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| MINISTRY FOR THE ENVIRONMENT, CLIMATE CHANGE AND PLANNING  |
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| **REFERENCE NUMBER:** | **ERDF.05.121 – Tender 033** |
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| **Tender for the supply, delivery and installation of Security Systems (CCTV, Intercom, Intruder Alarm System, and Fire System), as part of ERDF Project ERDF.05.121 – Wildlife Rehabilitation Centre** |
| **Date Published:**  | **Sunday 13th June 2021** |  |
| **Deadline for Submission:** | **Monday 5th July 2021** | **at 12:00am CET/CEST** |
| **Tender Opening:** | **Monday 5th July 2021** | **at 12:00am CET/CEST** |
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|  | Operational Programme I – European Structural and Investment Funds 2014-2020*“Fostering a competitive and sustainable economy to meet our challenges”*Project part-financed by the European Regional Development FundCo-financing rate: 80% European Union; 20% National Funds |  |

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| **IMPORTANT** |
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| **Nature Trust Malta**Contact details (c/o Xrobb l-Għaġin Nature Park and Sustainable Development Centre, Triq Xrobb l-Għaġin, Marsaxlokk, Malta, (+356) 21313150, info@naturetrustmalta.org) |

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# SECTION 1 – INSTRUCTIONS TO TENDERERS

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|  | 1. General Instructions |
|  |  |
| 1.1 | In submitting a tender, the tenderer accepts in full and in its entirety, the content of this tender document, including subsequent Clarifications issued by the Non Governmental Organisation (NGO), whatever the economic operator’s own corresponding conditions may be, which through the submission of the tender is waived. Tenderers are expected to examine carefully and comply with all instructions, forms, contract provisions and specifications contained in this tender document. These Instructions to Tenderers complement the General Rules Governing Tenders for NGOs.No account can be taken of any reservation in the tender in respect of the procurement documents; any disagreement, contradiction, alteration or deviation shall lead to the tender offer not being considered any further. **Prospective tenderers must submit their offer by depositing it in the tender box, located at *Xrobb l-Għaġin Nature Park and Sustainable Development Centre, Triq Xrobb l-Għaġin, Marsaxlokk, Malta*. Prospective tenders take full responsible to submit their offer by the set tender submission deadline.****Note:** **Where in this tender document a standard is quoted, it is to be understood that the Contracting Authority will accept equivalent standards. However, it will be the responsibility of the respective bidders to prove that the standards they quoted are equivalent to the standards requested by the Contracting Authority.**The Estimated Procurement Value for this Call for Tenders has been based on comprehensive research including appropriate financial analysis. In the context of this procurement, the Estimated Procurement Value, based on market research, is that of € 49,000 excluding VAT.The purpose of this value shall be the guidance of prospective bidders when submitting their offer and is not to be considered as a binding capping price. Therefore, the published Estimated Procurement Value is not restrictive and final on the Contracting Authority. Economic Operators are free to submit financial offers above or below the Estimated Procurement Value. However, the Contracting Authority reserves the right to accept or reject Financial Offers exceeding the Estimated Procurement Value |
| 1.2 | The subject of this tender is the provision of the following supplies:* CCTV system,
* Intercom,
* Intruder Alarm System, and
* Fire System

 related to the Wildlife Rehabilitation Centre to be established at Xrobb l-Għaġin, as part of ERDF.05.121 – WILDLIFE REHABILITATION CENTRE |
|  |  |
| 1.3 | The place of acceptance of the services shall be **the still unrestored part of the ex-Deutsche Welle radio relay station at Xrobb l-Għaġin Natural Park**, the time-limits for the execution of the contract shall be **three years** **from last date of signature on contract**, and the INCOTERM2020 applicable shall be **Delivery Duty Paid (DDP).** |
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| 1.4 | This is a unit-price contract. |
|  |  |
| 1.5 | This call for tenders is being issued under an open procedure. |
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| 1.6 | The beneficiary of this tender is *Nature Trust – FEE Malta*. |
| 1.7 | This tender is not a reserved contract. |
|  | 2. Timetable |
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|  | DATE | TIME |
| Clarification Meeting (Refer to Clause 6.1) | Friday 18th June 2021 | 10:00 hrs |
| Deadline for request for any additional information from the NGO**Clarification requests should be addressed to: *info@naturetrustmalta.org*** | Tuesday 22nd June 2021 | 12:00 hrs(noon) |
| Last date on which additional information can be issued by the NGO | Sunday 27th June 2021 | 12:00 hrs(noon) |
| Deadline for submission of tenders/Tender opening session(unless otherwise modified in terms of Clause 10.1 of the General Rules Governing Tendering for NGOs) | Monday 5th July 2021 | 12:00 hrs(noon) |
| \* All times Central European Time (CET) / Central European Summer Time (CEST) as applicable |

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|  | 3. Lots |
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| 3.1 | This tender is not divided into lots, and tenders must be for the whole of quantities indicated. Tenders will not be accepted for incomplete quantities. |
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| 4.1 | 4. Variant SolutionsVariant solutions are not permissible. |
|  | 5. Financing |
| 5.1 | The project is *co-financed* by the European Union/Government of Malta, in accordance with the rules of European Regional Development Fund (ERDF) Operational Programme 1 - Co-financing rate: 80% European Union; 20% National Funds |
| 5.2  | The Contracting Authority of this tender is *Nature Trust Malta* |
|  |  |
|  | 6. Clarification Meeting/Site Visit/Workshop |
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| 6.1 | A clarification meeting/site visit will be held on the date and time indicated in Clause 2, at Xrobb l-Għaġin Nature Park to answer any questions on the tender document which have been forwarded in writing, or are raised during the same meeting. Minutes will be taken during the meeting, and these (together with any clarifications in response to written requests which are not addressed during the meeting) shall be posted online on the NGOs website as a clarification note as per Clause 6.1 of the General Rules Governing Tendering for NGOs. Meetings between economic operators and the NGO, other than that provided in this clause during the tendering period are not permitted.  |
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|  | 7. Selection and Award Requirements |
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|  | In order to be considered eligible for the award of the contract, economic operators must provide evidence that they meet or exceed certain minimum criteria described hereunder. |
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|  | **(A) Eligibility Criteria** |
|  | (i)(ii) | No Bid Bond is required.(Note 1)Declare agreement, conformity and compliance with the provisions of the Statement on Conditions of Employment by completing and submitting the form with title Statement on Conditions of Employment.  |
|  | (iii)(iv) | Power of Attorney (if applicable) (Note 2)Information re Joint Venture/Consortium (Note 2) |
|  | (B) Exclusion (including Blacklisting) and Selection Criteria – information to be submitted through the completion of the following declaration forms: |
|  | (i) | Declaration concerning exclusion grounds |
|  | (ii) | Declaration concerning *Selection Criteria*  |
|  |  |
|  | **(C) Technical Specifications** |
|  | The bidder is to comply with the technical specifications as outlined under Section 4 (Terms of Reference) of this tender document and submit the following documentation: |
|  | (i) | Tenderer’s Technical Offer in response to specifications – Bidders shall use the form provided. (Note 3) |
|  | (ii)  | Key Experts Form(Note 2), the Statement of Exclusivity and Availability Form(Note 2), and, if applicable, Public Employees Declaration Form(Note 2), in respect of:* Warranted Engineer
* Skilled Installer
 |
|  | (iii) | Literature as per Form marked ‘Literature List’ to be submitted with the Technical offer at tendering stage. Alternatively, an Economic Operator can quote a reference number under which he/she has already supplied items so that there would be no need to submit literature. (Note 2) |
|  | (iv) | No Samples will be requested at evaluation stage to supplement the technical offer submitted. |
|  | **(D) Financial Offer** |
|  |  |
|  | (i)(ii) | The Tender Form and Tenderer’s Declaration are to completed and submitted with the offer; a separate Tender Form is to be submitted for each option tendered, each form clearly marked ‘Option 1’, ‘Option 2’ etc.; (Note 3)A financial offer is to be submitted by filling in Financial Bid Form, and is to be calculated on the basis of **Delivered Duty Paid (DDP)2020 (Grand Total)** for the works tendered.(Note 3) |
|  |  |
|  | **Notes to Clause 7:***1. Tenderers will be requested to clarify/rectify, within five (5) working days from notification, the tender guarantee only in the following four circumstances: incorrect validity date, and/or incorrect value, and/or incorrect addressee and incorrect name of the bidder. Rectification in respect of the Tender Guarantee (Bid Bond) is free of charge.**2. A) Tenderers will be requested to either clarify/rectify any incorrect and/or incomplete documentation, and/or submit any missing documents within five (5) working days from notification.* *3. No rectification shall be allowed. Only clarifications on the submitted information may be requested.****Request for Clarification and / or rectifications concerning a previous request dealing with the same shortcoming shall not be entertained.*** |
| 8.1 | **8. Tender Guarantee (Bid bond)**No tender guarantee (bid bond) is required. |
|  | 9. Criteria for Award |
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| 9.1 | The sole award criterion will be the price. The contract will be awarded to the tenderer submitting the cheapest priced offer satisfying the administrative and technical criteria. |
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# SECTION 2 – EXTRACTS FROM THE PUBLIC PROCUREMENT REGULATIONS

