**ΠΑΡΑΡΤΗΜΑ 2 – Πίνακας Αρ.2 – Πίνακας Αξιολόγησης Τεχνικών Χαρακτηριστικών.**

1. **TMHMA Α – Ακτινοδιαγνωστικό Σύστημα**

| **No.** | **ΠΕΡΙΓΡΑΦΗ** | **ΠΡΟΣΦΟΡΑ 1/2**  **GALATARIOTIS TECHNICAL LTD** | **ΠΡΟΣΦΟΡΑ 2/2**  **PAPAETIS SERVICES LTD** |
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|  | **GENERAL REQUIREMENTS** |  |  |
|  | One Multi-energy x-ray inspection system (Dual View) suitable for Baggage and Parcel Inspection in a single simultaneously horizontal and vertical x-ray scan. | √ | √ |
|  | The Graphical User Interface of the X-RAY Operational and Diagnostic Software system must be in English or in Greek Language. | √ | √ |
|  | Make – Model of equipment | NUCTECH – CX100100D | SMITHS DETECTION – HI-SCAN 100100V-2is |
|  | The supplied system will be new, not a used or a demonstration unit, of latest technology and manufacture and is from the manufacturer's standard product line. | √ | √ |
| 1.5. | The operational period of the supplied system is continuous (100% Duty Cycle) and must not present any overheating phenomena or alter its performance. | √ | √ |
|  | **PHYSICAL SPECIFICATIONS** |  |
|  | System tunnel aperture shall be about 100cm wide (± 5%) by 100cm high (± 5%) | √ - 1010 x 1010 mm | √ - 1010 x 1010 mm |
|  | The highest point of the XRAY system must be less than 2.5 meters from the floor level. | √ - 1835 mm | √ - 1750mm |
|  | Shall be mounted on heavy-duty castors for ease of movement and must be designed in such a way to enable to be wheeled through narrow doorways. Two of the castors with locks or equivalent arrangement. | √ | √ |
|  | The Chassis shall be all steel welded. | √ | √ |
|  | Shall include Keyboard. | √ | √ |
| **3** | **X-RAY GENERATOR** |  |
| 3.1 | High Penetration: System shall have high penetration x-ray generator. | √ | √ |
|  | a. Anode Voltage: operated at least 160kV | √ - 160kV | √ - 160kV |
| 3.2 | Cooling: Sealed oil bath with forced air. | √ | √ |
| 3.3 | Protection functions for :  Over Voltage:  Over Current:  Over Temperature. | √ | √ |
| **4** | **DETECTION SYSTEM** |  |  |
| 4.1 | Multi Energy (2 detector arrays; high and low energy) | √ | √ |
| 4.2 | Detector Assembly must be an L – shaped form in order to capture all the energies released by the x-ray generator. | √ | √ |
| 4.3 | Detector arrays shall be comprised of scintillator crystal detector diodes. | √ | √ |
| 4.4 | The image shall be displayed without corner cut off. | √ | √ |
| **5** | **IMAGE PERFORMANCE** |  |  |
| 5.1 | Wire Resolution: System shall be capable of imaging 38 AWG (American Wire Gauge) un-insulated solid copper wire. | √ - 38 AWG | √ - 39 AWG |
| 5.2 | Steel Penetration: System shall have a high penetration x-ray generator capable of imaging at least 35 mm steel penetration | √ - 35 mm | √ - 35 mm |
| 5.3 | Zoom: System shall be capable of operating zoom on scrolling image to at least 8X. | √ - 32X | √ - 64X |
| 5.4 | Real Time Image Manipulation. | √ | √ |
| 5.5 | Organic/Inorganic Discrimination: System shall be capable of discriminating between Organic and Inorganic materials. | √ | √ |
| **6** | **IMAGE PROCESSING** |  |  |
| 6.1 | Shall combine all image processing (i.e. Black and White, Variable Gamma, Inorganic, Organic) with the image optimization feature. This functionality will allow the operator to display the optimum contrast and highest detail resolution for all materials and densities. This functionality shall be available without having to re-program keys. | √ | √ |
