, or to take corrective action when such a Proscribed Practice or any other prohibited conduct has occurred.

(b) The Contractor further warrants that it is not the subject of any sanctions, or otherwise identified as ineligible by any government, supranational organization (e.g., European Union), another entity of the United Nations System or multilateral development finance institution. The Contractor will disclose to the Commission if it becomes subject to any sanction or temporary suspension during the term of the Contract. The Contractor recognizes that a breach of this provision constitutes a fraudulent practice.

43. DATA PROTECTION

(a) **Use of the Commission's data:** Use (including accessing, processing, retention, storage) of the Commission's data is limited to the purposes contained in the Contract and such use will be limited to Contractor's personnel on a "need to know" basis. Use of the Commission's data for internal research, marketing, sales, or promotional purposes is strictly prohibited. Subject to Clause 12 (Confidentiality), the Contractor will treat the Commission's data as confidential and may neither disclose it nor make it available to any third-party except with the prior written authorization of the Commission.

(b) **Compliance:** The Contractor confirms that it has a data protection policy in place that meets applicable legal requirements and that it will apply such a policy to the Commission's data, without prejudice to the privileges and immunities of the Commission. The Contractor will implement technical and organisational measures to ensure appropriate protection of the Commission's data, in conformity with the abovementioned requirements and internationally recognised standards and best practices. In addition, the Contractor will:
   (i) at its sole expense and risk, return, delete, or destroy all the Commission's data, including data backups, upon written instruction of the Commission. The Commission will provide a reasonable period of time and take into account the Contractor's legitimate interests, as well as the termination or expiration date of the Contract;
   (ii) process, retain or store the Commission's data exclusively in countries that are signatories to the Comprehensive Nuclear-Test-Ban Treaty and that ensure adequate legal protection of the Commission's privileges and immunities; and
   (iii) be liable for any resulting damages or penalties for its failure to comply with its obligations.

(c) **Data security:** Upon discovery of a data security breach, the Contractor will immediately notify the Commission and undertake at its sole expense to:
   (i) propose immediate remedial actions (including containment);
   (ii) implement, as directed by the Commission, all necessary damage mitigation and remedial actions;
   (iii) where applicable, as directed by the Commission, restore the Commission's and end-users' access; and
   (iv) keep the Commission informed of its progress.

(d) The Contractor, at its sole expense, will cooperate fully with any Commission investigation, remediation steps and response to a data security breach.

44. ESSENTIAL TERMS

The Contractor acknowledges and agrees that each of the provisions in Clauses 36 to 43 above constitutes an essential term of the Contract and that any breach of any of these provisions shall entitle the Commission to terminate the Contract or any other contract the Contractor has with the Commission, immediately upon notice to the Contractor, without any liability for termination charges or any other liability of any kind. Furthermore, the Commission is entitled to exclude the Contractor from participating in future tenders should the Contractor breach any of the provisions included in Clauses 36 to 43.

ANNEX B

TERMS OF REFERENCE

DEPLOYABLE VIDEO SURVEILLANCE AND SECURITY SYSTEM FOR THE BASE OF OPERATIONS AND IN FIELD EQUIPMENT

1. INTRODUCTION

The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization with its headquarters in Vienna (hereinafter referred to as "the Commission") is the international organization mandated to establish the global verification system foreseen under the Comprehensive Nuclear-Test-Ban Treaty (CTBT), which is the Treaty banning any nuclear weapon test explosion or any other nuclear explosions. The Treaty provides for a global verification regime, including a network of 321 stations worldwide, a communication system, an International Data Centre and On-Site Inspections (OSI) to monitor compliance with the Treaty.

The Commission outlines here the Terms of Reference (ToR) that the Contractor shall use as a basis for the delivery of an integrated system required to provide video surveillance, access control and physical security of the OSI Base of Operations (BOO) and for monitoring equipment deployed to the field during OSIs after entry into force of the CTBT (hereinafter referred to as the "Security System" and/or the "System").

2. BACKGROUND

After entry into force of the CTBT, OSIs might be carried out in various environmental conditions and locations worldwide with a maximum duration of up to 130 days in the field. Security of Inspection Team (IT) members and of equipment used, as well as of data gathered, is essential for the success of any OSI.

The primary aim of any security measures applied by the IT are surveillance, prevention, documentation and alert. In special cases, security information or even limited surveillance information may be relayed back by the IT to the OSI Operations Support Centre located in Vienna. The IT has highly limited manpower (max. 40 IT members being present within the territory of the inspected State Party at any point in time of the inspection); therefore, the Security System must be adaptable and deployable with the minimum installation and maintenance requirements and autonomous operation.

The OSI BOO may consist of a deployable softshell (tent) infrastructure owned and deployed by the Commission such as illustrated in Figure 1; however, such infrastructure should always be adapted to the available infrastructure and support provided by the Inspected State Party (ISP) on site. In any case, all IT members and authorized personnel will be issued with

radio-frequency-identification (RFID) based identity cards for controlling access to the BOO or parts thereof.

Figure 1 Typical BOO arrangement from previous field exercise

During an OSI the IT will deploy various radiation, geophysical, sampling and measurement systems within an area of no more than 1000 km^2 around or in the vicinity of the BOO. The Security System shall therefore include a capability for remote monitoring to ensure the integrity of unattended assets, measurements, or operations being conducted. The Commission owns a proprietary telemetry system that could provide Long Term Evolution (LTE) or Local Area Network (LAN) to the BOO.

The Security System shall be capable of rapid air mobilisation to remote sites with a wide envelope of potential environments. It shall be suitable for transport and operation in an environmentally controlled container (unit load device, ULD; Figure 2) to be made available by the Commission. No items shall be proposed that will not fit within these dimensions.

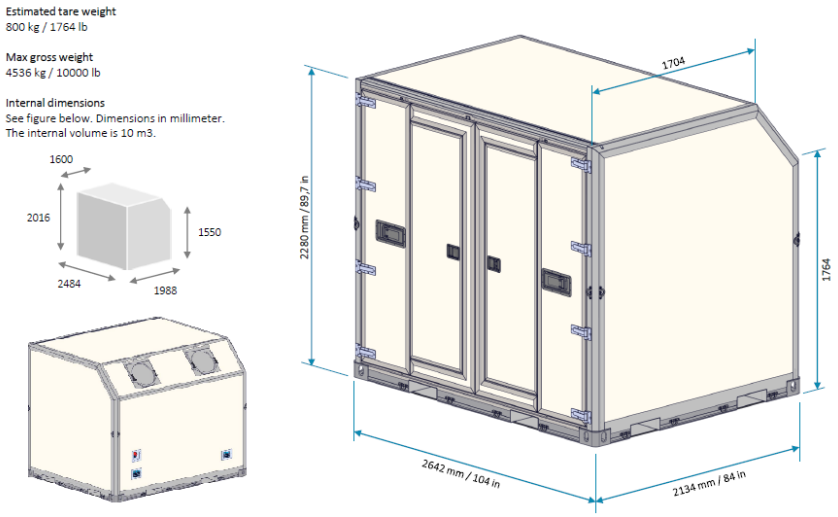

Figure 2 Aircraft ULD container for system transport and master equipment cabinet installation

Note that the Treaty has not yet entered into force and the procurement of the Security System will be at a demonstration level. Therefore, the Contractor is expected to keep and

propose only minimum system components and number of equipment items that are required to allow proof of concept. As an expansion and further upgrades to the Security System may be considered in the future, this possibility needs to be considered in the design. For instance, technologies and components shall be selected, wherever possible, that will not become obsolete; modular expansions shall be possible without significant system redesign; and Contractors/manufacturers shall have a track record of a worldwide support. There shall be no technologies included that are export controlled and would preclude mobilising to field events in any state signatory to the organization.

3. SCOPE OF WORK

The Contractor shall provide an integrated, modular, fully deployable and adaptive system to provide adequate protection for IT members, inspection equipment and data/samples collected during an OSI. This project shall be executed in 2 phases:

- Phase I – Consultation
- Phase II – Delivery

To help the bidders to better understand the scope of this project, a summary of requirements reflecting the current concept and draft specifications of a Security System is provided in Section 4 of this ToR.

It shall be noted that the final acceptance, testing and training will be conducted at the Commission's TeST Centre in Seibersdorf near Vienna, Austria, where the Commission has its Equipment Maintenance and Storage Facility (ESMF).

3.1. Phase I – Consultation

During Phase I, the Contractor shall perform a detailed consultation to review the current design and specifications of the Security System and confirm, or improve with the most current technology, if applicable. The Contractor shall advise the Commission on potential options of improvements in line with the requirements and constraints of an OSI. If necessary, an improved finalized design of the Security System in line with OSI requirements shall be agreed upon by the Commission. A copy of the design and specifications of the Security System is available upon request.

The consultation process shall be executed in the most cost-effective manners, primarily via video and tele-conferences and e-mail. However, an initial on-site consultation at the Commission's headquarters in the Vienna International Centre (VIC) and at the TeST Centre in Seibersdorf by the Contractor is optional for information gathering and discussion of specific requirements.

3.1.1. Phase I Deliverables

Phase I shall result in the following deliverables:

A. A finalized design and architecture of the proposed Security System

B. An itemized cost-break down of proposed Security System

C. Description of user requirements as well as a detailed description of modularity, flexible usability, level of integration and interdependencies of all major system components.

The delivery of Phase I shall be presented within 6 (six) weeks after signing of the Contract and will serve as a part of the detailed Terms of Reference for Phase II of this Contract.

3.2. Phase II – Delivery

Phase II results in the actual delivery of the Security System to the Commission's premises within 6 (six) months after signing of the Contract. During this period, a full factory acceptance test shall be performed and documented by the Contractor at their premises, verifying aspects such as power, communication bandwidth and storage budgets, and the Commission offered the opportunity to review the test plan and witness the acceptance testing. The format and timing of this test shall be agreed with the Commission's designated point of contact.

3.2.1. Phase II Deliverables

Phase II shall result in the following deliverables:

A. The Contractor shall deliver a fully integrated, modular Security System for deployment and flexible use at the BOO and at locations in the field where the IT is operating.

B. Deliver a presentation and review of prototype capability, and operator manuals.

C. Conduct an initial set-up, configuration and site-test upon delivery on-site at the Commission's TeST Centre, Seibersdorf, Austria.

D. Deliver a technical and operator training on-site at the Commission's TeST Centre (Approximately 2-8 persons to be trained as operators).

E. Following the initial test acceptance, and provided no other immediate requirement for the equipment, the Security System will be left to run for the full 130 consecutive days' operational requirement. The Contractor shall provide any remote technical support and shall replace or upgrade any feature of the System that does not meet the Commission's requirement during this period.

4. REQUIREMENTS OF THE SECURITY SYSTEM

Note: System requirements outlined in this chapter 4 reflect the current concept and draft design of a security system for OSI and are subject to discussion and modification, if any, during Phase I of this project.

4.1 Functions

- Perimeter security of the Base of Operations (BOO);
- Personal identification and surveillance of movements around, and controlled access to sensitive areas within BOO;

- Surveillance of high value assets deployed to the field or monitoring of unattended activities or events in identified areas of interest;
- Central control with networked access for supervision, control and alarm response to both local inspection team and Operational Support Centre (OSC) (in Vienna) operators;
- Secured (local) recording and data storage for up to 130 days.

4.2 Main operational requirements

- Modularized for rapid deployment with clearly defined and identified assembly and interconnections, quick start guides and pre-configured default templates;
- Scalable and adaptable to easily adopt to available infrastructure and requirements;
- Transportable within standard containerized solutions (see Figure 2) under IATA DGR 63rdedition regulations with no items causing exceptions due to excess dimensions, hazardous goods, export control, stringent environmental or handling requirements;
- Individual items to be packed within ruggedized transport cases with custom foam inserts to maximize protection (for example Zarges K470 product line, or Pelican cases or similar) and compact modular storage – any exceptions to be itemized and justified e.g. supplied in custom Pelicase, with no item exceeding 50kg for a two man lift without being noted as an exception;
- Suitable for deployment and operation in widest possible range of remote and extreme environmental conditions with all outdoor components suitably ingress protected and braced or stable enough to sustain high winds;
- Compatible with the Commission's Global Communication Network, based around in-field proprietary 4G LTE Band 20 network and global VSAT communication;
- Capacity for 130 days continuous operation with minimal maintenance;
- Capable of accessing status, viewing video and images, generating and managing alarms to mobile Android smartphones and tablet devices;
- All field deployed enclosures should be tamper protected, and any item should generate an alarm where forced opening, loss of data communications or loss of power is detected;
- Capable of working on self-contained networks without needing any online licensing, subscription, updating, verification, cloud storage, processing or analytics.

4.3 Sub System Requirements

4.3.1 BOO Perimeter & Sensitive Area Surveillance

The perimeter and sensitive area systems shall be integrated. Due to deployable weight and volume limitations, this requirement will be fulfilled by the following components:

- Two perimeter mast systems housing five cameras each (Figure 3). Each mast will have two fixed orientation cameras configured for near field monitoring, two fixed cameras configured for far field monitoring and one pan, tilt and zoom camera that

can monitor gaps in coverage around the mast and be directed to alarm events detected by other aspects of the system, or manually targeted.

- Two in-camp mast systems housing three cameras each (Figure 4). These would be fixed orientation cameras with adjustable focus to appropriately cover access points to sensitive areas of the complex. These masts should be 5-6m in height to give flexibility of positioning with viewing angles over tent and other in base equipment.
- Four additional cameras. These should be provided as spares for the cameras detailed above, but would also allow ad-hoc installation to cover gaps in capability, to select the sensitive area camera types based on the layout of the BOO, and to further stress test the complete security system package.

Figure 3 Perimeter Surveillance

At each cluster, which should support the addition of one of the spare cameras in terms of power, communication and storage budgets, the camera system will be provided with single phase AC power. The system shall be able to run at 110-240 V AC at 50 or 60 Hz to allow supply from any local system, if provided, or from the Commission's power generation and distribution system if operating in isolation. Each cluster shall be able to detect tampering or loss of input power to generate an alarm event within the system.