Part **X** of the Public Procurement Regulations

270. Any tenderer or candidate concerned, or any person, having or having had an interest or who has been harmed or risks being harmed by an alleged infringement or by any decision taken including a proposed award in obtaining a contract, a rejection of a tender or a cancellation of a call for tender after the lapse of the publication period, may file an appeal by means of an objection before the Review Board, which shall contain in a very clear manner the reasons for their complaints.

271. The objection shall be filed within ten calendar days following the date on which the NGO has by fax or other electronic means sent its proposed award decision or the rejection of a tender or the cancellation of the call for tenders after the lapse of the publication period.

272. The communication to each tenderer or candidate concerned of the proposed award or of the cancellation of the call for tenders shall be accompanied by a summary of the relevant reasons relating to the rejection of the tender as set out in regulation 242 or the reasons why the call for tenders is being cancelled after the lapse of the publication period, and by a precise statement of the exact standstill period.

273. The objection shall only be valid if accompanied by a deposit equivalent to 0.50 per cent of the estimated value set by the NGO of the whole tender or if the tender is divided into lots according to the estimated value of the tender set by the NGO for each lot submitted by the tenderer, provided that in no case shall the deposit be less than four hundred euro (€400) or more than fifty thousand euro (€50,000) which may be refunded as the Public Contracts Review Board may decide in its decision.

274. The Secretary of the Review Board shall immediately notify the Director and/or the NGO as the case maybe that an objection had been filed with his authority thereby immediately suspending the award procedure.

275. The NGO involved, as the case may be, shall be precluded from concluding the contract during the period of ten calendar days allowed for the submission of appeals. The award process shall be completely suspended if an appeal is eventually submitted.

276. The procedure to be followed in submitting and determining appeals as well as the conditions under which such appeals may be filed shall be the following:

1. any decision by the General Contracts Committee or the Special Contracts Committee or by the NGO shall be made public by affixing it to the notice-board of the same NGO as the case may be or by uploading it on Government’s e-procurement platform prior to the award of the contract if the call for tenders is administered by the NGO;
2. the appeal of the complainant shall also be affixed to the notice-board of the Review Board and shall be communicated by fax or by other electronic means to all participating tenderers;
3. the NGO and any interested party may, within ten calendar days from the day on which the appeal is affixed to the notice-board of the NGO and uploaded if/where applicable on the Government’s e-procurement platform, file a written reply to the appeal. These replies shall also be affixed to the notice-board of the Review Board and where applicable it shall also be uploaded on the Government’s e-procurement platform;
4. within three working days of the publication of the replies, the Secretary of the Review Board shall prepare a report (the Analysis Report) analysing the appeal and any reply to it. This report shall be circulated to the persons who file an appeal and to all parties who submitted a reply to the appeal;
5. after the preparatory process is duly completed, the Director or the Head of the NGO shall forward to the Chairman of the Review Board all documentation pertaining to the call for tenders in question including files, tenders submitted, copies of deposit receipts and any motivated letter;
6. The secretary of the board shall inform all the participants of the call for tenders, the NGO of the date or dates as the case maybe when the appeal will be heard;

(g) When the oral hearing is concluded, the Public Contracts Review Board, if it does not deliver the decision on the same day, shall reserve decision for the earliest possible date to be fixed for the purpose, but not later than six weeks from the day of the oral hearing:

Provided that for serious and justified reasons expressed in writing by means of an order notified to all the parties, the Public Contracts Review board may postpone the judgment for a later period.

(h) The secretary of the board shall keep a record of the grounds of each adjournment and of everything done in each sitting;

(i) After evaluating all the evidence and after considering all submissions put forward by the parties, the Review Board shall decide whether to accede or reject the appeal.

SECTION 3 – SPECIAL CONDITIONS

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|  | **These conditions amplify and supplement, if necessary, the General Conditions governing the contract. Unless the Special Conditions provide otherwise, those General Conditions remain fully applicable. The numbering of the Articles of the Special Conditions is not consecutive but follows the numbering of the Articles of the General Conditions. Other Special Conditions should be indicated afterwards.** |
|  | **For the purposes of contracts issued by NGOs, the term ‘approval from the Central Government Authority’ shall be substituted by the term ‘approval by the Head responsible for that NGO’; Furthermore, any references to the Contracting Authority throughout the General Conditions shall be deemed to be referring to the NGO responsible for that procurement.** |
|  |  |
|  | Article 2: Law Applicable |
| 2.1 | The laws of Malta shall apply in all matters not covered by the provisions of the contract. |
| 2.2 | The language used shall be English. |
|  | ***Article 3: Order of Precedence of Contract Documents*** |
| 3.1 | The contract is made up of the following documents, in order of precedence:(a) the Contract; (b) the Special Conditions; (c) the General Conditions; (d) the Contracting Authority’s technical specifications and design documentation;(e) the Contractor’s technical offer, and the design documentation (drawings); (f) the financial bid form (after arithmetical corrections)/breakdown; (g) the tender declarations in the Tender Response Format; (h) any other documents forming part of the contract.Addenda have the order of precedence of the document they are modifying. |
|  | Article 4: Communications |
| 4.1 | Any communication shall be carried out with:Nature Trust Malta, c/o Xrobb l-Għaġin Nature Park and Sustainable Development Centre, Triq Xrobb l-Għaġin, Marsaxlokk, Malta Email: info@naturetrustmalta.orgCommunications shall preferably be carried out by email. |
|  |  |
|  | Article 7: Supply of Documents |
| 7.4 | 1. Prior to the commencement of works, the Contractor shall provide the Contacting Authority with:* Working drawings, diagrams, schedules of materials, etc., necessary, to be submitted to the Consultant Engineer for approval before proceeding with the works **within two week** from last signature of Contract.

2. At commissioning stage, or final installation, the Contractor shall provide:* User Manual for equipment
* Full set of as fitted drawings.

These shall include 1 hard copy and a digital copy on 2 separate USBs. |
|  |  |
|  | Article 8: Assistance with Local Regulations |
| 8.3 | As per general conditions |
|  |  |
|  | Article 9: The Contractor’s Obligations |
| 9.6 | Without prejudice to the obligations arising from the specifications, and the General Conditions, the Contractor shall take the necessary measures to ensure the visibility of the European Union co-financing. These measures must comply with the rules laid down and published by the Commission on the visibility of external operations as well as the Visibility Guidelines as issued by the Managing Authority responsible for ERDF funds in Malta. |
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|  | Article 10: Origin |
| 10.1 | As per General Conditions |
|  |  |
|  | Article 11: Performance Guarantee |
| 11.1 | The Contractor shall, within 15 calendar days of receipt of the contract, sign and date the contract and return it together with a copy of the Performance Guarantee. The copy of the Performance Guarantee forwarded to the Central Government Authority is to be endorsed by the Contracting Authority prior to submission. The contract will not be endorsed by the Contracting Authority/Central Government Authority until the performance guarantee is submitted. The Contractor is therefore obliged to forward the original Performance Guarantee to the Contracting Authority. The amount of the guarantee shall be 4% where the amount of the total contract value is between €10,000 and €500,000 exclusive of VAT, and 10% where the amount of the total contract value is €500,000 or above. Economic Operators have the possibility to provide the Contracting Authority with a Single Bond covering the performance guarantees for all the contracts with the same Contracting Authority. If an additional contract is awarded to a given contractor, which results in an economic operator’s current cumulative contracts value to go beyond the contract value range currently covered by the Single Bond, the contractor is to be requested to; either submit a separate Performance Guarantee for the additional contract; or else submit a new Single Bond to cover the new total contracts value or submit an amendment to the original Single Bond specifying the new amount. If an Economic Operator chooses to make use of the Single Bond, he must submit a letter from the respective Contracting Authority specifying that the amount of the Single Bond covers the new Contract, otherwise the new Contract Agreement would not be signed. |
| 11.3 | The performance guarantee shall be in the format given in Section 5 and shall be provided in the form of a bank guarantee. |
| 11.7 | The Performance Guarantee shall be released within 30 days from Provisional Acceptance.  |
|  |  |
|  | Article 12: Insurance |
|  | Not applicable |
|  |  |
|  | Article 13: Performance Programme (Timetable) |
| 13.1 | The bidder is required to present a detailed realistic programme of works (through a Gantt chart) describing the work plan, as part of its Technical Offer. The Contractor shall be expected to honour its commitments in terms of timeframes and deadlines, as expressed in its Technical Offer. |
| 13.2 | The systems shall be commissioned within **five months** from the last signature of contract. Without prejudice to the Generality of this clause, the Contracting Authority may request the Contractor to postpone delivery deadlines due to works related to the implementation of other Tenders/Contracts. |
|  |  |
|  | Article 14: Contractor’s Drawings/Diagrams |
| 14.1 | As per Article 7 of these Special Conditions |
| 14.7 | As per Article 7 of these Special Conditions |
|  |  |
|  | Article 15: Tender Prices |
| 15.1 | As per General Conditions |
|  |  |
|  | Article 16: Tax and Customs Arrangements |
| 16.1 | As per General Conditions |
| 16.2 | As per General Conditions |
|  |  |
|  | Article 17: Patents and Licences |
| 17.1 | As per General Conditions |
|  |  |
|  | Article 18: Commencement Order |
| 18.1 | The date for the Commencement of the performance of the contract shall be construed to read the date of last Signature of Contract |
|  |  |
|  | Article 19: Period of Execution of Tasks |
| 19.1 | As per Article 13.2 of the Present Special Conditions |
|  |  |
|  | Article 21: Delays in Execution |
|  | As per General Conditions. |
|  |  |
|  | Article 22: Modification to the Contract |
| 22.1 | *No Modifications to the Contact shall be allowed.* |
|  |  |
|  | ***Article 24: Quality of Supplies*** |
| 24.2 | As per General Conditions |
|  |  |
|  | Article 25: Inspection and Testing |
| 25.2 | Further to what is stated in the General Conditions Inspection and Testing shall be carried out at Xrobb l-Għaġin Nature Park |
|  |  |
|  | Article 26: Methods of Payment  |
|  |  |
| 26.1 | Payments will be made in Euro.Payments shall be authorized by the Contracting Authority, and paid by the Treasury Department. |
| 26.3 | As per General Conditions. |
|  |  |
| 26.5 | *As per* General Conditions, payments shall be made as follows:a) 60% of the contract value after the signing of the contract, against provision of the Pre- financing Guarantee as a security guaranteeing repayment in full of this pre-financing;b) the remaining balance of the contract price following provisional acceptance of the supplies.Accordingly, the Contractor must request a pre-financing for operations, in line with point a above, connected with the execution of the Contract, as a lump sum advance enabling it to meet expenditure resulting from the commencement of the contract. The Contractor shall provide the Contracting Authority with a pre-financing guarantee for the value of the said pre-financing, within 30 days from the last signature of contract. Such a guarantee shall be issued by a bank as per template provided by the Contracting Authority.The pre-financing guarantee shall be released as per General Conditions. |
| 26.7 | All supplies are covered by a warranty of two years |
| 26.9 | Not applicable |
|  |  |
|  | Article 28: Delayed Payments |
| 28.1 | The Contracting Authority shall pay the contractor sums due within 60 days of the date on which an admissible payment is registered, in accordance with Article 26 of these Special Conditions. This period shall begin to run from the approval of these documents by the competent department referred to in Article 26.1 of these Special Conditions. These documents shall be approved either expressly or tacitly, in the absence of any written reaction in the 30 days following their receipt accompanied by the requisite documents. |
| 28.2 | Once the deadline laid down in Article 28.1 has expired, the Contractor may, within two (2) months of late payment, claim late-payment interest: 1. meaning simple interest for late payment at a rate which is equal to the sum of the reference rate and at least eight percent (8%);
2. on the first day of the month in which the deadline expired.

The late-payment interest shall apply to the time which elapses between the date of the payment deadline (exclusive) and the date on which the Contracting Authority's account is debited (inclusive). |
|  |  |
|  | Article 29: Delivery |
| 29.1 | Further to the provisions of the General Conditions, the Contractor shall bear all risks relating to the supplies until provisional acceptance at destination. The supplies shall be packaged so as to prevent their damage or deterioration in transit to their destination. |
| 29.2 | As per General Conditions |
| 29.3 | The packaging shall remain the property of the Contractor subject to respect for the environment. |
| 29.5 | A delivery note clearly outlining in detail the items supplied, any serial number of the relevant equipment and the date of delivery.  |
| 29.6 | As per relevant regulations |
|  |  |
|  | Article 31: Provisional Acceptance |
|  | Without prejudice to the General Conditions, a Provisional Certificate of Acceptance shall be issued by the Contracting Authority once it is fully satisfied that the Contractor has successfully Commissioned the relevant supplies and provided the relevant documentation requested under these Special Conditions in connection with such supplies. |
|  |  |
|  | Article 32: Warranty |
| 32.1 | This warranty shall remain valid for two (2) years after provisional acceptance.  |
| 32.7 | Such warranty shall be provided to guarantee quality and longevity of the supplies and shall be inclusive of BOTH parts and labour. |
|  |  |
|  | Article 33: After-Sales Service |
| 33.1 | Not Applicable |
|  |  |
|  | Article 35: Breach of Contract |
| 35.3 | Without prejudice to the Government’s right to dissolve ‘ipso jure’ the contract in the case of infringement of any condition thereunder and apart from the deduction established for delay in delivery, any such infringement shall render the contractor, in each case, liable to a deduction by way of damages of 5 per cent of the value of the contract, unless the Government elects, with regard to each particular infringement, but not necessarily with regard to all infringements, to claim actual damages incurred. |
|  |  |
|  | Article 37: Termination by the Contractor |
| 37.1 (a) | The deadline in respect of Article 37.1 (a) of the General Conditions shall read as six (6) months from the date of issue of Certificate of Partial or Provisional Acceptance by the Contracting Authority or designated representatives. |
|  |  |
|  | Article 41: Dispute Settlement by Litigation |
|  | If no settlement is reached within 120 days of the start of the amicable dispute-settlement procedure, each Party may seek:1. either a ruling from a national court, or
2. an arbitration ruling, in the case where the parties i.e. the contracting Authority and the Contractor, by agreement decide to refer the matter to arbitration.
 |
|  |  |

# SECTION 4 –SPECIFICATIONS/TERMS OF REFERENCE (Note 3)

**Terms of Reference**

|  |
| --- |
| **Note:** **Where in this tender document a standard is quoted, it is to be understood that the NGO will accept equivalent standards. However, it will be the responsibility of the respective bidders to prove that the standards they quoted are equivalent to the standards requested by the NGO.** |

# 1.0 Background Information

**The information in this section is being provided by way of background, and for the information of potential bidders.**

The aim of the ERDF PROJECT ERDF.05.121 – WILDLIFE REHABILITATION CENTRE is primarily to set up a Wildlife Rehabilitation Centre to provide ex-situ rehabilitation of wildlife from across Malta and surrounding seas: marine (turtles and cetaceans), terrestrial (such as hedgehogs, shrews, lizards, snakes and bats) and avian fauna. Following rehabilitation, if possible, they will be released into their natural habitat. It should be a unique, all year round visitor attraction visitors with the opportunity to interact with the rehabilitating wildlife.