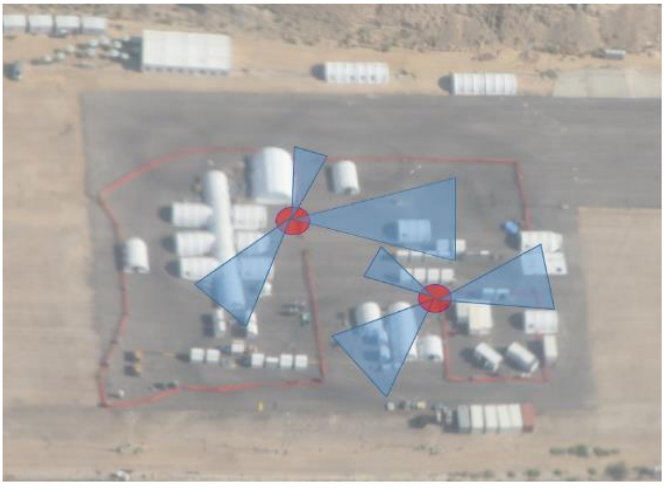

Figure 4 Sensitive Area Surveillance

Video shall be encrypted to prevent tampering or eavesdropping and must be recorded in parallel at each camera cluster (mast) or at each individual camera for a minimum of twelve

hours in case of loss of power and or communications with the master control unit. Each cluster shall have sufficient battery backup power for this length of time. Preferably, analytics shall continue at each camera or cluster during any period of outage so that alarm events can retrospectively been assessed.

Cameras must operate over cabled connection (with no wireless data communication in the BOO). Cat 7 wiring will be presumed within each cluster and fiber optic links from each cluster to the central control station.

The following table provides the detail of the quantity and type of cameras estimated for this capability. Significant variation from this specification should be justified with examples of previous successful installations.

Purpose	Specification	Quantity	Spare
Perimeter – near field fixed	3-9mm bullet, 3MP, 50m IR illumination, day/night camera, low mounted for near mast coverage	4	1
Perimeter – far field fixed	9-22mm bullet, 3MP, 150m IR illumination, day/night camera, high mounted for far mast coverage	4	1
Perimeter – PTZ	4-130mm, 30x zoom, 200m IR illumination	2	-
Sensitive Area – near field fixed	3-9mm bullet, 3MP, 50m IR illumination, day/night camera, low mounted for near mast coverage	4	1
Sensitive Area – far field fixed	9-22mm bullet, 3MP, 150m IR illumination, day/night camera, high mounted for far mast coverage	2	1

Table 1 Camera Specifications

Both types of camera cluster shall be priced at an item level as an expansion may be required by the Commission at either Phase I clarification or following the installation and evaluation.

4.3.2 Sensitive Area Access Control

Personnel movements around sensitive areas at the BOO need to be monitored and alerts must occur where unauthorized access or activity take place. Due to the potential nature of the BOO being a tented camp, access will be on a 'trust and monitor' basis rather than physical locks or barriers. Access control shall be supplied on this basis.

Security installations for six access control points shall be provided under this Contract. For authorized access, a person would have a card reader acknowledge their tag/badge and alarms of passive infrared (PIR) detectors at the access points would be disabled for a short period of time to allow access. For authorized exit, a person would be detected by PIR detector at the

inside of the access point and the outdoor PIR would have alarms deactivated accordingly. In case of unauthorized access, the outdoor PIR would detect a person without an authorized ID and issue an alarm.

Each of the six access control points shall be equipped with the following:

- one pole/tripod to host card reader and electronics suitable for mounting on rough ground;
- one card reader;
- two short range PIR devices;
- one enclosure with PSU/battery, tamper alarm, electronic module, and Ethernet communications to the central control station, or nearest camera cluster;
- all necessary cabling and attachments.

The units shall run from single phase power 110-240 V AC power at 50 or 60 Hz as available and be capable of running for 24 hours on battery without power.

The electronic modules shall be capable of supporting physical locks and push to exit buttons should these be determined necessary in future. To verify this, the sixth system shall be supplied with magnetic locks and exit button with the intention that it could be fitted to the ULD container housing the security system once procured.

4.3.3 Field Deployable Surveillance

The Commission will deploy unattended measurement systems in the field during the conduct of an OSI. To assist in the protection of these high value assets, to monitor the integrity of the deployment and to evaluate any local activity that might be responsible for measurements at these stations, the Commission wishes to have some field deployable security units available.

For the initial order and evaluation, the Contractor shall supply three surveillance kits. Each kit should comprise the following:

- one camera tripod capable of supporting up to four cameras;
- one fixed and one PTZ cameras with day/night functionality and IR near field illumination as described in the table below;
- audio recording at least at one camera;
- industrial network video recording (NVR) supporting expansion up to four cameras, with high ruggedness and wide analytics capability for alarm event notification;
- 4G LTE Band 20 modem and Cat 7 Ethernet connection (to Motorola VML750 modem where existing as part of asset under surveillance).
- alarm notification and response capability to Android 6 devices;
- enclosure(s) with tamper and environmental protection for electronic and battery components;
- battery supply for 24 hours operation;
- solar charging capability with capacity to recharge within 8 hours;

- 14 days recording capacity for 2 cameras, 7 days recording capacity for 4 cameras at full resolution and frame rate;
- 2nd lower capacity data stream for transmission over the LTE network on demand;
- all mechanical attachments, fasteners, antennae and cables.

The system must be a rugged design to survive extremes of temperature, precipitation and high winds. All cables and connectors must be suitably robust and ingress protected.

The system shall be able to integrate alarm notifications with the central control station and be monitored and configured from the master control location. Video shall be encrypted to prevent tampering or eavesdropping.

Purpose	**Specification**	**Quantity**	**Spare**
Asset Protection	3-9mm bullet, 3MP, 50m IR illumination, day/night camera, low mounted for near mast coverage	3	-
Asset / Area protection	4-130mm, 2MP, 30x zoom, 200m IR illumination, day/night camera	3	-

4.3.4 Central Control Station

The Commission will arrange for a ULD container to be provided for the Security System. Once unpacked of field installable components, the container will house the central control and configuration station for the System. As shown in Figure 2 above, the container will be designed to have vents for heating and air conditioning, single and three phase power and bulkhead cable entry systems. The ULD should provide an environment in the range 10-25C.

The Central Control Station to be supplied shall consist of:

- Uninterruptable power supply with battery backup;
- Video recording;
- Networking, cable management and marshaling;
- Operator console for system configuration, camera control, video review, analytics and alarm response;
- All necessary interconnections within the ULD;
- Armoured fiber and Ethernet cables to the remote outposts.

In addition, a card reader or other necessary equipment including 100 cards or tags shall be supplied for card issue and management.

The central control station shall be broken down into a number of stackable 19” rack transport cases such that no individual case exceeds a gross 50kg two man lift. The breakdown shall be based on logical separation – UPS and battery; master processor and NVR; cable marshaling and network aggregation.

The UPS shall be able to run the system for one hour without external power. Loss of power should generate an alarm within the system.

Video recording shall be sufficient to record all cameras for 130 days in high quality at full frame rate. The Contractor shall be able to justify compression efficiencies and storage requirements from previous experience of monitoring perimeter systems and controlled access points. Storage must use redundant disk arrays to ensure no data loss from a single disk failure.

The system shall allow for a 50% expansion without significant redesign or additional components, although disk storage will only be purchased to satisfy the current supply criteria at this time.

The cable and network marshaling shall allow for both fiber optic and CAT 7 Ethernet cabling. There shall be sufficient ports for four additional connections to the Commission's other systems, 4G in-field mobile network, GCI VSAT system, and BOO office connections.

The central control station shall have the facility to:

- enroll users with differing control and access privileges and issue cards or tags;
- modify the configuration of cameras, recording parameters, overlay components;
- control the PTZ cameras either on full manual control, configured set points, alarm response or roaming patterns;
- adjust zoom and focus of fixed orientation camera;
- distribute alarms by email or text message to configured users and groups of users;
- manage video stream quality for remote access devices with low bandwidth with either live streaming or recorded video;
- control physical audio or visual indicators;
- provide access to mobile Android devices;
- allow masking of private or sensitive areas from streaming and recording.

In addition, the central control station shall have the facility to integrate with the remote field security systems, record all alarms, alarm on loss of control to the system and download video associated with each alarm.

The system software shall also have considerable analytic capability, applied at either the central control station or inbuilt to camera for assistance in review and replay. Such features shall include detection of:

- movements within an area;
- people within an area;
- loitering within an area;
- unusual flow of movement;
- object removal from area;

- object addition to an area;
- loud audio.

It shall be specified within the documentation what the licensing nature of the software is, what license terms would be for further expansion, and what features are additional priced options. The Commission would prefer a single purchase option over regular subscription models.

5. DOCUMENTATION

The Contractor shall supply a project specific CTBTO system user manual in English with delivery of the system in Phase 2, related to the configuration as supplied and tested. This manual shall be supplied in draft format to allow changes to be made during the system acceptance and training to reflect any reconfigurations, corrections or omissions noted, and subsequently issued as a final document.

Appendices to this manual shall include detailed documentation (installation, user and maintenance manuals) of all individual system components, including any applicable certification of conformity, country of origin certificates, Material Safety Data Sheets, software license certificates, etc as supplied with the components.

In case of open source and custom software development, all related documentation including source code shall also be provided.

6. TRAINING REQUIREMENTS

The Contractor shall offer to provide on-site initial setup and training in English of the full System in the premises of the Commission. The installation, training and configuration of the System shall not exceed 1 working week. All costs associated with the required training and installation activities shall be included in the priced bid as a separate line item.

The Commission’s facility at Seibersdorf, Austria has all necessary classroom facilities, suitable secure storage and installation space, tools and test equipment, manual handling equipment, etc, to facilitate such instruction, though it is recommended that the Contractor liaise with the designated point of contact prior to arrival, to clarify requirements.

It should be expected that between 3 and 8 people would attend, a lower number for technical and installation purposes and the higher number only for final training purposes. Additional temporary training licenses or dongles shall be supplied for this, if required The Commission would require recording some of these activities for subsequent reference and training.

It will then be the Commission’s intention to run the System for the full 130 day requirement, with the Contractor required to upgrade or redesign any component that fails to match required performance.

7. QUALITY OF DELIVERABLES AND CONTRACTOR ASSURANCES

The Contractor shall ensure that all equipment is compliant with the applicable safety standards and all associated services performed in a highly professional and safe manner meeting with all the timelines and special requirements listed in these TOR. The Contractor shall provide adequate assurance on its overall ability to meet all the requirements and it is properly prepared, experienced and certified to supply and perform the required systems and activities of this ToR. (For example, previous experience in similar projects completed, certifications of quality management conformity, case studies, examples of previous companies worked with etc.) The Contractor shall have a minimum of 5 years' experience in the delivery of static or mobile security systems for areas including access control, and perimeter security.

8. SUPPORT REQUIREMENTS

Full technical support is required during acceptance testing and for a minimum of 12 months after the full delivery of the System. During that period, the System will be run as an operational system for 130 days, and any rectifications will be performed. An optional extension for technical support for an additional period of 24 months shall also be quoted.

9. DELIVERY TERMS AND WORK SCHEDULE

Delivery of all Phase 1 deliverables shall be completed within 6 (six) weeks after signing of the Contract.

Delivery of the Security System indicated in Phase 2 to the premises of the Commission shall be completed within 6 (six) months after signing of the Contract. This period will be followed by an acceptance test by the Commission and subsequent training to be provided by the Contractor at the Commission's ESMF. Following the initial test acceptance, and provided no other immediate requirement for the equipment, the System will be left to run for the full 130 days operational requirement to finalize user acceptance testing. The Contractor shall be expected to replace or upgrade any feature of the System that does not meet the Commission's requirements during this period.

The Contractor shall offer a warranty period of two (2) years after the completion of the user acceptance testing. Longer warranty period is considered an asset. Warranty shall include complete replacement of any equipment and systems provided by the Supplier, which at any time during the warranty period, due to manufacturing faults or poor workmanship, does not meet at least one requirement of the Terms of Reference.

The Contractor shall also provide applicable certification and detailed documentation for the Security System as detailed in Section 5 in the English language, as available, both in hardcopy and in an electronic format.

After the successful configuration and testing, the Commission will issue an acceptance letter to confirm the full delivery of the System. This will be issued after the successful test of 130 days consecutive run of the System.

All equipment shall be DDU (Delivery duty unpaid, VAT paid) in-house to the CTBTO TeST Centre at the Austrian Institute of Technology, 2444 Seibersdorf, Austria, including, as applicable, packing, handling, insurance and local delivery) within the agreed delivery schedule. Access to the site and the exact timing of the delivery must be coordinated in advance with the Commission's designated point of contact..

The Commission reserves the right to monitor the work of the Contractor to ensure that it is performed properly. Any modifications to the deliverables, if requested by the Commission, shall be made within a period of not more than 15 working days.

10. OTHER CONSIDERATIONS

Services shall include all overhead costs of the Contractor required to perform the services, including but not limited to, transportation and travel of the Contractor's staff, material and other expenses and licenses, if and as applicable.

Technical Proposal of

Deployable Video Surveillance and Security System for the Base of Operations (BOO) and In Field Equipment

Contents

ABSTRACT

Base of Operations (BOO) Surveillance and Security System, which emphases on the logic of monitoring and protection, is the integration of comprehensive security surveillance application, visualized emergency control application, smart operation and maintenance management application. Our vision is to enhance the informatization of the BOO and the deployed locations. Our unique selling point is, firstly the completed integration of sub-system, and secondly the inter-connections of the architecture between control station and sub-system. The design features high portability and mobility, fulfilling the fast deployment requirement among hundreds of stations.

The surveillance and security system consists of video surveillance, access control, integrated alarm system, adopting the IoT RFID technology, passive infrared technology and image processing technology. The system design maximizes the exchange and interaction of resources and information and provides linkage mechanism strategy for emergencies. System programs interaction mechanism, which is “one-point alarms with multi-point response”. Simultaneously, two layers of the architecture, i.e., BOO and the organization headquarter, connects through the platform, achieving information sharing.