The Contracting Authority, in partnership with the Ministry for the Environment, Climate Change and Planning was successful in its submission for ERDF funds to fund the setting-up of this Centre. In this regard, any work on the project has to be carried out within the parameters defined by the Grant Agreement entered into by NTM and the Managing Authority for ERDF funds. The Planning and Priorities Coordination Division (PPCD) within the Parliamentary Secretariat for EU Funds within the Office of the Prime Minister, is the designated Managing Authority (MA) responsible for the overall coordination and management of the European Regional Development Fund (ERDF) and the Cohesion Fund (CF) under Operational Programme I (2014-2020). The MA issues calls for proposals for ERDF and CF at different intervals of the Programme’s lifetime. The project was successful under one such call.

The present infrastructure for ex-situ conservation in Malta is, to say the least, quite limited and to date the rehabilitation of such species has been carried out in a piecemeal manner, mainly by NTM, through its Wildlife Rescue Team which provides rescue services for both marine and terrestrial fauna on a 24/7 basis. The team is composed of a group of volunteers, made up of divers, biologists and marine mammal medics who are covered by permits from the Environment and Resource Authority (ERA) to respond to calls for the handling of local protected wildlife. Injured turtles and cetaceans are taken to San Lucjan’s Rehabilitation Centre and/or a veterinarian’s clinic where they are treated by or under the supervision of a qualified veterinarian. Other animals (including hedgehogs, lizards, chameleons, shrews, bats, wild rabbits, and weasels), after being examined by a veterinarian, are taken, under ERA permit to the volunteer’s homes where they are treated, medicated and taken care of until they may be released once more into the wild. Turtles are released during dedicated events in the presence of the media and distinguished guests, amongst others, as part of an effort to raise awareness about risks to biodiversity and rehabilitation efforts. Other species are released by the volunteers at the place of rescue or in a nearby protected area.

The project will also cater for CITES animals which are presently hosted at the Small Animal Quarantine facilities in Luqa, which is managed by the Ministry for Sustainable Development, Environment and Climate Change. The site was designed to host small animals and pets (dogs, cats and ferrets) who do not meet all the requirements for entry into Malta under the Pet Passport scheme, for a short period of time in quarantine to minimise the risk of disease being brought into the islands. However, CITES species that are found in Malta illegally, are also kept there until their position is regularised and/or they may be returned to their country of origin or released into the wild.

The Wildlife Rehabilitation Centre will be hosted in part of the ex-Deutsche Welle radio relay station at Xrobb l-Għaġin Natural Park. It will compliment a first project in the area carried out between 2007 and 2011 through a grant from Iceland, Liechtenstein and Norway though the EEA financial mechanism and the Norwegian financial mechanism, which project saw the rehabilitation of a hitherto degraded area and some of the derelict buildings in the area into a natural park and a Sustainable Development Centre. That project had left some buildings unutilised, and thus still in a derelict state. The present project is proposing the rehabilitation of those buildings and their use as parts of the proposed Wildlife Rehabilitation Centre.

# 2.0 Specifications

The following installations shall be suitable for a saline environment. Hence, all installations shall be of polycarbonate construction or stainless steel 316L construction, installations using equipment with aluminium construction shall not be acceptable.

# 2.1 Preamble to the Specification

# 2.1.1 Scope of work

1. The contractor shall prepare such installation diagrams, wiring drawings and schematics as may be necessary in the Engineer's opinion. These shall be submitted to the engineer for approval before execution of the work.
2. The contractor shall keep such records as necessary, in order to be able to complete the as-fitted drawings upon completion of the works.
3. The whole works shall be scheduled by the Principal Contractor on site by consulting the engineer and client’s requirements. The contractor is responsible for preparing an overall works programme which shall require the approval of the engineer and client. The contractor shall bind himself to co-ordinate the programme of works with the works of other contractors.
4. The Principal contractor is to submit technical literature covering all key components of the system being proposed.

# 2.2 GENERAL

# 2.2.1 Regulations

The whole of the works shall be executed to the entire satisfaction of the Engineer and shall comply with the B.S. / Relevant European Norms.

# 2.2.2 Standard Specification

All the material used shall comply with the relevant B.S. / EN Should the contractor quote for equipment of different specifications he shall give a full description of the standards to which the equipment conforms.

# 2.2.3 Electricity Supply

The electricity supply shall be 230V 50Hz earthed neutral.

# 2.2.4 Other Services

The following works are covered by other sections of the specification:

 (i) Provision of electrical supply points.

 (ii) Laying of all necessary conduit and trunking.

# 2.2.5 Uniformity

All materials used under this contract shall be of uniform design throughout. Similar parts and equipment being interchangeable.

# 2.2.6 Testing and Commissioning

The contractor shall provide all the necessary instruments and labour to test the system and show its performance to the satisfaction of the Engineer and Client. Test results shall be recorded in triplicate and signed by the Engineer and the contractor.

# 2.2.7 Installation

The installation shall be carried out in PVC conduit surface mounted or concealed as specified, as well as in galvanised trunking where indicated on the drawings. In case of fire detection, the appropriate fire resistance cable cleats shall be used.

Single strand conductors shall not be accepted. The cables used shall satisfy the specification for fire-resistant cables and shall be of the LSZH type.

The cables used for the various installations shall be as follows

*Data installation: Cat 6 LSZH / Corrugated Steel Armoured Fibre Optic*

*Fire detection installation: Manufactured to BS 7629, fire properties to BS 6387 Cat CWZ, or BS50200 including optional ANNEX E test*

Connections in cables shall not be allowed except at terminations and fittings unless otherwise authorized in writing by the Engineer.

All equipment of the fire alarm detection elements, etc., shall be installed as late as possible to minimize the risk of damage or loss and in any event not until the building work and preferably the decoration work is at an advanced stage.

All the cables shall be clearly marked at terminations and along their length for clear identification if, and when required.

# 2.2.8 Submittals

The contractor is to submit technical literature covering all key components of the system being proposed.

# 2.3 MATERIAL SPECIFICATIONS - Fire Alarm and Detection System

# 2.3.1 Equipment

 Main equipment shall include:

1. Conventional Fire Alarm Panels
2. Photoelectric smoke detectors
3. Break glass call points
4. Rate of rise heat detectors
5. Beacon light
6. Back up batteries/charger
7. Fire Sounders
8. Beam Transmitter / Receiver set

# 2.3.2 Addressable Control Panel

 There will be one Main Control Panel in the building located in the Reception area upon entering Block B. The Main Control Panel shall be of the 6 zone panel type. It shall have comprehensive fault monitoring, using microprocessor control. This shall include both open and short circuit fault monitoring on the detection and alarm sounder circuits, monitoring for earth faults, battery disconnection or failure and for correct operation of power supply and charger. In the event of mains failure, the reserve batteries shall provide a minimum of 72 hours standby. These batteries are to be charged by an integral charger in the system. The panel shall be fully automatic but shall also have manual test and operation facility.

 The sounder circuits shall be fed from the panel itself. Localised power supplies for sounder circuits shall not be acceptable.

 The controls shall be enclosed in a sheet steel enclosure with a polycarbonate window displaying system indicators and allowing visual checks of system status.

 Main features of the control panel shall be:

1. 6 zones
2. External evacuation facility
3. Master alarm sounder supply (24Vdc)
4. 8 Alarm circuit controls
5. Auxiliary relay contacts
6. Temperature operation up to 60°C
7. Earth fault mon1itoring
8. Open circuit monitoring
9. Detector isolation
10. Lamp test to test all LED's on the panel
11. Battery load test
12. Minimum 72 hours standby
13. Fault diagnosis for ease of servicing and maintenance
14. Two wire loop detection circuits
15. First up signalling facility to give indication of fire condition spreading from an original to subsequent address, original address indication shall be a flashing light; subsequent addresses constant light.
16. The panel shall be suitable to set the sensitivity of any individual detector.
17. Internal buzzer for alarm indication
18. Silence fault buzzer switch
19. Short sounder switch
20. Delay time (0 - 12 minutes) before general alarm sounding with manual override switch allowing sounding of alarms in particular hazard zones only.
21. Commissioning and maintenance made allowing one zone to be isolated for tests to be carried out on its detectors and sound system. All other zones operate normally.
22. The panel shall be suitable to trigger Fire and Smoke dampers
23. The panel shall be suitable to trigger the magnetic door release units in order to close the fire doors in case of fires.
24. The system shall include Magnetic door holders that shall be interfaced with the fire door, as indicated in the fire detection layouts. The system shall include all relays/interface units required for complete integration to the fire alarm panel for a complete operating system.
25. Integral printer in order to be able to retain a hard copy of alarms
26. LPCB Certified

The panel shall be programmed to indicate the zones, such that in the event of a fire condition the operator would be given an indication of which zone would have been triggered.

 The system is to be supplied complete with operating instructions printed on the front panel, system logbook, installation notes, maintenance manual, spare fuses and spare glasses (call points).

# 2.3.3 Smoke/Heat Detectors

Each detector is to be supplied with a mounting base suitable for two wire circuits. The detector is to be fitted on to a separable base and shall include addressing capabilities. The detectors shall incorporate an LED, which is illuminated when the detector is triggered.

 These smoke/heat detectors shall be suitable for installation in all the conditions below:

* Ceiling Mounted;
* Below Platform Mounted.

####  Photoelectric smoke detector

This shall be suitable for detecting combustion products generated by smoky and smoldering fires and should not give any false alarms by tobacco smoke, insects or electrical transients. The detector is to have addressing capabilities.

 These detectors shall comply with BS EN 54-7.

####  Rate of rise heat detector

This shall have dual sensing elements combining rate of rise response together with a fixed temperature response.

 The detector shall comply to BS EN54-5.

####  Optical Beam smoke detector

This shall be suitable for detecting combustion products generated by smoky and smoldering fires and should not give any false alarms by tobacco smoke, insects or electrical transients. The detector is to have addressing capabilities.

 These detectors shall comply with BS EN 54-12 or equivalent.

# 2.3.4 Manual call points

 This shall be flush mounted complying to BS 5839 Part 2 and suitable for use in fire alarm system covered by BS 5839-1. The case is to be red fire resistant plastic. Contacts are to close on break of element and are to be rated at 10A 12/24Vdc. The device shall be equipped with an LED that shall act as a status indicator (normal/fault condition).

 The push element shall consist of a square plastic window that clearly detaches from the red housing by using finger or thumb pressure only. The activation element shall be of the type that does not break but moves back and closes the contact. This shall be re-settable with a specific key, at least two copies of which will be handed over to the client upon commissioning.

 All manual call points shall be equipped with a protective cover which serves to reduce the possibility of unintended activation.

 Testing shall be possible by activating the device as per above and reset using the key provided.

 Devices shall be in line with BS EN 54-11.

# 2.3.5 Electronic Sounders

 These shall be according to BS EN 50131-1. It shall be suitable for 24Volts DC operation. The units installed in the corridors and public areas shall be rated at 105dBA at 1 meter whilst the sounders in the smaller rooms / offices shall be rated at 90dBA at 1meter. The main housing moulding shall be of a self-extinguishing shatterproof plastic. It shall be suitable for surface mounting. The main body shall connect to the back plate by a bayonet type locking action. The sounders shall be suitable for both wall-mounted, and soffit-mounted installation as indicated in the drawings.

# 2.3.6 Cable for Fire Alarm System

 The cable to be used for the fire alarm installation shall be tested to BS EN 50200 (also tested to Annex E). It shall be fireproof to BS 6387 cat CWZ. It shall also meet all the requirements of the CWZ classification.

# 2.3.7 Installation

 The fire proof cable shall be clipped using the appropriate fire proof clips directly to the wall / ceiling where installed above soffits and shall be installed in PVC conduit chased in walls or laid in screed in the case of down drops including manual call points, sounders etc. Installation below raised flooring is to be on galvanised trunking/cable trays as required. Propriety cable clips shall be installed at intervals of not greater than 300mm.

# 2.3.8 Auto dialler

 The contractor shall supply and install an auto-dialling unit. This shall transmit fire/security alarms via the Public Switched Telephone Network, to at least four locations.

# 2.4 MATERIAL SPECIFICATION – CAT6 cable installation

# 2.4.1 Data Cable

Horizontal distribution cable for data circuits shall be Category 6. The cabling shall be 23 AWG, 4-pair, F/UTP, with a LSZH jacket suitable for external use, with UV stabilized outer jacket. Cable jacketing shall be lead-free. The cable shall meet all the performance requirements listed in the Category 6 standard. The cable shall be supplied on wooden reels or in reel-in-box.

Cable shall be installed in accordance with manufacturer’s recommendations and best industry practices. Cable tray, trunking and conduits shall not be filled greater than the ISO/IEC 14763-2 maximum fill for the particular pathway type. Cables shall be installed in continuous lengths from origin to destination (no splices). The cable’s minimum bend radius and maximum pulling tension shall not be exceeded. Cable bundles and all horizontal cables shall be supported at a maximum of 1.2m intervals. At no point shall cable(s) rest on false ceiling grids or panels. Horizontal distribution cables shall be bundled in groups of not greater than 48 cables. Cable bundle quantities in excess of 48 cables may cause deformation of the bottom cables within the bundle. The contractor shall install clips to support the cabling. Any cable damaged or exceeding recommended installation parameters during installation shall be replaced by the contractor at his own cost prior to final acceptance. Shielded twisted pair cable shall be installed so that there are no bends more than four times the cables outside diameter (4 X cable O.D.) at any point in the run. Pulling tension on 4-pair cables shall not exceed 150N for a single cable or cable bundle.

Patch panels shall be 1U or 2U high and provide 24 or 48 modular jack ports, wired to T568B. Each port shall be capable of accepting an icon or label to indicate its function. Termination of cables on Patch Panel modular jacks shall be completed using a hand tool which employs a fully repeatable, self centering, non-impact mechanical termination process. Each patch panel shall be solidly bonded to the building’s electrical ground system in order to properly ground the shield of the cables terminated on it. The contractor is to supply all the materials and labour necessary for the construction of a suitable grounding point should this not be already present in the room that houses the wiring cabinet. The grounding point used to earth the patch panels shall be connected directly to the building’s earth mat so that it is at the same potential as the electrical power ground; however it must not use the same earth conductors as the electrical power installation.

Each Category 6 cable shall be terminated at the outlet location on an 8-position, 8-conductor Category 6 jack to the T568B colour code. The termination shall be carried out using a hand tool which employs a fully repeatable, self-centering, non-impact mechanical termination process. This process shall simultaneously cut and terminate all 8 conductors to the modular jack. The outlet plates, unless otherwise noted, shall be mounted to single gang boxes, recessed and / or surface mount boxes as required. Back boxes must be supplied where required. Floor boxes including any necessary mounting plates, as required, will be supplied by the contractor and installed as indicated in the attached drawing.

Cables shall be dressed and terminated in accordance with the recommendations made in the ISO/IEC 11801 2nd Edition document, manufacturer’s recommendations and/or best industry practices. Pair untwist at the termination shall not exceed 6mm for Category 6 connecting hardware. Bend radius of the cable in the termination area shall not be less than 4 times the outside diameter of the cable. The cable jacket shall be maintained as close as possible to the termination point.

All cables and termination hardware shall be 100% tested for defects in installation and to verify cable performance under installed conditions. The contractor prior to system acceptance shall verify all conductors of each installed cable useable. Any defect in the cabling system installation including but not limited to cable, connectors and patch panels shall be repaired or replaced in order to ensure 100% useable conductors in all cables installed. Any repaired or replaced cables shall be re-tested prior to final acceptance.

The balanced copper channels shall be tested using a level IIIe tester as specified in IEC61935-1. Level IV testers may be used, provided they meet the accuracy level IIIe as specified in IEC 61935-1, when using a 8 position RJ45 modular interface. Level IV testers as specified by IEC 61935-1 are only specified using a Category 7 interface and can therefore not by default meet the accuracy level specified for level IIIe. This verification has to be proven by the manufacturer or by 3rd party certification.

Each pair of each installed cable shall be tested using a “green light” test set that shows opens, shorts, polarity and pair-reversals. Shielded/screened cables shall be tested with a device that verifies shield continuity in addition to the above stated tests.

Each installed cable shall be tested for installed length using a TDR type device. The cables shall be tested from patch panel to patch panel and patch panel to outlet as appropriate. The cable length shall conform to the maximum distances set forth in the ISO/IEC 11801 2nd Edition Standard. For multipair cables, the longest pair length shall be recorded as the length for the cable.