Based on the above architecture and deployment, the principle is to take overall control and monitor of the BOO via smart management platform, realizing “one-button” and unattended operation and maintenance of public security equipment and network equipment, minimizing the labor input and costs as well as securing the reliability of the system. Besides, the intelligent video analysis technology is widely applied at abnormal activities recognition, e.g., unauthorized person intrusion.

1 OVERVIEW

1.1 Background

The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization with its headquarters in Vienna (hereinafter referred to as “the Commission”) is the international organization mandated to establish the global verification system foreseen under the Comprehensive Nuclear-Test-Ban Treaty (CTBT), which is the Treaty banning any nuclear weapon test explosion or any other nuclear explosions. The Treaty provides for a global verification regime, including a network of 337 stations worldwide, a communication system, an International Data Centre and On-Site Inspections (OSI) to monitor in compliance with the Treaty. The Commission requires a surveillance system including BOO perimeter surveillance, sensitive area surveillance, field deployable surveillance and access control.

After entry into force of the CTBT, OSIs might be carried out in various environmental conditions and locations worldwide with a maximum duration of up to 130 days in the field. Security of Inspection Team (IT) members and of equipment used as well as of data gathered is essential for the success of any OSI.

The primary aim of any security measures applied by the IT is surveillance, prevention, documentation and alarm. In special cases, security information or even limited surveillance information may be relayed back by the IT to the OSI Operations Support Centre located in Vienna. The IT has highly limited manpower (max 40 IT members being present within the territory of the inspected State Party at any point in time of the inspection), therefore the Security System must be adaptable and deployable with minimum installation and maintenance requirements and autonomous operation.

During an OSI the IT will deploy various radiation, geophysical, sampling and measurement systems within an area of no more than 1000 km^2 around or in the vicinity of the BOO. The security system therefore should include a capability for

remote monitoring to ensure the integrity of unattended assets, measurements, or operations being conducted. The Commission has a proprietary telemetry system that could provide LTE or LAN to the BOO.

The security system should be capable of rapid air mobilization to remote sites with a wide envelope of potential environments. It should be suitable for transport and operation in an environmentally controlled container (unit load device, ULD; Figure 1) to be made available by the Commission. No Items should be specified that will not fit within these dimensions.

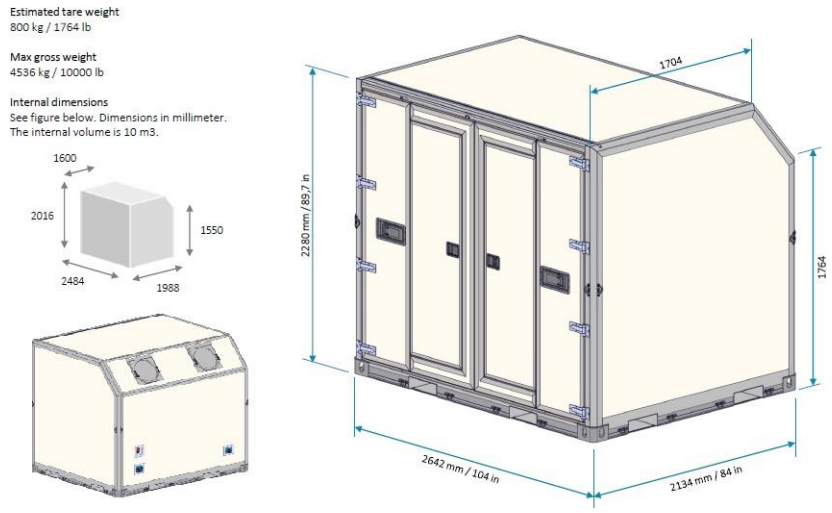

Figure 1 Aircraft ULD Container for System Transport and Master Equipment Cabinet Installation

1.2 Scope of Work

An integrated, modular, fully deployable and adaptive system that provides comprehensive protection for OSI members, equipment and data / samples during on-site inspection as the system has the following features:

- Perimeter security of the Base of Operations (BOO);
- Personal identification and surveillance of movements around, and controlled access to sensitive areas within BOO, entry/exit access control;
- Surveillance of high value assets deployed to the field or monitoring of unattended activities or events in identified areas of interest;

- Central control with networked access for supervision, control and alarm response to both local inspection team and OSC (Vienna) operators;
- Secured (local) recording and data storage for up to 130 days;
- Rapid deployment and installation in multiple or complex environments.

1.3 Principles of the System

1.3.1 Principles

The proposal of the system complies with the following principles:

Reliability

Reliability is the most important principle of the system. Based on the conditions and environments of the BOO, we consider supplying the durable and rugged equipment for the system, which could have a great performance respectively in the long term for convenient use and guaranteeing the safety of the personnel.

Safety and Security

The system could ensure the safety and security of the personnel and the assets.

Practicality

The system could meet the requirements of the Commission with convenient use.

Applicability

The system is applicable to the environment and situation.

Cost Efficiency

Based on the strong compatibility and integration capabilities of the platform software, it can integrate and manage each subsystem on one platform, avoid the repeated software investment of redundant independent subsystems, and reduce the one-time investment of system software at the same time. Because of its high compatibility, the system could be operated on different hardware devices. The management system is

an integrated software platform, so the cost of related training, maintenance, the hardware and the following operation could be reduced greatly to improve work efficiency of the operator.

Compatibility & Extensibility

The system is compatible and extendible while the subsystems could integrate and interact with additional information inputs.

1.4 Components of the System

In response to the security requirements and the environment of BOO, the components of this system are removable, portable mobile surveillance front-end and a fixed monitoring video management system platform.

1.4.1 Deployable Video Surveillance and Security System

It contains surveillance and security systems for BOO perimeter, sensitive areas and remotely deployed field equipment.

BOO Perimeter Surveillance

It can deploy two bullet cameras with short range for near field, two bullet cameras with long range for far field and one spherical camera (PTZ), as the active video surveillance range of bullet cameras with short range for near field is 50m, the bullet cameras with long range for far field is 150m, and spherical camera (PTZ) is 200m, all cameras are IR with night vision.

Sensitive Area Surveillance

It can deploy two bullet cameras with short range for near field and one bullet camera with long range for far field, as the active video surveillance range of bullet cameras with short range for near field is 50m, and the bullet cameras with long range for far field is 150m, all cameras are IR with night vision.

Field Deployable Surveillance

It can deploy one bullet camera with short range for near field and one spherical camera (PTZ), as the active video surveillance range of bullet camera with short range for near field is 50m, and spherical camera (PTZ) is 200m, all cameras are IR with night vision. This system has 4G communication function.

1.4.2 Video Management System Platform

- Support video management function, which can monitor and play back video in real time, and can realize remote mobile viewing of video data;
- Support video analysis alarm function, the system should have functions such as alarm alert;
- Support functions of cross-screen splicing, roaming, and layer overlay, and support any signal to roam, zoom, and overlay display at any position on the entire screen;
- Support at least 8 kinds of resolution output: 1920 × 1080, 1680 × 1050, 1600 × 1200, 1400 × 1050, 1280 × 1024, 1280 × 960, 1280 × 720, 1024 × 768;
- Support visual touch terminals above 22 inches to realize the same layout of touch terminal interface and big screen;
- Support user rights management and “black and white” list function;
- Support face detection, face recognition, and “black and white” list of faces;
- Support mobile terminal to view real-time surveillance video and alarm information.

2 TECHNICAL PROPOSAL OF THE SYSTEM

2.1 Overall System Structure Design

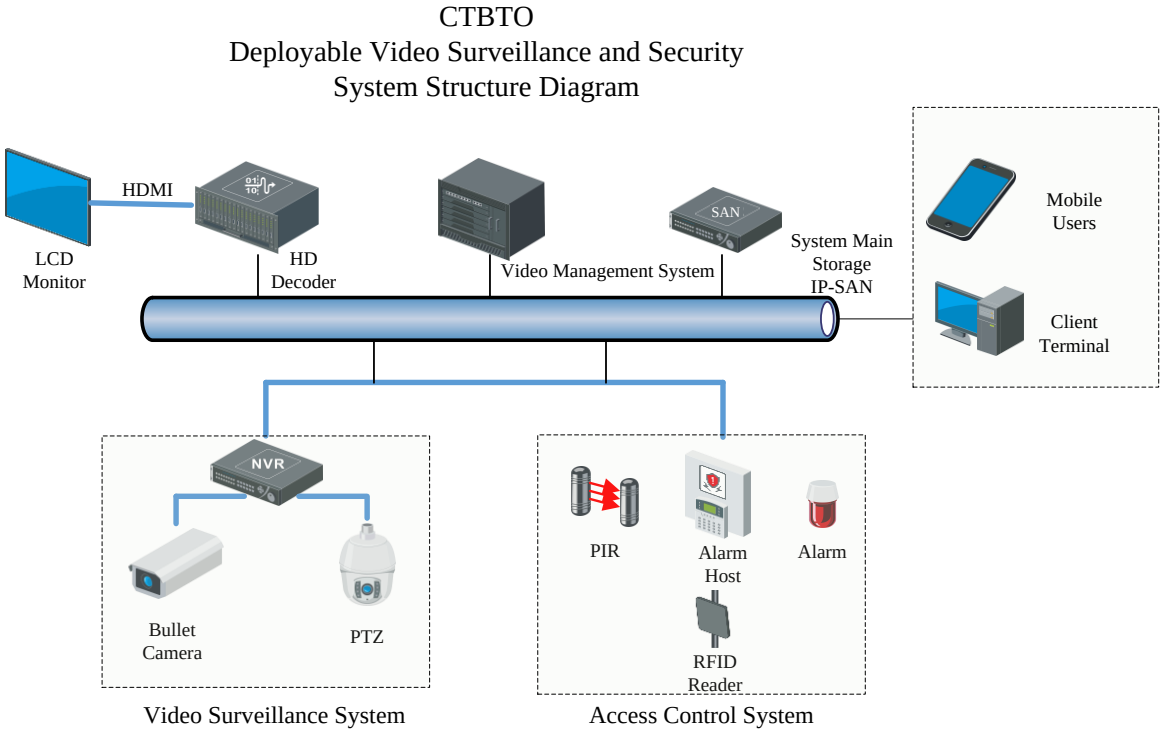

Figure 2.1 Overall System Structure Diagram

Video Surveillance and Security System for the BOO includes two parts, one is video surveillance and security system, the other is access control system. The video surveillance and security system requires portable and deployable equipment to monitor abnormal situations inside and outside the BOO; the access control system requires the combination of RFID and infrared equipment to achieve personnel access permissions.

The system applies TCP/IP architecture. Data from Video surveillance and security system and access control system via LAN and 4G LTE wireless communication private network by the Commission realizes access to central control station. The system supports video linkage of the access control and data sharing.

3 DESIGN OF DEPLOYABLE VIDEO SURVEILLANCE AND SECURITY SYSTEM

3.1 Diagram Design of the System

The video surveillance and security system, as the core of the BOO security construction of CTBTO, can perform real-time video surveillance on the designated monitoring points of the BOO that mainly refer to perimeters, sensitive areas, entry/exit etc. The live real-time images of these monitoring points can be transmitted to the BOO central control station via a dedicated video network or dedicated line.

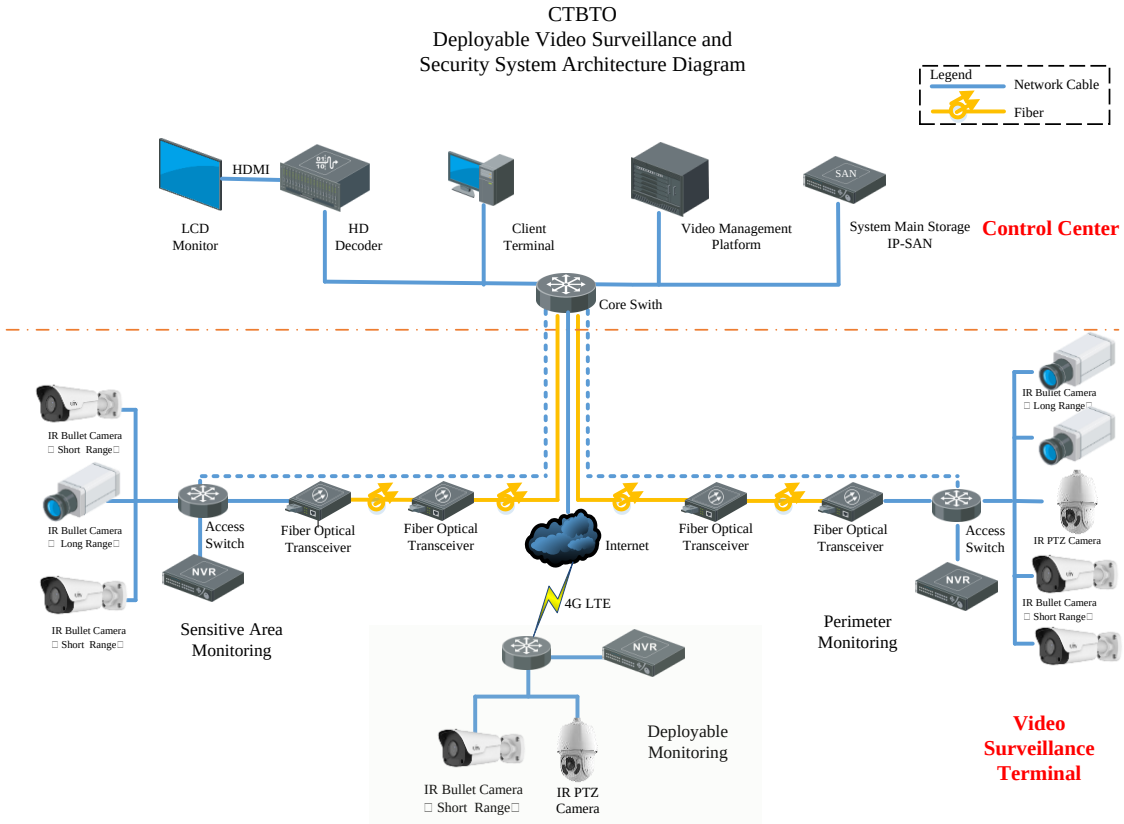

Figure 3.1 Video Surveillance and Security System Diagram

3.2 System Composition

This test system includes five parts, HD network camera (IPC), network transmission equipment, network video recording (NVR), video management system (VMS) and

monitoring and display system.