Category 6 data cable shall be performance verified using an automated test set to ISO/IEC 11801 2ND Edition CLASS EA -CH Channel parameters. Test results shall be automatically evaluated by the equipment, using the most up-to-date criteria from the ISO/IEC 11801 2nd Edition Standard.

All test results shall be recorded as pass/fail and referenced to the appropriate cable identification number and circuit or pair number. In addition, each measured value of each test parameter shall be recorded, displayed in relation to the appropriate test limits and referenced to the appropriate cable identification number and circuit or pair number. A copy of the test results shall be submitted by the contractor, in both hard copy and electronic formats, upon final commissioning

# 2.4.2 Network Cabinet – 19”

Unless otherwise indicated on plans: The cabinet should have the following dimensions: -

* Standard Data Cabinets 800mm wide by 800mm deep

The network cabinets shall be designed in accordance to the following standards: IEC 60297-3-100, DIN 41484 parts 1 and 7, ANSI/EIA-310-E and UNE 20 539-2. The unit shall have louvers on the bottom panel and shall have four factory fitted 6”ventilation fans on the uppermost board. It shall have four 19-inch universal uprights that can be easily adjusted front to rear from inside the cabinet without the need to open the side panels. The front and back rails shall have the U positions marked on them. It shall be constructed of minimum 16-gauge steel. The front panel shall be made of clear plexi-glass such that all items fitted in the cabinet can be clearly visible without opening the front panel. The front panel shall be hinged. The panel shall be lockable with a key. The side panels shall be dismountable.

Furthermore, the cabinet shall be supplied complete with the following accessories:

* One 1U horizontal mounting, 12-way power distribution unit (PDU) with IEC-320-C13 outlets. The PDU shall be equipped with a cable retaining bracket to which the equipment power cords can be secured.
* Vertical cable management channels mounted front and back, one next to each of the four 19-inch uprights. Each channel shall be equipped with detachable cable retainers to hold the cables securely inside the channel while allowing easy access for passing cables. Each channel shall be at least 100mm wide x 120mm deep
* A suitable number of 1-U horizontal cable management frames to allow the patch-cords from each patch panel port to be safely housed and routed to the switch ports as necessary.

All the cabinet accessories shall be procured from the same manufacturer as the cabinet itself so as to ensure compatibility and a neat final installation. Size shall be as indicated in the BOQ.

# 2.4.3 Wall plates

The wall plates shall be of the following two types;

1. Dual: capable of holding up to two RJ-45 CAT6 modular socket outlets and suitable to fit a 3’’ x 3’’ box.
2. Quad: capable of holding up to four RJ-45 CAT6 modular socket outlets and suitable to fit a 6’’ x 3’’ box.

Suitable blank plates shall be provided for all wall plates that shall not be equipped with their full capacity of modular socket outlets, as required. All outlets shall be such as to accept an icon or label in order to simplify identification. A sample wall plate of the exact model and colour shall be supplied at tendering stage. The wall plates shall be white plastic of the same colour as the rest of the wiring accessories being used in the project.

The wall plates shall hold the modular socket outlets at an angle so as to maximise the bending radius of the CAT6 wires inside the outlet box. In any case, the bending radius of the cable at the termination outlets shall not be less than 4 times the outside diameter of the cable. The modular socket outlets shall be snap-in, such that they can be easily replaced if damaged.

# 2.4.4 Earthing of External Access Points

The external access points installed throughout the project shall be equipped with an Ethernet Surge Protector. The surge protector shall have Ethernet In and Out points and complete with a grounding point. The surge protector shall be suitable to ground both directly to grounded metal pole, or via a drain wire that is connected to a grounding structure. The External Access point itself shall also be grounded. For the External Access points a surge protector shall be installed next to the device and another ethernet surge protector shall be installed at the entry point of the building.

# 2.4.5 Optic Fibre

All cabling shall consist of a fully terminated optical fibre cable terminated in LC couplers with pigtails, using fusion splicing, and housed in suitable pre-loaded Duplex rack mountable patch panels. These terminations shall occupy 1U in the enclosure. The number of optical fibre counts, per cable, shall be according to the BOQ. It must comply with ISO/IEC 11801:2002 standard. Straight-through fusion splices should be used at any joint where this is required. The cable should be constructed of 50/125µm core/cladding diameter OM4 multimode graded-index fibres and sheathed for internal/external use. Any external runs shall also be suitably UV protected. All accessories shall be supplied and installed by the contractor. The optical fibre cable entering the termination enclosures and any relevant boxes shall be suitably protected by grommets and securely tied. The cable’s minimum bend radius and maximum pulling tension shall not be exceeded.

Furthermore, the optical fibre cable used shall be corrugated steel tape armoured, anti-rodent type, suitable for installation externally and have a gel-filled, loose-tube construction. It must have a water-blocking glass-yarn armour and be externally covered with a polythene sheath. Full specification of the cable proposed should be included with the tender.

Each terminated optical fibre shall be tested end-to-end using an OTDR or similar industry standard test equipment and will be certified to comply with the 1000BASE-SX, 1000BASE-LX, 10GBASE-SR and 10GBASE-LRM standards.

Type 50/125um multimode strands OM4

 colour coded

 <1.25dB/km at 1300nm

 Flame retardant (IEC 60332-3)

 Halogen free (IEC 60754-2)

 Rodent resistant

 Corrugated Steel Tape Armoured

Cabling Standard BS EN50173

Multimode Fibre

Optic Attenuation

Measurement IEC 61280-4-1 (Multi mode Optical fibres)

Performance

Standard EIA/TIA 568B.3

Optical Fibre Cables

Generic

Specifications IEC 60794-1

Optical Fibre Cables

Protection and

Sheathing Standard IEC 60332-3-25

# 2.5 MATERIAL SPECIFICATIONS - CCTV System

# 2.5.1 Overview

A CCTV system shall be installed for recognition and identification of occupants within the building, the resolution of the cameras shall be such that they shall be suitable for facial recognition. The CCTV cameras shall be installed as indicated on the drawings. TV pictures supplied by the cameras shall be displayed on dedicated monitors as well as on other specified computers connected to the premises data network, such as the reception desk. The multiplexers are to be supplied c/w all software, licensing etc for a complete system.

In view of the lengths involved in the cabling of some cameras, the contractor is to allow for all amplifiers etc. which may be required to ensure signal strength at the multiplexer.

The main equipment shall include for:

1. PoE Cameras suitable
2. PoE Switches
3. Monitors
4. Centralised IP camera multiplexers

# 2.5.2 Cameras

The cameras shall have adequate resolution to enable facial recognition and shall also have the ability to switch between day and night modes. During the day, the cameras shall have full colour mode while during the night they shall switch to monochrome mode.

The cameras shall also have the following technical features:

1. A minimum resolution in colour mode as indicated in the drawing.
2. A minimum sensitivity of 0.4 lux in colour and 0.04 lux in monochrome.
3. Data transmission rate of at least 6 images per second at a resolution as indicated below.
4. Connection using an Ethernet 10/100 Mbps port, and shall be powered using either PoE or 12-48VDC and 24VAC (camera should be able to take both types of supplies).
5. Able to operate at a temperature of not less than 70 Degrees C 80% RH.
6. Provide motion detection.

Other general technical features include:

|  |  |
| --- | --- |
| S/N ratio | > 46 dB |
| Gamma correction | 0.5 to 1.0 adjustable |
| Vibration resistance | Up to 7g  |
| Impact resistance | Up to 50g |
| Degree of protection | IP66 |
| Electronic shutter | Automatic Manual (2 to 1/30,000 sec) |
| Iris Control | Automatic, Manual |
| Flicker Control | 50 Hz, 60 Hz |
| White Balance | Automatic, Manual |
| Backlight Compensation | Automatic  |
|  |  |
|  | 1MP Camera | 1.3MP Camera | 2MP Camera |
| Resolution | 1280H x 720V | 1280H x 1024V | 1920H x 1080V |
| Sensor | 1/ 3” CMOS | 1/2” CMOS | 1/2.5” CMOS |
| Imaging area | 4.1mm(H) x 2.3mm(V)0.162"(H) x 0.091"(V) | 76mm(H) x 63.5mm(V) 3.0"(H) x 2.5"(V) | 6.1mm(H) x 3.5mm(V) 0.240"(H) x 0.138"(V) |
|  |  |  |  |
|  | 3MP Camera | 5MP Camera | 8MP Camera |
| Resolution | 2048H x 1536V | 2592H x 1944V | 1920H x 1080V |
| Sensor | 1/2” CMOS | 1/2.5” CMOS | 4 x 1/4” CMOS |
| Imaging area | 6.6mm(H) x 4.9mm(V) 0.258"(H) x 0.194"(V) | 5.7mm(H) x 4.3mm(V)0.225"(H) x 0.169"(V) | 3.5mm(H) x 2.7mm(V) 0.138"(H) x 0.106"(V) |
|  |  |  |  |
|  | 10MP Camera | 11MP Camera | 16MP Camera |
| Resolution | 1920H x 1080V | 4000H x 2672V | 4864H x 3248V |
| Sensor | 1/2.3” CMOS | 35mm CCD | 35mm CCD |
| Imaging area | 76mm(H) x 63.5mm(V) 3.0"(H) x 2.5"(V) | 37.3mm(H) x 25.7mm(V) 1.468"(H) x 1.012"(V) | 36.1mm(H) x 24.0mm(V) 1.421"(H) x 0.945"(V) |

Camera power supplies shall be complete with a vandal resistant lockable enclosure to ensure that they cannot be disconnected / switched off from the socket outlet.

# 2.5.3 Camera Housing

External Cameras shall have an external vandal and water proof (rated at IP67) housing and shall be supplied with a pole or wall mounted bracket. The housing shall be made of die-cast aluminium, resistant to impact and salt damage. It shall also incorporate a heater and blower in order to maintain a clear view for the camera.

# 2.5.4 Camera Lenses

Camera lenses shall be used to obtain the aperture required to view a particular area by each camera. They shall also be capable of providing higher sharpness and lower distortion. Lenses must be capable of being used on high definition cameras. Other general features include:

|  |  |
| --- | --- |
| Focal Length | Angle of aperture |
| 4mm | 90 Degrees |
| 8mm | 45 Degrees |
| 12mm | 12 Degrees |
| 16mm | 23 Degrees |
| 25mm | 15 Degrees |
| 35mm | 11 Degrees |
| 50mm | 8 Degrees |

The tenderers are to quote for 5MP cameras with a 16mm fixed focal length, but there should be the possibility for interchangeable lenses. These will be defined during the commissioning stages of the project.

# 2.5.5 Monitors

An adequate monitor shall be provided and installed for the reproduction of signals from the TV cameras. This shall be of the colour LCD type. They shall have attractive and durable housings and shall feature the following minimum characteristics:

|  |  |
| --- | --- |
| Screen diagonal | 19 inches |
| Viewing distance | approx. 3 m |
| Power supply | 230 Volts |
| Ambient temperature | 0 to 50°C - 80% RH |
| Degree of protection | IP20 |

# 2.5.6 NVR Multiplexer

#### Main Features

The network video recorder shall be a colour Digital Unit.

The network video recorder shall be fully multitasking – Simultaneous recording whilst playing back.

Each NVR shall have a number of channel inputs as indicated in the BoQ and shall incorporate internal hard disk drives, allowing up to 2-months storage (hard disk minimum 1TB) at 4 CIF resolution with an excess of 20 frames per second record rates per camera without additional equipment. The NVR shall also be suitable to be interfaced to an NAS – Network Attached Storage to further increase the storage capacity of the NVR. The NAS shall have internal storage of 2TB and shall be complete with all the necessary hardware, software and licences.

The network video recorder shall allow connection of up to six RAID devices to increase the recording time, allowing up to 8 months of storage at 24-hour record rates.

The digital multiplex recorder shall feature time base correction, eliminating the need for external camera synchronisation.

The network video recorder shall not be a PC based unit.

#### Installation

The digital multiplex recorder shall

* Be suitable for IP addressable cameras
* Be IP addressable and be connectable to the computer’s data network
* All features to be remotely accessible through the network
* Auto-detect connected cameras and record automatically on power-up.
* Have a single port Ethernet connection that shall enable the NVR to connect to the data network. Through the use of PoE switches located closer to the CCTV cameras and the network infrastructure, the NVR shall allow for a global amount of up to 120 cameras to be connected.
* Shall have loop-through connectors with software-controlled termination to connect to other equipment.
* Shall have software-controlled contrast adjust for each camera.
* Shall have software-controlled colour adjust for each colour camera.
* Shall have a SCSI port to allow external storage devices to be connected.
* Shall automatically adjust daylight saving time (DST) without any operator intervention.
* Shall be upgradeable remotely across a computer network.

#### Operation

It shall be possible for authorised users connected to the network to access the CCTV monitoring of individual cameras through network viewing software. The software shall allow different level of access to different users and shall capable of assigning different camera views to different users.

Advanced operation of the digital multiplex recorder functions – including telemetry and multiple unit control - shall be local from the multiplexer

The digital multiplex recorder shall have an easy to follow, paged menu system.

The digital multiplex recorder shall have full control of single and multi-speed telemetry cameras.

#### Languages

The digital multiplex recorder shall have the option to change the menus to any one of 2 languages: English, or Italian.

#### Screen modes

The digital multiplex recorder shall feature local dual monitor outputs: a primary or main monitor view and a secondary or spot monitor view through its software. The primary monitor output screen shall provide selectable full screen, sequencing full screen, picture-in-picture, ‘quad’ multiscreen, and 16-way multiscreen displays while full frame recording is taking place.

The secondary monitor shall display live, full screen video from a selected camera and shall offer sequencing video from selected cameras.

The digital multiplex recorder shall provide a digital freeze frame and X2 electronic zoom in full screen live and playback modes, including the ability to move around a zoomed image.

The digital multiplex recorder shall be capable of displaying user definable cameras in all multiscreen modes and sequence selections.

#### Hidden cameras

The digital multiplex recorder shall have an option to ‘hide’ cameras from unauthorised personnel, which can be viewed using a supervisor password.

#### Recording and playback

The digital multiplex recorder shall record the camera video signals as a full screen image from each of the cameras.

The digital multiplex recorder shall be able to record all cameras with a minimum of 20 frames per second at 4 CIF resolution.

The operator shall have the ability to remove connected cameras from the recording sequence without affecting the ability to display that camera.

The digital multiplex recorder shall provide a user-programmable twelve-character title for each camera and shall record time and date and title with each video image.

The digital multiplex recorder shall be capable of playing back in Full screen, picture-in-picture, or ‘quad’ multi-screen display.

The digital multiplex recorder shall have the ability to go to a particular time and date.

The digital multiplex recorder shall be able to play back, pause, frame advance/rewind, and four speed fast forward or rewind.

The digital multiplex recorder shall have an Event log feature, displaying every event, which is recorded on disk.

The event log shall be searchable by time, date, camera number, event type, and the state of the event (on or off).

The digital multiplex recorder shall have the ability to protect alarm and activity recording on a separate partition of the disk. The partition shall be configurable in GB and have the ability to overwrite itself.

#### Digital Signature

The digital multiplex recorder shall apply a digital signature to recordings and to internal and external hard disks, allowing the authenticity of the digital multiplex recorder’s images to be verified, without affecting performance.

#### Archiving

The digital multiplex recorder shall be able to copy a series of images or single images to an external DVD Writer.

The digital multiplexer must continue to record when writing to the CD-R/DVD.

The digital multiplexer must continue to record when writing to the DVD

A digital signature must be applied to all images, sequence of images and the DVD itself allowing it to be verified for authenticity.

The DVDs will auto-run on a PC and will not require the user to install any additional software to play back the video.

The digital multiplex recorder shall be able to continuously archive images to external storage devices

The digital multiplex recorder shall automatically detect external backup/archive devices on power up.

The digital multiplex recorder shall be capable of archiving to external storage devices at the same time without interrupting the recording process.

#### Alarms and relays

The digital multiplex recorder shall provide exclusive and interleave alarm/activity recording options. Exclusive mode shall record images from only those cameras in an alarm/activity condition. Interleave mode shall prioritise the recording of those cameras in an alarm/activity condition, while recording fewer images of non-alarm cameras.

The digital multiplex recorder shall provide a relay trigger on camera fail.

The digital multiplex recorder shall have the ability to sound a buzzer on alarm or camera fail.

The digital multiplex recorder shall be capable of setting the polarity of each individual alarm contact to either normally open or normally closed.