HD Network Camera

IPC is the front-end part of the system as the eye of the whole system. It converts the monitored content into image signal through the lens via the image sensor. The image signal could convert and encode through DSP and be transmitted as IP packet though the network. The proposed IPC cameras are manufactured by Zhejing Dahua Vision Technology Co., Ltd. The products feature high video resolution, clear image, better color reproduction, less noise and lower illumination, and are able to connect to remote control and debugging.

The system adopts 3 million pixels HD network cameras and is equipped with a customized mountable deployable monitoring vehicle to facilitate rapid deployment and installation.

Network Transmission Platform

In the digital monitoring system, the fiber optical cable and network cable are used as the main carriers of data transmission instead of the video cable, audio cable, alarm cable and control cable in the analog monitoring system, so the TCP/IP network is the transmission pathway connecting IPC and NVR as the vein of the whole system. It transmits the IPC signal of the front end to access layer switch through CAT7 network cable, optical fiber and its photoelectric conversion equipment, and then forward it to the network video recorder NVR via the access switch. The access switch is connected to the central control station aggregation switch through CAT7 or fiber jumper. VMS and Decoder are also connected to the aggregation switch. When the complete system needs to expand storage later, IPSAN equipment is also connected to the aggregation switch.

Network Video Recorder (NVR)

Network video recorder is the soul, which is an integrated network video surveillance

management back-end host with the functions of processing data, storage and display.

Video Management System Platform

The video management system platform with video monitoring module can manage a network video recorder (NVR), a front camera or an encoder through the network. The platform is equipped with a high-performance embedded server, which can support a large number of HD camera real-time display, PTZ control, video operation, video playback, etc.

HD Display

The display of the network video surveillance system is completed by the HD decoder. The single host supports VGA or HDMI signal output. Each signal supports multi-screen display switching, which provides the signal source to the monitor or splicing screen.

3.3 System Functions

Video Real-time Surveillance

The video surveillance system collects video image through the front-end equipment, which can be displayed on the device of the central control station through the video transmission system. Specifically, multi-screen display and loop-testing reflect the correspondence between the monitoring information and the physical location, realizing the real-time surveillance of the environment inside and outside the BOO.

Video Playback and Retrieval

It can be specified to playback in certain period, and playback the video image of any special situation in certain period.

Video Storage

The front-end video signal can be stored in the hard disk installed in NVR. The storage time can be set according to the different situation, and the D1, 720P or 1080P

resolution can be selected. The image of important surveillance points can be stored in multiple modes, important video file can be backed up as required.

Video Image Display

The video image can be displayed through the client terminal, any image can be decoded for terminal display. Each monitor can display multiple video image.

Dynamic Surveillance

The system supports cross-line detection, traffic-flow statistics and area detection.

Multi-system Linkage

Alarm linkage function is with a variety of external voltage alarm input and multi-channel relay switch alarm output. A variety of alarm mode can be adopted.

3.4 System Deployment

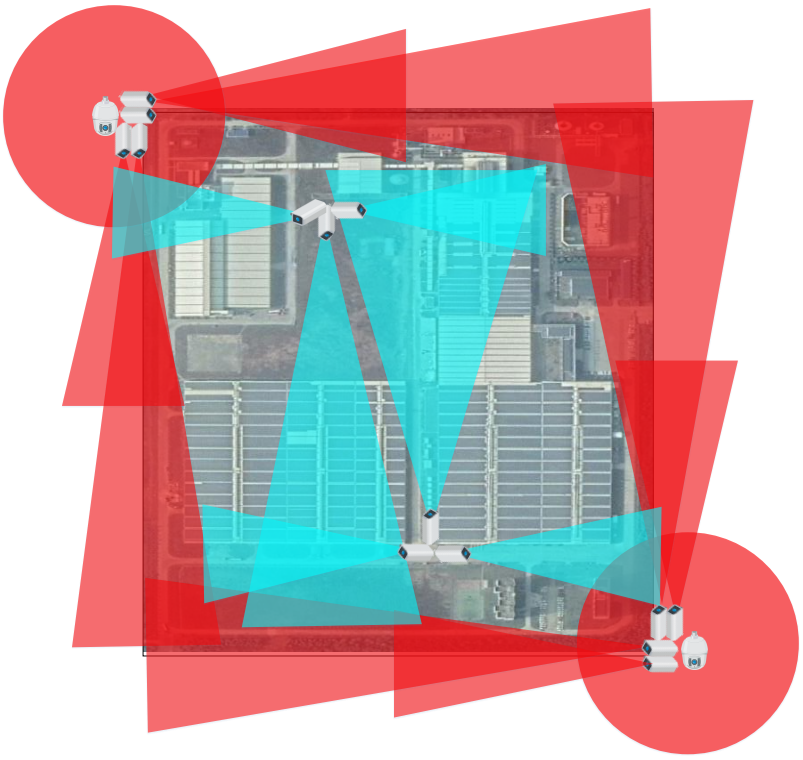

Figure 3.4 Deployment of Video Surveillance

The video surveillance system for the BOO perimeter and sensitive area is equipped

with a liftable mast carrying with HD cameras with fast deployment.

- The long-range cameras for far field monitoring, and the short-range cameras for near field. The spherical camera (PTZ) for monitoring the gap;
- These IPC are mounted on the mast;
- With day / night function and infrared near-field illumination;
- The system is equipped with UPS providing 12 or 24 hours of power supply (1 or 2 48V 50Ah lithium batteries);
- Capabilities of intelligent analysis;
- APP (Android, IOS);
- Electromagnetic protection;
- Extendable height of the mast: 2-5m.

The video surveillance system for field is also equipped with a liftable mast carrying with HD cameras, the functions are as follows:

- The long-range cameras for far field monitoring mainly function, and the short-range cameras for near field function additionally, the spherical camera (PTZ) for monitoring the blind zones;
- With day / night function and infrared near-field illumination;
- These IPC are mounted on the mast;
- The camera has audio recording;
- Max support extended to 4 bullet cameras + 1 spherical camera (PTZ);
- Capabilities of intelligent analysis;
- Support 4G LTE Band 20 (Motorola VML750 module) and fiber jumper, CAT7 network cable connection;
- APP (Android, IOS);
- Electromagnetic protection;
- Equipped with UPS to meet 24-hour power supply;
- Equipped with photovoltaic power supply equipment, complete solar panel charging capacity within 8 hours;
- Storage capacity of 2 cameras ≧ 14 days, storage capacity of 4 cameras ≧ 7 days;

- Extendable height of the mast: 2-5m.

3.5 Design of Front-end Deployable Monitoring

The deployable monitoring vehicle includes a solar panel, a city power supply system, a backup power supply system, a data transmission system, and a local storage system NVR.

The deployable monitoring vehicle can deploy two short-range and two long-range bullet cameras, and one spherical camera (PTZ). The short-range, long-range bullet cameras and PTZ are deployed at the top of the mast. The schematic design is as follows:

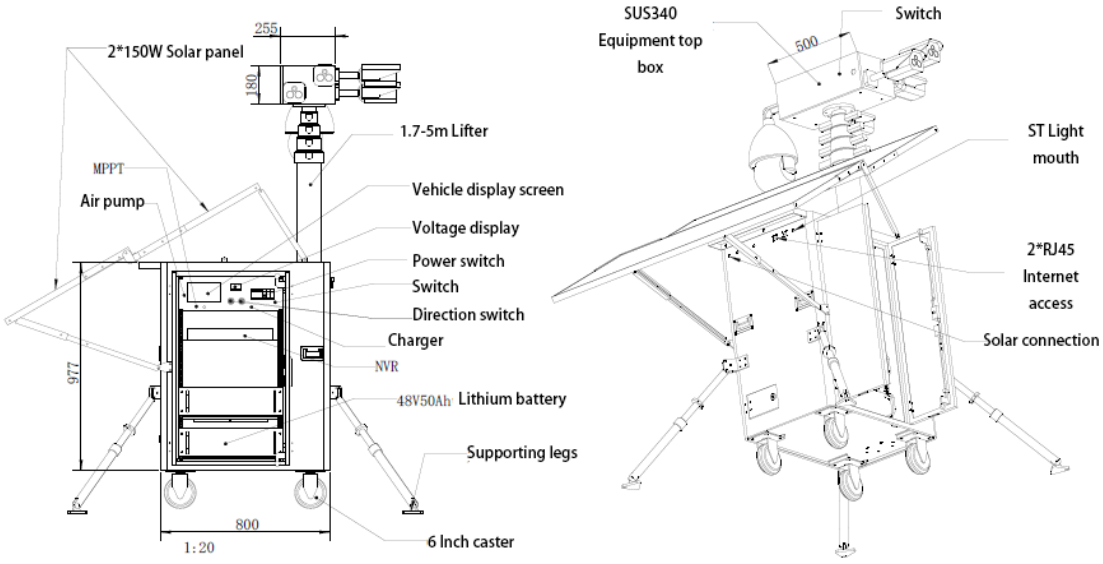

Figure 3.5 The Schematic Design of Deployable Monitoring Vehicle

Deployable monitoring vehicle uses integrated design products to meet the requirement of expansion of four bullet cameras and one spherical camera (PTZ) at the same time. It also can be equipped with audible and visual alarm, 4G communication equipment, etc. According to the different requirements of the perimeter, sensitive areas and field surveillance, real-time video monitoring of the

environment within the IPC field is realized.

4 VIDEO INTEGRATED MANAGEMENT PLATFORM

The video integrated management platform is based on the video surveillance in the bases and is connected to subsystems such as access control, perimeter alarm, operating and maintenance management. It adheres to the concept of advanced, integrated, reliable and safe, and adopts advanced software and hardware development technology to solve the problems of multi-stage networking, centralized management, information sharing, interworking and multi-service integration within or between bases.

4.1 Platform Architecture Design

DSS PRO is a comprehensive, professional for information integration, information management and decision support platform. The whole platform integrates computer, network, information processing and other technologies to realize video monitoring, access control, alarm and other information functions with different interface to display at the same time.

Figure 4.1 Video Integrated Management Platform Architecture Design

- Service Presentation Layer

The service presentation layer is provided to users with direct use and is the external

presentation of system functions. This layer not only requires the software to meet the application needs of customers, but also needs to be visual-friendly and user-friendly, so that the user could have better experience. Combined with the specific needs, it can be quickly customized to service presentation procedures. In addition, the client program's convenience with regards to the installation and deployment, maintenance and upgrade is also a consideration when system is designing.

According to the different functions and end users, the service presentation layer of the system can be divided into administrator client and operator client. The administrator client adopts B/S mode which mainly provides system management and configuration functions for system administrators. The operator client adopts B/S and C/S modes, and the user can choose flexibly according to his own situation. B/S mode does not need to install a client, reflecting the convenience of remote browsing in any time, any place, any system, and as long as the network is connected, you can directly use the browser to connect to the server, so any computer can be used as a client. The advantages of C/S mode, such as flexible information collection, load balancing and stable service, ensure that the client has more transaction processing capacity, shunt the workload of the server and make the whole system more stable.

- Service Access Layer

The access layer is the layer between the system service layer and service presentation layer, and it realizes the function of service access and service control as well as provides connection management, WEB request processing, authentication, service flow and other access services for the service presentation layer and provides management command processing and other system processing services, as well as external platform interconnection and other services for the system.

The independent service access layer design can ensure the low coupling inside the system and improve the flexibility and stability of the system.

- System Service Layer

The system service layer is the core layer of the integrated digital monitoring system, which provides the logical realization of the system business. Each service system is independent and has complete functions. According to different types of functions, it can be divided into operation service layer and management service layer: the operation service layer includes real-time monitoring module, video playback module, alarm processing module, decoding video wall module,E-MAP module, PTZ control module, etc. The management service layer includes user permission, organizational structure, device management, video task, system configuration, log management, etc.

The system service layer is separated from the system service presentation layer, and the application logic is processed separately, greatly reducing the burden on the client, so that the user interface and application logic are in different platforms, and the communication between them is completed by the service access layer. Through such structural design, application logic can be shared by all users, communication between client and application service layer, application service layer and database service layer, and data exchange between heterogeneous platforms can be realized through middleware or related programs. When the database or information logic of application service layer changes, the client does not need to change, and vice versa, which greatly improves the reusability of system modules, shortens the development cycle and reduces the maintenance cost

- Hardware Access Layer

The hardware access layer includes the equipment access layer and the data persistence layer. The equipment access layer uniformly completes the access to the hardware equipment of the system, including audio and video monitoring equipment, monitoring equipment of other manufacturers, third-party access control, alarm equipment and active registration equipment. The data persistence layer realizes the storage of unstructured audio and video data, structured business data and system data.

The equipment access layer also shields the difference between equipment from different manufacturers, completes the protocol transformation and encapsulation between different SDKs, and provides a unified virtual layer for the upper business system. The database adapter module can shield the difference between different database systems as well as complete the synchronization and data conversion of heterogeneous databases.

4.2 Platform System Module

4.2.1 Video Surveillance System

1）Real-time Preview

*Support real-time preview, support multi-window preview

*Support local recording

*Support manual triggering of specified channels, enabling/disabling center recording

*Support image capture, continuous images capture

*Support main stream, sub stream, third stream

*Support real-time priority, smooth priority, balance, customization, etc.

*Support adjustment of brightness, contrast and other parameters of the monitor screen

*Support favorites

*Support full screen display

*Support 1/4/6/8/9/13/16/20/25/36/64 multi-screen display, customized video segmentation

*Support nine adjustments: full screen, 1:1, 16:9, 4:3, 5:4, 4:5, 3:4, 9:16, 64:9

*Support share specified videos to other users online

*Support fish-eye correction

*Top mounted: 1P+1, 2P, 1+2, 1+3, 1+4, 1P+6, 1+8;

*Wall mounted: 1P, 1P+3, 1P+4, 1P+8

*Floor: 1P+1, 2P, 1+3, 1+4, 1P+6, 1+8"

*Support round robin plan, round robin task

2）PTZ Control

*Supports eight-direction control and supports 1~8 step settings

*Support for 3D positioning

*Support preset point addition, deletion, change, and fast positioning

*Support patrol route setting, enable, disable

*Support zoom +, zoom -

*Support focus +, focus -

*Support aperture +, aperture –

*Support PTZ lock

*Support PTZ control preemption

*PTZ controlled by mouse cursor

*Support watch point function, and when the PTZ is still for 10s, it will automatically locate to the watch point

*Multi-mode automatic inspection

3）Video Playback

*Support different colors in the calendar, shows the distribution of the channel's recording days, supports graphical and list mode to display the video query results, supports viewing the video results in time scale, and can adjust the scale size to the second.

*Support video type selection display, the supported types are: all / timer recording / alarm recording / motion detection / video loss / video occlusion / video label / smart alarm

*Support multi-channel synchronous playback, maximum simultaneous 36-channel playback, support for slice playback

*Support 1/2, 1/4, 1/8, 2, 4, 8, 16 times speed and playback, support frame-by-frame playback, support slice playback

*Support downloading videos by time and by file

*Support video marking, you can quickly locate the video by label

*Support video lock and video unlocking at any time. The locked video can't be covered by loop. After unlocking, the video can be cycled.

*Support fast preview of floating window on playback progress bar; support selected-frame playback; support instant playback;

4）Video Wall

*Support task of video, instant video wall mode, playback of video, alarm linkage video, the video wall plan, and set the execution time between different tasks to realize the plan of video on the video wall.

*Support dwell time setting, stream type setting, preset setting, clear screen, window lock

*Support for frame, video echo, screen switch, eagle eye

5）Smart Application

*Support behavior analysis rules, alarm display,

*Support behavior analysis types: multi-line tripwire intrusion, warning area intrusion, loitering detection, fast moving objects , aggregate detection, video anomaly, etc.

4.2.2 Intelligent Video Analysis

4.2.2.1 System Introduction

With the rapid development of video surveillance system in recent years, the number of cameras has increased rapidly, and a large amount of video data has brought new opportunities and challenges to the effective use of real-time monitoring alarms and video data. A standard video surveillance system has dozens, even thousands of channels of video and corresponding digital video data. It is very difficult for operators to find out alarm events by observing each video. In addition, when the alarm event is analyzed after the event, the video surveillance system lacks intelligent analysis of the video, and there is no correspondence between the video and the

behavior, and the video data cannot be effectively retrieved. An effective way to solve the above problems is to perform automatic intelligent analysis on the video, timely report the occurrence of suspicious events (such as breaking into the restricted area, retrograde, staying, trailing, etc.), and record the extracted event information and video data to achieve real-time alarms and the purpose of effective video retrieval.

Intelligent analysis video surveillance system is an advanced intelligent video surveillance system that combines video analysis, image processing, pattern recognition and artificial intelligence to achieve high protection of surveillance scenes. The system has the functions of perimeter prevention and item monitoring. It can be referenced around or inside military bases, airports, stations, ports and other buildings. Thanks to this advanced system, the following functions can be realized, for example, intrusion monitoring and alarm, monitoring left objects, etc. And the warning area can be set according to the needs of the user.

4.2.2.2 System Functions

Intrusion Detection--Video Perimeter Alarm

There are two types of intrusion detection, regional intrusion detection and multi-line tripwire. Within the field of view of the camera monitoring, the user can set the warning area and the warning line. When a moving object (person or car) enters the warning area, moves within the warning area, or crosses the set warning line, the alarm is triggered, the moving target will be displayed by the pop-up window: ‘the object intrusion or crossing the line’ to warn the monitoring personnel to notice the suspicious target intrusion. The alert area or the warning line is flexible: the user can set the alert area or the warning line of any shape and direction according to actual needs. The warning area supports up to 10 sides; the user can set up at max 3 warning areas and 3 lines in one monitoring scene, warning areas or lines can be cross and overlap, and each intrusion detection function does not affect each other. Multiple moving objects intrusion can be simultaneously identified and alarm triggered.

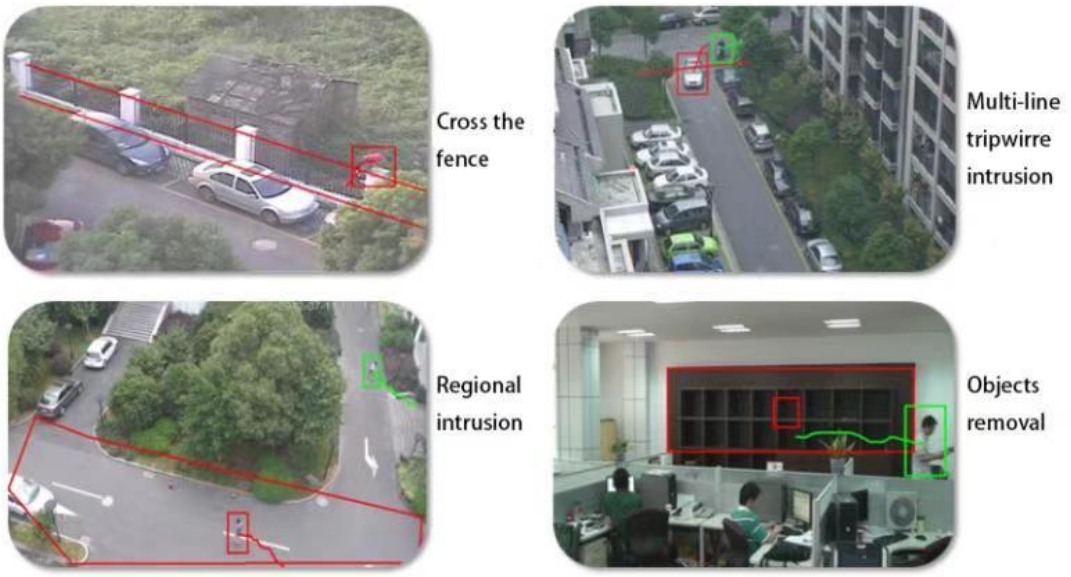

Figure 4.2 Intrusion Detection Analysis

Left Objects Inspection

In the camera monitoring scene, if an object (package, etc.) is found to be placed or left behind exceeded the time limit of the allowed, the alarm will be triggered automatically, the objects would be displayed by the pop-up window left objects to warn the monitoring personnel. The user can set the allowed time the item stays.

Object Left Object Kept

Figure 4.3 Video Analysis on Objects

Person Loitering Detection

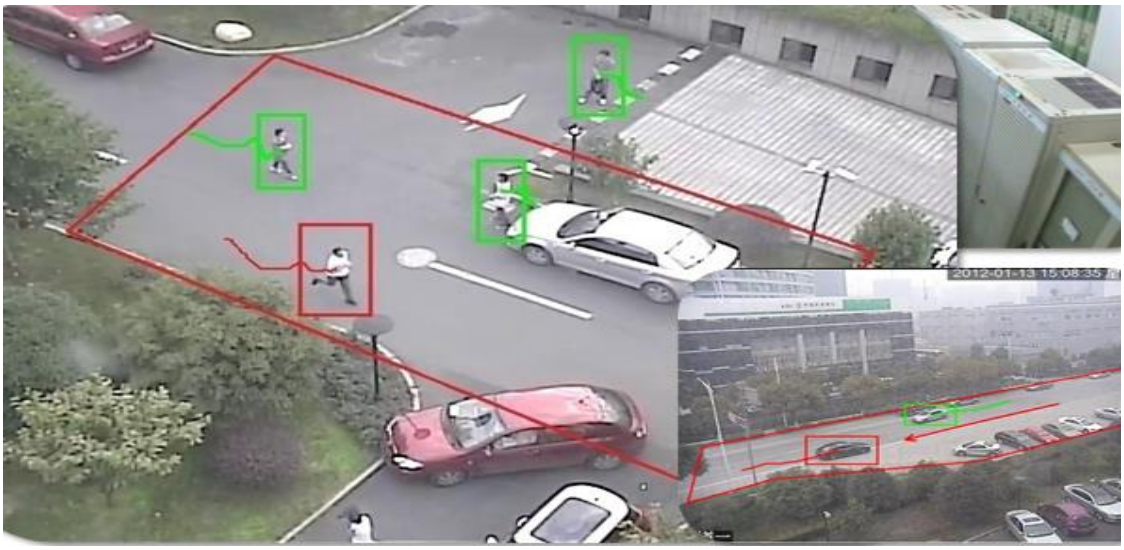

Figure 4.4 Detect Person Loitering Function

Group Event/ Unusual Flow Monitoring

It supports real-time video for squares, important places, through crowd density, crowd movement characteristics to detect crowd gathering, parade, assembly and other activities. According to the preset alarm levels, the group events are classified into 5 levels, and different levels of alarms would be issued because of the different events. Therefore, the early warning system of group events would be realized.

Figure 4.5 Group Event Analysis

Video Quality Diagnostics

The front camera may break down (by human or natural) during use, but it is impossible for the monitoring personnel to continuously monitor video 24 hours a day. In this case, the video diagnostic analysis function is an asset.

Figure 4.6 Video Quality Analysis Function

4.2.2.3 Product Features and Advantages

1. For the negligence of monitoring caused by visual fatigue, this product can detect and issue alarms in a timely and accurate manner.
2. The human eye fails to monitor multiple screens at the same time, while this product can handle multi-channel monitoring video at the same time.
3. Personnel negligence leads to false and failure of report which results in gap as the function avoid it.
4. Reduce the workload of monitoring personnel and improve the efficiency of the entire monitoring system.
5. It features panoramic surveillance to safeguard the vehicle.

4.2.3 Face Recognition Intelligent Analysis

- Face capture: real-time face capture would be realized by specified IPC;
- Capture library retrieval: face images imported with specified similarity (default 70%) can be retrieved from the captured library;
- Face database retrieval: face images imported followed by search criteria, and qualified images can be retrieved from the registered faces in the database;

- Personnel control: import face images on purpose to register and search;
- Alarm retrieval: search for history face capture alarms, including black and white lists;
- Real-time screen overlay display of the number of people, and support history human traffic statistics, support histograms, line charts, detailed reports.

4.2.4 Mobile Client

The platform software supports accessing and obtaining real-time stream data through mobile terminals, tablets, etc. It is compatible with V3.X and above versions of Android system, IOS system, and supports city power devices such as iPhone, iPad, Android, etc., realizing the convenience and timeliness of customer use.

1) Real-time video preview, support up to 4 channels of real-time video preview, emergency capture, emergency recording, automatic cruise control point, far and near focus, front and back focus, preset point, 3D zoom in and other PTZ control, support monitoring point details view, support monitoring point collection, video quality switching and 1/4 screen switching;

2) Remote video playback, support for maximum 1 channel remote video playback, video capture, video download, support video storage location and playback date selection;

3) Monitor the status of the access control through the mobile phone client, control the door opening, closing the door, normally opening, and closing the control, so that the user can control the current state of the access control at any place;

4) Image management function, support the management of capture/recording files during preview or playback, preview of capture and video and local location broadcast, play of video files, dragging of progress bar, etc., easy and convenient to operate;

5) Support the access of the message push module, realize the alarm message to be

sent to the mobile phone client, and view the associated video of the alarm, the user can realize the alarm condition of the platform in real time.

5 ENTRY/EXIT ACCESS CONTROL SYSTEM (NOT INCLUDED IN TEST SYSTEM)

RFID active identification and infrared radiation access control, BOO entry and exit process is as follows:

1) Entry

The personnel enter the BOO and the passive infrared detector outside detects the personnel movements, transmits the information to the RFID reader and reads the peripheral RFID card. For example, the authorized card succeeds to detect the internal passive infrared detector, then the personnel pass smoothly. If it is an unauthorized person, the alarm host issues an alarm to link the video for the personnel information, and the BOO security personnel makes an emergency response.

2) Exit

The personnel leaves BOO, the internal passive infrared detector detects and recognizes, and the RFID reader reads the information of the surrounding RFID card. If it is an authorized person, the external passive infrared detector does not operate; if the authorization card is not detected, the external passive infrared action alarms with linkage video tracking, the BOO security personnel makes an emergency response.

5.1 System Architecture

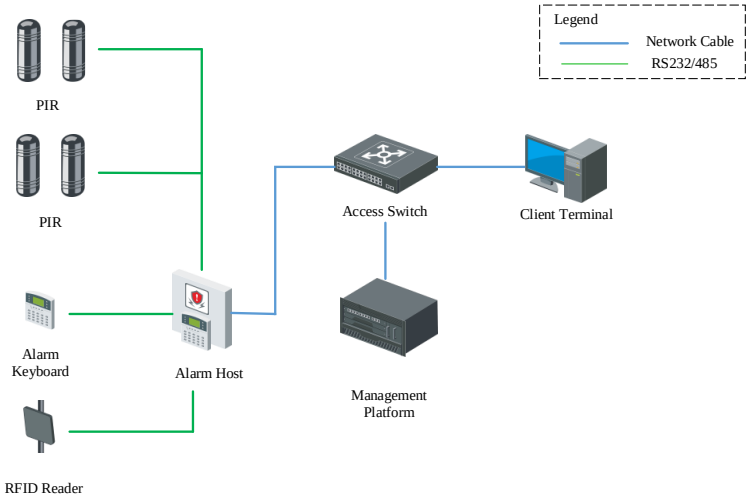

Figure 5.1 Entry/Exit Access Control System Architecture

5.2 System Functions

- Zone management, set the zone and distinguish the azimuth zone from the space. After the alarm occurs, the specific physical location can be quickly located and check the alarm.
- Armed zone, the zone is in the state of alarm defense. When an alarm message is generated, an alarm occurs and is sent to the platform for the relevant processing.
- Disarmed zone, the zone is in the state of alarm disarming.
- Alarm plan maintenance, alarm handling plan when an alarm occurs, using text to describe the processing steps or automatically link video, mobile phone text messages, email etc., so that the alarm processing is handled timely and accurately.
- The alarm information is monitored in real time, and the screen is monitored by the screen.
- Video, picture and other information related to alarm display, after the alarm occurs, video recording and pictures during the alarm can be retrieved and the real-time video of the alarm zone can be previewed.
- The alarm information is queried, and related queries are performed on the historical alarm information.
- Alarm related processing, manual processing after alarm occurrence, system recording processing method, processing person, processing time and other related information.
- Alarm record query and statistics, summarize statistics of alarm records in various ways, and generate related reports.
- Alarm level setting, the user can customize the alarm level of the alarm event, and can customize the background color indicated by the alarm according to the alarm level.
- Emergency contact management, multiple emergency contacts of alarms can be maintained to notify the relevant personnel in a timely manner.
- Alarm pre-processing, some alarms need to be verified or processed after a period of time, which will take some time. In order to mark the alarm, the relevant

personnel are already informed to handle, but not finished, and need to pre-process this intermediate state.