The digital multiplex recorder shall have the ability to move telemetry cameras to a preset position on alarm.

The digital multiplex recorder shall provide a global/panic alarm input to force all cameras into an alarm condition at the alarm record rate.

The digital multiplex recorder shall provide an event log for all the alarms/activity on the internal hard disk with time and date, camera, and type of event indication.

The event log shall be searchable by time, date, camera number, event type, and the state of the event (on or off).

The digital multiplex recorder shall have the ability to notify up to five e-mail addresses with a JPEG picture and link to viewer on alarm, activity or camera fails.

Two light duty isolated contact pairs shall be provided. The first relay pair shall be used as to indicate an alarm condition. The second relay pair shall be used to indicate that a camera has detected activity.

The digital multiplex recorder shall support c-bus communication for connecting external alarm inputs.

#### Scheduling

The digital multiplex recorder shall have a user definable schedule to switch to: day, night, and weekend settings, either manually using an external input, or automatically at pre-set times.

The digital multiplex recorder shall allow user definable cameras, record rates, alarms/activity detection, and interleave/exclusive alarms to be custom set for each schedule setting.

The digital multiplex recorder shall be able to automatically adjust daylight saving time (DST) without any operator intervention.

#### Activity detection

The digital multiplex recorder shall feature programmable activity detection on all video channels, with a 16 x 8 grid individually, and 5 sensitivity levels selectable on all channels. Activity detection shall provide Exclusive and Interleave modes of operation. Exclusive mode shall record images from only those cameras viewing activity. Interleave mode shall prioritize the recording of those cameras viewing activity, while recording fewer images of non-active cameras.

The digital multiplex recorder shall have the option to sound a buzzer on activity.

#### Passwords

The digital multiplex recorder shall have User and Installer security access codes protecting set-up menus and hidden cameras. A playback password shall protect the unit from playing back to unauthorised users.

#### Telemetry

The digital multiplex recorder shall have the ability to move telemetry cameras to a preset position on alarm if any have been specified.

The digital multiplex recorder shall have full control of single and multispeed telemetry cameras.

The digital multiplex recorder shall have the option to remove an active telemetry camera from the spot monitor sequence.

The digital multiplex recorder shall have built-in coaxial and RS-232/485 telemetry allowing control of BBV, Dennard, Pelco, JVC, Ultrak, VCL, Aritech/Kalatel, Sensormatic, Ademco, Panasonic, and Dedicated Micros telemetry systems.

Cameras with telemetry shall be controllable using Network Viewing Software across an Ethernet network.

#### Network capabilities

The digital multiplex recorder shall have the ability to connect to a 1000/100/10Mbit Ethernet network.

Bandwidth limiting shall be available for Ethernet network transmissions.

Licence free Network Viewing Software for Windows® shall be included with each unit.

Live or recorded images recorded to the digital multiplex recorders hard disk shall be viewable using Network Viewing Software.

Hidden cameras shall be viewable over the network by authorised personnel.

The digital multiplex recorder’s event list shall be viewable over the network.

Images viewed from the digital multiplex recorder over a network can be exported as single images (JPEG), or AVI movies to the PCs hard disk using Network Viewing Software.

Images viewed from the digital multiplex recorder over a network can also be exported with digital signature intact (for authentication purposes), to the PCs hard disk and can be viewed using PC Playback software supplied with the unit.

Cameras with telemetry shall be controllable using Network Viewing Software across a network.

Up to a min. 5 remote operators can view live or recorded images from a digital multiplex recorder at any one time across a network.

The network viewer page shall be fully re-sizeable, including full screen viewing.

The digital multiplex recorder shall have an option to set a password to prevent unauthorised users viewing live, recorded images, moving telemetry cameras and viewing hidden cameras over the network.

This set up shall be repeated for each set of Digital multiplexer-recorder- monitors system.

# 2.6 MATERIALS SPECIFICATION – Intercom System

The Intercom systems shall be of both audio and video control type to enable the user to see the person at the door/gate. Thus, the external unit shall be equipped with a camera and call buttons. All internal systems must be such that they support all the external units indicated in the drawings. The systems shall be linked such that indoor systems shall have control over all outdoor intercom units and shall be such that doors/gates shall be opened remotely. The intercom system shall be of the two-wire type or IP based over UTP cable.

The internal unit shall be made of a robust material with universal video entry for twisted pair. The unit shall have a flat viewing monitor of at least 7” diagonally. The units should be both wall and tabletop versions and shall be equipped with the following controls:

* Brightness adjustment
* Contrast adjustment
* Entry panel activation
* The entry panel camera must be such that it can be activated even when nobody is calling

The external unit shall be made such that it is completely sealed and shall incorporate an illumination source to assist identification in the evenings. The material shall be stainless steel and 4mm thick polycarbonate, to ensure it is vandal proof. The camera shield shall be made of clear polycarbonate. It should not dull as time passes. The call buttons shall be made of stainless steel with a design such that it leaves no room for foreign bodies to be inserted. It shall be possible to recess or mount surface as required in the location of installation.

# 2.7 MATERIALS SPECIFICATION – Intruder Alarm System

The security system shall be divided into zones, and it shall be possible to arm / disarm all zones and / or individual zones from each of the keypads located around the building. The facility to disarm the system shall be password controlled. The system shall have a visual / audible indication that the system has been enabled

The contractor shall provide, install, and connect a security system consisting of:

* Main Control Panel with battery back-up supply.
* Remote keypads
* Presence Detectors
* Sounder

#### Main Control Panel

The Main Control Panel shall incorporate the following features:

* Continuous supervision of all detector circuits
* Visual indication of all circuits in alarm mode
* Individual circuit isolation possibility
* Battery back-up and charger
* Battery failure indication
* On/off key switch

#### Presence Detectors

These shall be passive dual technology type sensors incorporating both infrared technology as well as microwave motion detection technology to minimize false alarms. These shall be wall mounted and shall have a 120 degree field of view and a minimum range of 10 metres (IR); 15metres (MW).

These shall comply to BS EN 50131-2-4.

#### Keypad Programmer

The system shall incorporate a keypad programmer to enable remote programming of the security system.

#### Silent entry switch

The silent entry switch shall be used to isolate the main entrance path for silent exit / entry. It shall be key operated and tamper proof.

#### Alarm sounder

The Alarm sounder shall be a combined unit comprising an electronic alarm siren with flashing alarm light. Sound levels emanated from the device shall be no less than 75 dB(A) for internal devices and 95 dB(A) for external devices when measured individually at 1m from device as per requirements of BS EN 50131-1.

The flashing light shall generate extremely intensive alarm flashes.

The devices shall be according to BS EN 50131-1.

#### Auto dialler

The contractor shall supply and install an auto-dialling unit. This shall transmit fire/security alarms via the Public Switched Telephone Network, to at least four locations.

#### Conduit installation and wiring

The wiring for the Security System shall be carried out in galvanised trunking and PVC conduit in chase / galvanised conduit surface mounted.

#### Remote Keypads

Remote keypads shall be installed as indicated in the drawings. They shall be suitable to arm / disarm the particular zones(s) they are assigned to.

# SECTION 5 – SUPPLEMENTARY DOCUMENTATION

## 5.1 – Draft Contract Form

## 5.2 – Glossary

## 5.3 – Specimen Performance Guarantee

## 5.4 – Specimen Tender Guarantee

## 5.5 – General Conditions of Contract

The full set of General Conditions for Works Contracts, for Supplies Contracts and for Services Contracts (latest version as applicable on the date of the publication of this tender) can be viewed/downloaded from the ‘Resources Section’ at:

[www.etenders.gov.mt](http://www.etenders.gov.mt)

It is hereby construed that the tenderers have availed themselves of these general conditions, and have read and accepted in full and without reservation the conditions outlined therein, and are therefore waiving any standard terms and conditions which they may have.

These general conditions will form an integral part of the contract that will be signed with the successful tenderer/s.

## 5.6 – General Rules Governing Tendering for NGOs

The contents of this procurement document complement the latest version of the General Rules Governing Tenders applicable on the date of the publication of this tender, the Terms of Use and the Manual for Economic Operators applicable to Government’s e-Procurement Platform (available from the Resources section of [www.etenders.gov.mt](http://www.etenders.gov.mt)).