- Equipment inspection, the system can start inspection of each alarm host, check the operation of the equipment so as to ensure the normal operation of each zone and reduce the occurrence of false alarm.

5.3 System Deployment

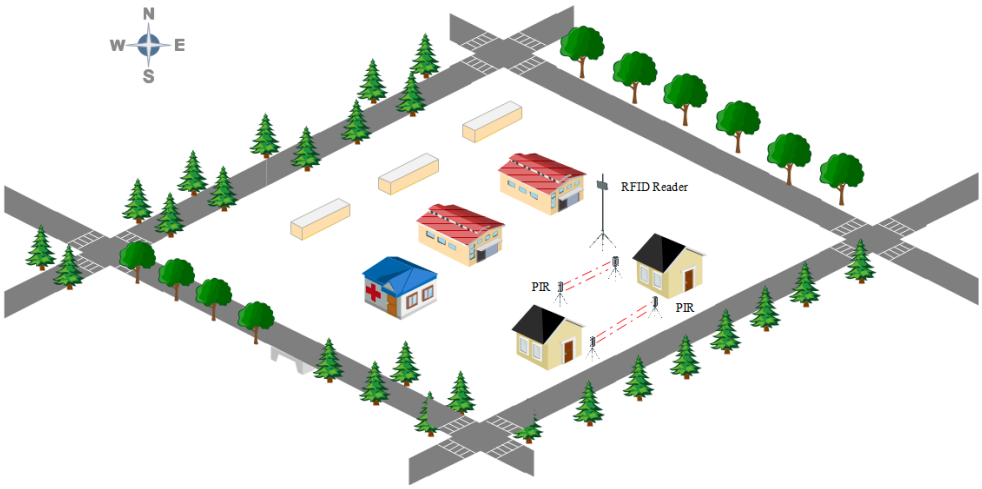

Figure 5.2 Access Control System Deployment Diagram

RFID and infrared devices are deployed at the access of the BOO, and the identification of the personnel who enters or exit the area are conducted through VMS platform. Simultaneously, linkage video monitoring system to track the abnormal situation and alarm analysis.

6 EQUIPMENT SPECIFICATIONS

(Refer to ANNEX A)

7 CENTRAL CONTROL STATION DESIGN

The central control, including a equipment cabinet and laptop, serves as a security system management and operation station. It is installed with following parts: video management platform server, access switch, UPS, decoder, KVM, etc.

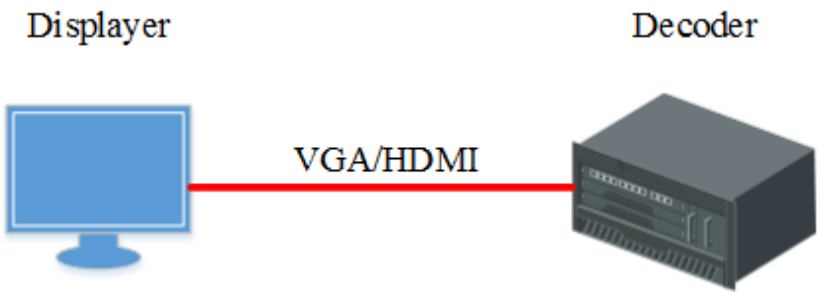

Figure 7.1 Central Control Station

7.1 Central Control Station Equipment Deployment Design

7.1.1 Central Control Station Deployment

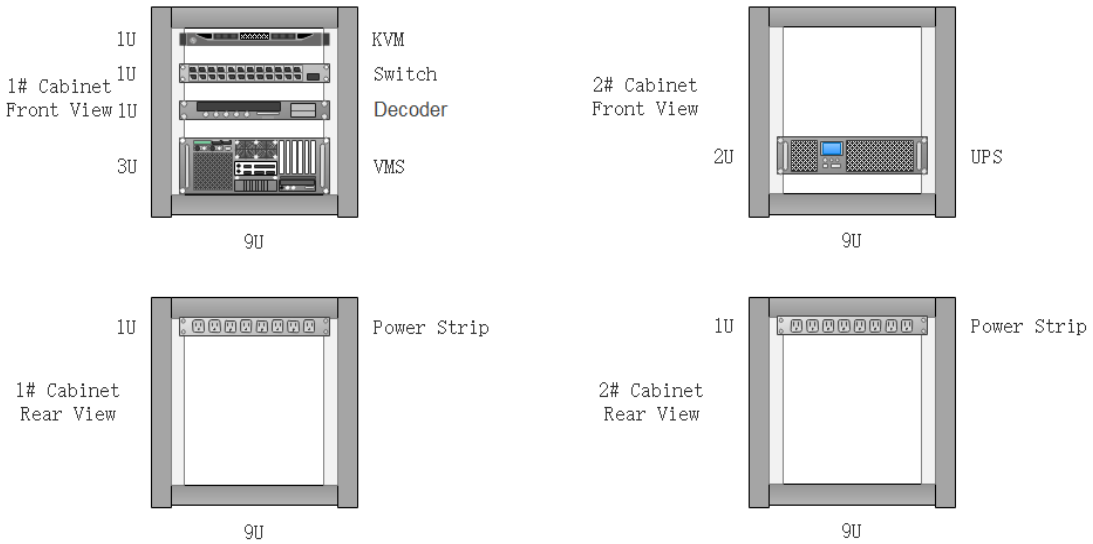

Figure 7.2 Central Control Station 1/2# Cabinet Deployment Design

7.1.2 Central Control Station Power Supply

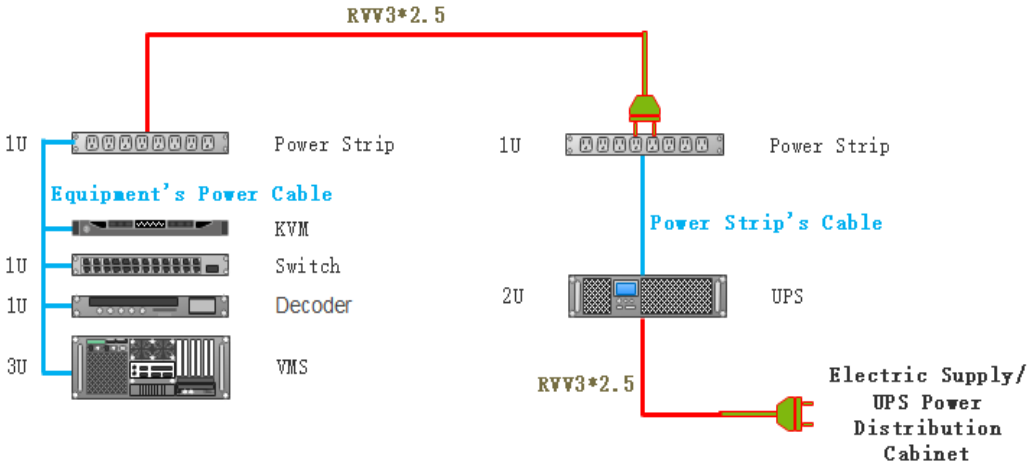

Figure 7.3 Central Control Station 1/2# Cabinet Deployment Design

7.1.3 Signal Cable Line Connection of Central Control Station

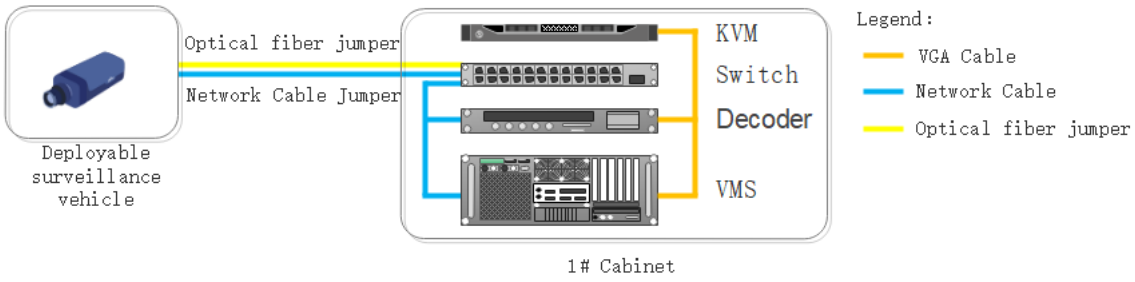

Figure 7.4 Central Control Station 1/2# Cabinet Deployment Design

8 EQUIPMENT PACKING AND TRANSPORTATION DESIGN

8.1 Packing and Transportation Requirements

The equipment of the system, except the vehicle body, is packed in the ZARGES k470 product line transport case as required, which is convenient for repacking and transportation.

8.2 Packing Design

The vehicle adopts a liftable mast. The mast and camera are disassembled before transportation and packed in the required transport case. The vehicle bodies are packed with disposable package in the process of the transportation. The vehicle is made of thick steel plate metal, and the galvanized rust-proof bracket can cope with extreme environments. And there is no need to arrangement of wire, so a single person can assemble it in 5 minutes. It is equipped with an advanced wear-resistant pulley for easy transportation. Other equipment, like solar panels, cameras, etc are packed in robust transport case whose dimension is 1700*800*700mm. The model of the example case in Figures 8.1 and 8.2 is Zarges 40876.

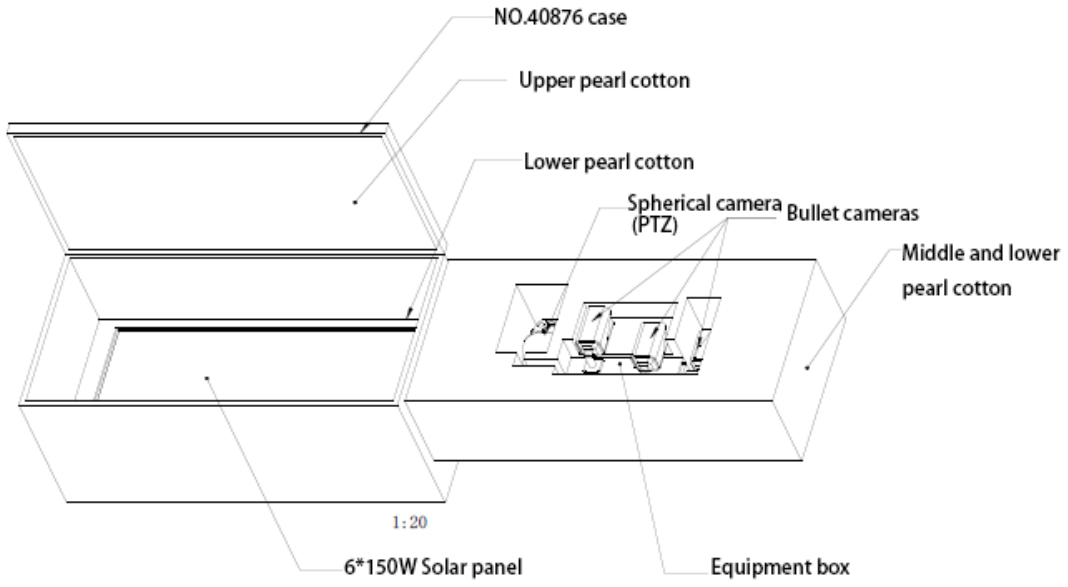

Figure 8.1 Case No.1

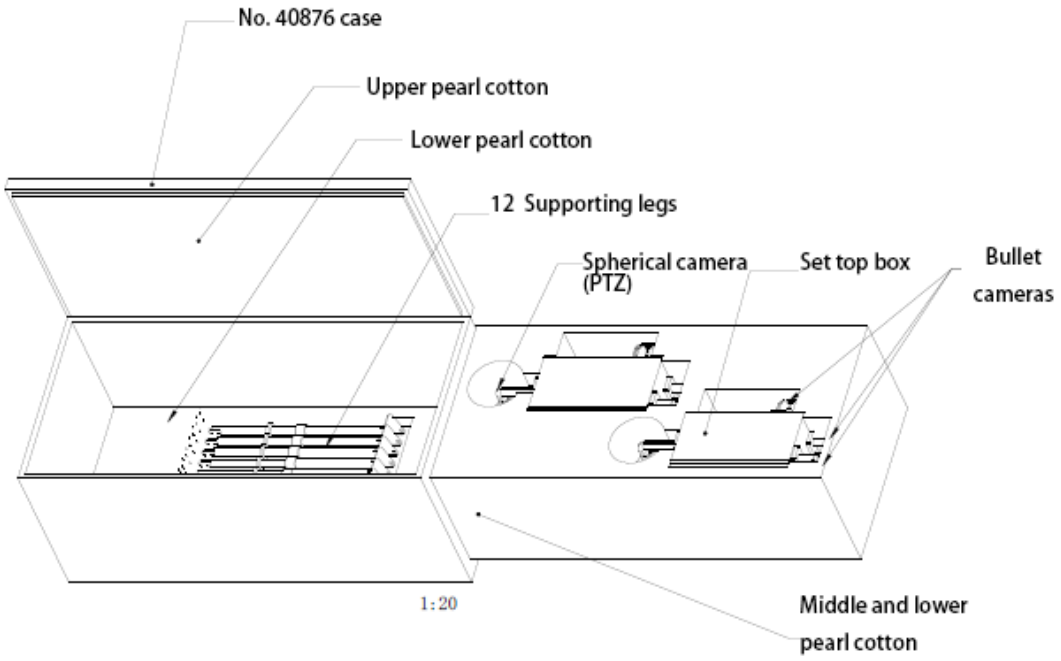

Figure 8.2 Case No.2

The following parts are packed in the transport case No.1:

- 6 solar panels for 3 monitoring vehicles (packed in the lower room of case)
- All equipment mounted on the liftable mast of monitoring vehicle for perimeter area (packed in the upper room of case)

The following parts are packed in the transport case No.2:

- 12 supporting legs for 3 monitoring vehicles (packed in the lower room of case)
- All equipment mounted on the liftable mast of monitoring vehicles for sensitive area and field (packed in the upper room of the case)

9 DOCUMENTATION

The following documents should be available upon delivery:

- Manual of Installation, User and Maintenance, Hazards and Warnings, Quick User Guide to Important Functions;
- Certificates of Conformance, Datasheets of the products, Country of Origin Certificates, Material Safety Data Sheets, Software License Certificates;
- System Backup Image File.

10 TRAINING

10.1 Purpose of Training

In order to ensure the operation of the whole system, training for CTBTO staff shall be provided by well-trained and qualified operators, maintenance personnel, system administrators and engineers. The following aims are achieved through training:

- To enable maintenance personnel and operators to master the usage and maintenance of software, hardware and firmware skillfully and deal with most of the technical failures.
- The technicians and administrators can be responsible for the corresponding technical management, mastering the functions of software, hardware and firmware, and handling equipment failures, organizing and expanding the network system.

10.2 Type of Training

On-site training includes installation, commissioning and other practical work to enable trainees be familiar with the working environment of the system and improve actual capability. On-site training is theoretical and practical.

10.3 Contents of Training

- Working principle and technical functions of the equipment;
- Installation and commissioning of the equipment;
- Equipment maintenance and operation;
- System management and maintenance.

10.4 Training Materials

- Technical information to operators, including equipment configuration, working principle, operation method, performance indicators, common faults and other documents.

- Information of automatic system testing data, testing indicators and standards of equipment.
- A set of technical data.

11 DELIVERY QUALITY ASSURANCE

Equipment and system delivered shall be in full conformity with international standards, which are as follows:

IEC60839-5-1:2014 Alarm and electronic security systems - Part 5-1: Alarm transmission systems– General requirements

IEC62676-1-1:2013 Video surveillance systems for use in security applications- Part 1-1: System requirements- General

IEC62676-1-2:2013 Video surveillance systems for use in security applications - Part 1-2: General video transmission - performance requirements

IEC62676-2-1:2013 Video surveillance systems for use in security applications- Part 2-1: Video transmission protocols - General requirements

12 AFTER-SALES SERVICE

12.1 Fault Response Time

Customer service line to ensure that customers get response within the next working day after the call for repairing and troubleshooting.

12.2 Warranty

Two-year warranty for the entire set of hardware equipment.

During the warranty, when the equipment hardware fails and cannot be repaired the equipment shall be replaced in a timely manner; and ensure that the performance and role of the provided accessories are not lower than the original configuration or the reasonable service requirements proposed to ensure the normal operation of the system.

12.3 After-sales Service

12.3.1 After-sales Service Team

An after-sales service team shall coordinate and manage the after-sales service to provide customers with comprehensive after-sales service to facilitate customers to obtain the services they need at any time, such as collecting customer feedback information, accepting customer complaints, product repairs and so on.

Backup shall be composed of technical engineers and R&D engineers who have technical training and professional background in security system, and have capabilities of on-site fault diagnosis and maintenance.

12.3.2 Service Plan

Shall be provided for a complete and scientific service management system to provide comprehensive technical support and services throughout pre-sales, in-sales and after-sales service.

- **Pre-sales Services**

Business Consultation: Provide the Commission dedicated line to understand project scope in the shortest time.

Technical consultation: A technical service response to enable customers to fully understand technical issues.

- **In-sales Services**

Professional training: provide training for professional equipment; after the equipment arrives, on-site training according to specific usage requirements and technical characteristics so that the Commission can comprehensively operate the various operating requirements and product functions.

Specific measures: Provide technical consultation and the above professional training, improve skills in using and maintaining the system, and upgrade and maintain the system software from time to time; adjust and update the software as required.

- **After-sales Services**

Project maintenance: A customer service line is used as the best solution to respond within 24 hours after receiving the repair requirement. Guidance and assistance to customers to diagnose and maintain by telephone or Internet, and solve the problem immediately.

Quality Assurance: After the date of acceptance, the product purchased under the contract is guaranteed free repair during the two-year warranty period.

13 SYSTEM FACTORY ACCEPTANCE TEST PLAN

13.1 FAT Overview

In order to cooperate with the CTBTO to carry out on-site acceptance of the deployable surveillance and security equipment by us, we made this FAT plan. According to the requirements of 2019-1343 bid by CTBTO, we organize the production of deployable surveillance and security equipment. Now the corresponding equipment have been produced and pre-commissioned. We have installed and pre-commissioned them in advance, and their performance meets the requirements of the acceptance outline .

According to the requirements of the bid and the actual use, we have built a test system. The system composition is as follows:

A. One deployable monitoring vehicle for BOO Perimeter

Including 2 bullet cameras of long-range for far field, 2 bullet cameras of short-range for near field, and 1spherical camera (PTZ), 1 NVR for local storage; 2 sets of 48V 50AH lithium batteries as the main power of the system, and city power access interfaces provided; external communication interfaces is 2*RJ45 CAT7, and 1*ST optical port.

B. One deployable monitoring vehicle for Sensitive Area

Including 1 bullet camera of long-range for far field, 2 bullet cameras of short-range for near field, 1 NVR for local storage; 2 sets of 48V 50AH lithium batteries as the main power of the system, and mains access interfaces provided; the external communication interface is: 2*RJ45 CAT7,and 1*ST optical port.

C. One deployable monitoring vehicle for Field Deployable

Including 1 bullet camera of long-range for far field, 2 bullet cameras of short-range for near field, 1 NVR for local storage; 2 sets of 48V50AH lithium batteries as the

main power source of the system, a 300W solar charging board and mains access interface provided, external communication interface is 2* 4G LTE, 1*RJ45 CAT7, and 1*ST optical port.

D. One set of Central Control Station

Including 1 set of VMS (integration of software and hardware); 1 set of local operating computer, 1 set of tablet computer, 1 set of LAN, and 1 local communication-China Mobile SIM card.

13.2 Inspection Content and Plan

1）Test monitoring vehicle deployment method and operation;

2）Check the appearance and the deployment of internal equipment of the monitoring vehicles;

3）Start-up test to monitor the basic electrical condition of the car; whether the LCD screen displays correctly;

4）Test internal UPS power supply of the monitoring vehicle; the built-in battery starts to charge after connecting to the city power;

5）Test the operation of the electric lift mast of the monitoring vehicle;

6）Test the video signal inside the vehicle to the NVR;

7）Local operation video management (IP address allocation, video stream allocation, video allocation, playback and other video management operations);

8）Check whether the 4G module of the monitoring vehicle in the sensitive area is working (install the mobile APP on the mobile phone and observe if there is traffic generated)

9）Check various functions of VMS in the test workshop on the 4th floor;

10）Perform video analysis functions such as cross-border, intrusion, and loss in the front-end video screen; and test the video analysis alarm function under China Mobile 4G network;

11）Check VMS user rights management;

12）Check VMS E-Map function.

13.3 Test Result

Based on the results of the above inspection records, an inspection report is formed and signed by both parties for approval;

Appendix 1 Table of Equipment and Power Consumption

		Deployable Monitoring Vehicle														
Production Line	System	Equipment	Unit	QTY	Power Consumption	Power Type (AC/DC	Total Power Consu	Ports Type	Number of Ports	Total number of	Height (U)	Total Height (U)	Net Weight (KG)	Gross Weight (KG)	Total Net Weight (KG)	Dimension (mm)
BOO Perimeter	Video Surveillanc & Intelligent Analysis	Bullet Camera (Long Range for Far Field)	Each	2	13	DC12V	26	RJ45	1	2	/	/	1.12	1.52	2.24	273.2*95*95
		Bullet Camera (Short Range for Near Field)	Each	2	13	DC12V	26	RJ45	1	2	/	/	1.12	1.52	2.24	273.2*95*95
		Spherical Camera(PTZ)	Each	1	26	AC24V	26	RJ45	1	1	/	/	5.9	9.6	5.9	∅209*337.4
		NVR	Each	1	16.7	DC12V	16.7	RJ45	1	1	1	1	1.55	2.81	1.55	375*276*56
		Monitor	Each	1	5	DC12V	5	/	/	/	/	/	/		/	
		Switch	Each	1	5	DC12V	5	RJ45	5	8	/	/	/		/	
		Solar Controller	Each	1	2	DC48V	2	/	/	/	/	/	/		/	
		Lithium Battery48V50AH	Each	2	/	DC48V	/	/	/	/	3	6	35		70	
		Direct Current Converter	Each	3	/	DC48V	/	/	/	/	/	/	1		1	750*550*1850
		Charger	Each	1	/	AC220V	/	/	/	/	/	/	1		1	
		Solar Panel		2	/	/	/	/	/	/	/	/	15		30	
		Vehicle Body		1	/	/	/	/	/	/	/	/	110		110	
		Liftable Mast		1	/	/	/	/	/	/	/	/	35		35	
		Equipment Installation Platform		1	/	/	/	/	/	/	/	/	25		25	c
		Grand Total Consumption:					**106.7**				**Grand Total Height:**	**7**	**Grand Total Weight:**		**283.93**	

		Deployable Monitoring Vehicle														
Production Line	System	Equipment	Unit	QTY	Power Consumption	Power Type (AC/DC	Total Power Consu	Ports Type	Number of Ports	Total number of	Height (U)	Total Height (U)	Net Weight (KG)	Gross Weight (KG)	Total Net Weight (KG)	Dimension (mm)
Sensitive Area	Video Surveillance & Intelligent Analysis	Bullet Camera (Long Range for Far Field)	Each	1	13	DC12V	13	RJ45	1	1	/	/	1.12	1.52	1.12	273.2*95*95
		Bullet Camera (Short Range for Near Field)	Each	2	13	DC12V	26.0	RJ45	1	2	/	/	1.12	1.52	2.24	273.2*95*95
		NVR	Each	1	16.7	DC12V	16.7	RJ45	1	1	1	1	1.55	2.81	1.55	375*276*56
		Monitor	Each	1	5	DC12V	5	/	/	/	/	/	/		/	750*550*1850
		Switch	Each	1	5	DC12V	5	RJ45	5	8	/	/	/		/	
		Solar Controller	Each	1	2	DC48V	2	/	/	/	/	/	/		/	
		Lithium Battery48V50AH	Each	2	/	DC48V	/	/	/	/	3	6	35		70	
		Direct Current Converter	Each	3	/	DC48V	/	/	/	/	/	/	1		1	
		Charger	Each	1	/	AC220V	/	/	/	/	/	/	1		1	
		Solar Panel		2	/	/	/	/	/	/	/	/	15		30	
		Vehicle Body		1	/	/	/	/	/	/	/	/	110		110	
		Liftable Mast		1	/	/	/	/	/	/	/	/	35		35	
		Equipment Installation Platform		1	/	/	/	/	/	/	/	/	25		25	500*255*180
		Grand Total Consumption:					**67.7**				**Grand Total Height:**	**7**	**Grand Total Weight:**		**276.9**	

Deployable Monitoring Vehicle																
Production Line	System	Equipment	Unit	QTY	Power Consumption	Power Type (AC/DC	Total Power Consu	Ports Type	Number of Ports	Total number of	Height (U)	Total Height (U)	Net Weight (KG)	Gross Weight (KG)	Total Net Weight (KG)	Dimension (mm)
Field	Video Surveillance & Intelligent Analysis	Bullet Camera (Short Range for Near Field)	Each	1	13	DC12V	13.0	RJ45	1	1	/	/	1.12	1.52	1.12	273.2*95*95
		Spherical Camera(PTZ)	Each	1	26	AC24V	26	RJ45	1	1	/	/	5.9	9.6	5.9	∅209*337.4mm
		NVR	Each	1	16.7	DC12V	16.7	RJ45	1	1	1	1	1.55	2.81	1.55	375*276*56
		Monitor	Each	1	5	DC12V	5	/	/	/	/	/	/		/	750*550*1850
		Switch	Each	2	3	DC12V	6	RJ45	2	5	/	/	/		/	
		Solar Controller	Each	1	2	DC48V	2	/	/	/	/	/	/		/	
		Lithium Battery48V50AH	Each	2	/	DC48V	/	/	/	/	3	6	35		70	
		Direct Current Converter	Each	3	/	DC48V	/	/	/	/	/	/	1		1	
		Charger	Each	1	/	AC220V	/	/	/	/	/	/	1		1	
		Solar Panel		2	/	/	/	/	/	/	/	/	15		30	
		Vehicle Body		1	/	/	/	/	/	/	/	/	110		110	
		Liftable Mast		1	/	/	/	/	/	/	/	/	35		35	
		Equipment Installation Platform		1	/	/	/	/	/	/	/	/	25		25	500*255*180
		Grand Total Consumption:					**68.7**				**Grand Total Height:**	**7**	**Grand Total Weight:**		**281**	

		Deployable Monitoring Vehicle														
Production Line	**System**	**Equipment**	**Unit**	**QTY**	**Power Consumption**	**Power Type (AC/DC**	**Total Power Consu**	**Ports Type**	**Number of Ports**	**Total number of**	**Height (U)**	**Total Height (U)**	**Net Weight (KG)**	**Gross Weight (KG)**	**Total Net Weight (KG)**	**Dimension (mm)**
Central Control Station	VMS	VMS	Each	1	210.0	AC220V	210.0	RJ45	4	4	3	3	19.1		19.1	444.8*133.2*522.2
	Decoder	Decoder	Each	1	600	AC220V	600	RJ45	6	6	4	4	25		25	482.6*496*177.8
	UPS	3KVA UPS	Each	1	/	/	/	/	/	/	3	3	27.6		27.6	438*632*88
	Dispaly Unit	27"monitor	Each	1	40	AC220V	40	HDMI	1	1	/	/	5.3		5.3	611.2 x 53.9 x 371.5
	Switch	switch	Each	1	39.8	AC220V	39.8	RJ45+SFP	32	32	1	1	3		3	420*220*43.6
	KVM	KVM	Set	1	23	AC220V	23	VGA	8	8	1	1	14		14	600*485*44
	Outdoor Cabinet															640*570*500
		Grand Total Consumption:					**912.8**				**Grand Total Height:**	**12**	**Grand Total Weight:**		**94**	

Appendix 2 Video Storage Table

	Deployable Monitoring Vehicle														
Production Line	**System**	**Equipment**	**Unit**	**QTY**	**Bandwidth per Equipment (Mbps) (max)**	**Total Bandwidth (Mbps) (max)**	**Storage/h (GB)**	**Storage/d (TB)**	**Storage/ 14d (TB)**	**4TB HD (Actual capacity≈ 3.725TB)**	**Storage/m (TB)**	**4TB HD (Actual capacity≈ 3.725TB)**	**Storage/ 130d (TB)**	**4TB HD (Actual capacity≈ 3.725TB)**	**RAID5 (2groups& 2 HD for backup)**
BOO Perimeter	Video Surveillance & Intelligent Analysis	Bullet Camera (Long Range for Far	EA	2	4	8	3.52	0.08	1.15	/	2.47	/	10.71	/	/
		Bullet Camera (Short Range for Near	EA	2	4	8	3.52	0.08	1.15	/	2.47	/	10.71	/	/
		Spherical Camera(PTZ)	EA	1	4	4	1.76	0.04	0.58	/	1.24	/	5.36	/	/
		NVR	EA	1		Sum:	**8.79**	**0.21**	**2.88**	**1**	**6.18**	**2**	**26.78**	**8**	/
Sensitive Area	Video Surveillance & Intelligent Analysis	Bullet Camera (Long Range for Far	EA	1	4	4	1.76	0.04	0.58	/	1.24	/	5.36	/	/
		Bullet Camera (Short Range for Near	EA	2	4	8	3.52	0.08	1.15	/	2.47	/	10.71	/	/
		NVR	EA	1		Sum:	**5.27**	**0.12**	**1.73**	**1**	**3.71**	**1**	**16.07**	**5**	/
Field	Video Surveillance & Intelligent Analysis	Bullet Camera (Short Range for Near	EA	1	4	4	1.76	0.04	0.58	/	1.24	/	5.36	/	/
		Spherical Camera(PTZ)	EA	1	4	4	1.76	0.04	0.58	/	1.24	/	5.36	/	/
		NVR	EA	1		Sum:	**3.52**	**0.08**	**1.15**	**1**	**2.47**	**1**	**10.71**	**3**	/
Central Control Station	Video Integrated Management Platform	VMS	EA	1			**17.58**	**0.41**	**5.77**	**2**	**12.36**	**4**	**53.56**	**16**	**25**

Appendix 3 Equipment Specifications

1) **Deployable Monitoring Vehicle for Perimeter**

Specifications	
Camera	
Type of Camera（Carry）	Short Range Infrared Bullet Network Camera*2， Long Range Infrared Bullet Network Camera *2， HD Infrared PTZ*1 Details Refer to “Camera Technical Parameters”
Vehicle Body	
Vehicle Model	MVSL
Vehicle Color	White
Height	5M
Electrical	
Number of Battery	2 Sets
Battery Capacity	48V·500Ah
Type of Battery	Lithium Battery
Solar Power	2*（150W）(Changeable)
Power Supply	220V AC/50Hz
Battery Life	>12H
Data Storage and Transmission	
Network Video Recorder	16-CH Network Video Recorder (Including 4T Hard Disk*2)
Storage	>14 Day
Wired/Wireless Transmission	CAT7 Ethernet Cable、Optical Cable
Construction	
Dimensions（L*W*H）	750mm*550mm*1850mm
Weight	270KG
Environmental	
Operating Conditions	-20°C~+60°C

2) Deployable Monitoring Vehicle for Sensitive Area

Specifications	
Camera	
Type of Camera（Carry）	Short Range Infrared Bullet Network Camera*2， Long Range Infrared Bullet Network Camera *1， Details Refer to “Camera Technical Parameters”
Vehicle Body	
Vehicle Model	MVSL
Vehicle Color	White
Height	5M
Electrical	
Number of Battery	2 Sets
Battery Capacity	48V·500Ah
Type of Battery	Lithium Battery
Solar Power	2*（150W）(Changeable)
Power Supply	220V AC/50Hz
Battery Life	>12H
Data Storage and Transmission	
Network Video Recorder	16-CH Network Video Recorder (Including 4T Hard Disk*2)
Storage	>14 Day
Wired/wireless Transmission	CAT7 Ethernet Cable、Optical Cable
Construction	
Dimensions（L*W*H）	750mm*550mm*1850mm
Weight	260KG
Environmental	
Operating Conditions	-20°C~+60°C

3) Deployable Monitoring Vehicle for Field

Specifications	
Camera	
Type of Camera（Carry）	Short Range Infrared Bullet Network Camera*1， HD Infrared PTZ*1 Details Refer to “Camera Technical Parameters”
Vehicle Body	
Vehicle Model	MVSL
Vehicle Color	White
Height	4M
Electrical	
Number of Battery	2 Sets
Battery Capacity	48V·500Ah
Type of Battery	Lithium Battery
Solar Power	2*（150W）(Changeable)
Power Supply	220V AC/50Hz
Battery Life	>24H
Data Storage and Transmission	
Network Video Recorder	16-CH Network Video Recorder (Including 4T Hard Disk*1)
Storage	>30 Days
Wired/Wireless Transmission	CAT7 Ethernet Cable、Optical Cable、4G LTE
Construction	
Dimensions（L*W*H）	750mm*550mm*1850mm
Weight	260KG
Environmental	
Operating Conditions	-20°C~+60°C

CTBTO Member States

Afghanistan
Albania
Algeria
Andorra
Angola
Antigua and Barbuda
Argentina
Armenia
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium
Belize
Benin
Bolivia (Plurinational State of)
Bosnia and Herzegovina
Botswana
Brazil
Brunei Darussalam
Bulgaria
Burkina Faso
Burundi
Cambodia
Cameroon
Canada
Cabo Verde
Central African Republic
Chad
Chile
China
Colombia
Comoros
Congo
Cook Islands
Costa Rica
Cote d'Ivoire
Croatia
Cuba
Cyprus
Czech Republic
Democratic Republic of the Congo
Denmark
Djibouti
Dominican Republic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Eritrea
Estonia
Eswatini
Ethiopia
Fiji
Finland
France
Gabon
Gambia
Georgia
Germany
Ghana
Greece
Grenada
Guatemala
Guinea
Guinea-Bissau
Guyana
Haiti
Holy See
Honduras
Hungary
Iceland
Indonesia
Iran (Islamic Republic of)
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Kazakhstan
Kenya
Kiribati
Kuwait
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Namibia
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Nepal
Netherlands
New Zealand
Nicaragua
Niger
Nigeria
Niue
North Macedonia
Norway
Oman
Palau
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Qatar
Republic of Korea
Republic of Moldova
Romania
Russian Federation
Rwanda
Saint Kitts and Nevis
Saint Lucia
Saint Vincent and the Grenadines
Samoa
San Marino
Sao Tome and Principe
Senegal
Serbia
Seychelles
Sierra Leone
Singapore
Slovakia
Slovenia
Solomon Islands
South Africa
Spain
Sri Lanka
Sudan
Suriname
Sweden
Switzerland
Tajikistan
Thailand
Timor-Leste
Trinidad and Tobago
Togo
Tunisia
Turkey
Turkmenistan
Tuvalu
Uganda
Ukraine
United Arab Emirates
United Kingdom
United Republic of Tanzania
United States of America
Uruguay
Uzbekistan
Vanuatu
Venezuela
Vietnam
Yemen
Zambia
Zimbabwe

STATEMENT OF CONFIRMATION

On behalf of (name of firm or organization):_____, I hereby attest and confirm that:

a) The firm/organization possesses the legal status and capacity to enter into legally binding contracts with the Commission for the supply of equipment, supplies, services or work.

b) The firm/organization is not insolvent, in receivership, bankrupt or being wound up, and not under administration by a court or a judicial officer, and that it is not subject to the suspension of its business or legal proceedings for any of the foregoing reasons.

c) The firm/organization has fulfilled all its obligations to pay taxes and social security contributions.

d) The firm/organization has not, and that its directors and officers have not, within the last five years been convicted of any criminal offense related to professional conduct or the making of false statements or misrepresentations as to their capacity or qualifications to enter into a procurement or supply contract.

e) The Commission, in the event that any of the foregoing should occur at a later time, will be duly informed thereof, and in any event, will have the right to disqualify the firm/organization from any further participation in procurement proceedings.

f) The firm/organization did not/will not attempt to influence any other bidder, organization, partnership or corporation to either submit or not submit a proposal/bid/quotation.

g) The firm/organization will not, in the absence of a written approval from the Commission, permit a person to contribute to, or participate in, any process relating to the preparation of a Quotation/Bid/ Proposal or the procurement process if the person:

   a. at any time during the 12 months immediately preceding the date of issue of the Solicitation was an official, agent, servant or employee of, or otherwise engaged by the Commission;
   b. at any time during the 24 months immediately preceding the date of issue of the Solicitation was an employee of the Commission personally engaged, directly or indirectly, in the definition of the requirements, project or activity to which the Solicitation relates.

h) Neither the organization/firm, its parent entities (if any), nor any of its subsidiary or affiliated entities (if any) have been identified on, or associated with any individual, groups, undertakings and entities identified on, the list established pursuant to the UN Security Council Resolution 1267 (Consolidated Sanctions List).[1]

i) Neither the organization/firm, its parent entities (if any), nor any of its subsidiary or affiliated entities (if any) are subject to any form of sanction imposed by an organization or body within the United Nations System, including the World Bank.

[1] The Consolidated United Nations Security Council Sanctions List can be found on the following website: **https://www.un.org/securitycouncil/content/un-sc-consolidated-list**

j) Neither the organization/firm, its parent entities (if any), nor any of its subsidiary or affiliated entities (if any), is engaged in any practice inconsistent with the rights set forth in the Convention on the Rights of the Child, including Article 32 thereof, which, inter alia, requires that a child shall be protected from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

k) Neither the organization/firm, its parent entities (if any), nor any of its subsidiary or affiliated entities (if any) will use the funds received under contracts/purchase orders with the Commission to provide support to individuals, groups, undertakings or entities associated with terrorism.

l) The prices in the firm/organization's proposal/bid/quotation have been arrived at independently, without consultation, communication or agreement with any other interested companies, competitor or potential competitor with a view to restricting competition.

m) The Commission shall have the right to disqualify the firm/organization from participation in any further procurement proceedings, if it offers, gives or agrees to give, directly or indirectly, to any current or former staff member of the Commission a gratuity in any form, an offer of employment or any other thing of service or value, as an inducement with respect to an act or a decision of, or a procedure followed by, the Commission in connection with a procurement proceeding.

n) The Commission shall have the right to disqualify the firm/organization from participation in any further procurement proceedings if it does not disclose to the Commission any situation that may appear as a conflict of interest, and if it does not disclose to the Commission if any official or professional under contract with the Commission have an interest of any kind in the firm/organization's business or any kind of economic ties with the firm/organization.

o) The firm/organization expressly agrees to abide by the United Nations Supplier Code of Conduct.[1]

Name (print):_____ Signature: _____

Title/Position: _____

Place (City and Country):_____ Date: _____

[1] https://www.un.org/Depts/ptd/about-us/un-supplier-code-conduct

VENDOR PROFILE FORM (VPF) – FOR PRODUCTS/SERVICES/WORK

1. Name of Company:	
2. Street Address:	3. Telephone:
P.O. Box: City:	4. E-Mail:
Zip Code: Country:	5. Website:
6. Contact Person:	Title:
7. Legal Status (e.g. Partnership, Private Limited Company, Government Institution)	
8. Year Established:	9. Number of Employees:
10. Gross Corporate Annual Turnover (US$m)*:	11. Annual Export Turnover (US$m)*:
12. Type of Business/Products: Manufacturer ☐ Sole Agent ☐ Supplier ☐ Other ☐ (please explain)	
13. Type of Business/Services/Work: Engineering ☐ Civil Work ☐ Governmental Institution ☐ Other ☐ (please explain)	
14. References (your main customers, country, year and technical field of products, services or work): **	
15. Previous Supply Contracts with United Nations Organizations (over the last 3 years)** Organization: Value in US$ Equivalent: Year: Organization: Value in US$ Equivalent: Year:	
16. Summary of any changes in your company's ownership during the last 5 years:	

* Please provide a copy of the most recent audited annual report and accounts. Note: Export includes services or work performed abroad or for foreign clients.
** Please provide supplementary documentation on these items.

17. List of Products/Services/Work offered:

Product/Service/Work #	Product/Service/Work Description

18. This section shall be **signed and stamped** by an official legally authorized to enter into contracts on behalf of your organization:

Name: Title: Signature: Date:

Bank Details	**Beneficiary Details**
Bank Name: Bank Address: Exact Account Holder Name:	Beneficiary Name: (exactly as stated on bank statements) IBAN: (if applicable) Account number: SWIFT/BIC: ABA/Sort Code:

Additional Details (if applicable)

Correspondent bank:

Correspondent account number:

Correspondent SWIFT/BIC:

Tax Identification Number:

FOR CTBTO USE ONLY		
Evaluated By:	Initials	Date:
Updated By:	Initials	Date:
Remarks:		

* Please provide a copy of the most recent audited annual report and accounts. Note: Export includes services or work performed abroad or for foreign clients.
** Please provide supplementary documentation on these items.