| 6.2 | Shall be capable of one button access to image processing. | √ | √ |
| 6.3 | System shall support programmable hot keys for image processing. | √ | √ |
| 6.4 | System shall include Density Alert. | √ | √ |
| 6.5 | System shall include the appropriate software tools or functions that will automatically guide or the help the user, in order to be able to identify possible threats for Narcotics and Explosives. | √ | √ |
| 6.5 | The color of the each object as displayed on the screen will be according to the material's category. i.e. Organic: Orange (plastic, foodstuff),  Various: Green (glass, salt),  Inorganic: Blue (steel, copper)  The brightness of each color must indicate the thickness of the object. | √ | √ |
| 6.6 | System shall be capable of 24 bit color image processing | √ - 24 bit | √ - 24 bit |
| **7** | **IMAGE ARCHIVING** |  |  |
| 7.1 | System shall include Manual Image Archiving. | √ | √ |
| 7.2 | System must perform automatic Image Archiving for at least 15000 images. | √ - 50.000 | √ - 100.000 |
| **8** | **THREAT IMAGE PROJECTION** |  |  |
| 8.1 | The system shall be supplied with Threat Image Projection (TIP) training and management system. | √ | √ |
| **9** | **CONVEYOR SYSTEM** |  |  |
| 9.1 | Speed 0.20 m/s ± 15% in either direction | √ - 0.20 m/s | √ - 0.20 m/s |
| 9.2 | Conveyor height from the floor to be between 25 – 85 cm | √ - 30 cm | √ - 62 cm |
| 9.3 | Conveyor load: 150 kg minimum (evenly distributed) | √ - 200 kg | √ - 220 kg |
| 9.4 | Motor: Sealed drum, maintenance free. | √ | √ |
| 9.5 | Belt: Welded. | √ | √ |
| **10** | **COMPUTER SPECIFICATION /OPERATOR PANEL** |  |  |
| 10.1 | Monitor: DUAL at least 17” TFT or LCD/LED minimum (in order to see the object scanned object in Horizontal and Vertical views) | √ - dual 17” | √ - dual 19” |
| 10.2 | Windows or Linux operating system. | √ - Windows | √ - Windows |
| 10.3 | Processor: Dual Core or better | √ | √ |
| 10.4 | RAM: 1 GB minimum | √ - 2 GB | √ - 2 GB |
| 10.5 | Hard Disk: 160 GB minimum | √ - 1 TB | √ - 500 GB |
| 10.6 | Internal DVD-ROM drive: 16X or external DVD-ROM or USB ports | √ - USB ports | √ - USB ports |
| 10.7 | Video memory: 128 MB minimum | √ - 1GB | √ - 128 MB |
| 10.8 | An appropriate external or internal UPS system shall be included to protect/ support the computer in case of power failure (20 minutes minimum).  Must be off the double conversion online type. | √ | √ |
| 10.9 | The electrical installation of the external UPS system must comply with the requirements as specified in BS761:2004. | √ | √ |
| **11** | **DIAGNOSTICS** |  |  |
|  | The System shall have a comprehensive built-in test facility that shall include the following: | √ | √ |
| 11.1 | Photodiode signal outputs with and without X-ray. | √ | √ |
| 11.2 | Photodiode manual and automatic map out. | √ | √ |
| 11.3 | User setup parameters such as date time adjust and scroll direction change. | √ | √ |
| 11.4 | X-ray generator KV and mA monitor. | √ | √ |
| 11.5 | ~~Ramp up and ramp down time for X-ray generator~~. |  |  |
| 11.6 | At least Keyboard test. Please state all the test functions of the system. | √ | √ |
| **12** | **POWER REQUIREMENTS** |  |  |
| 12.1 | To comply with the local mains power supply. | √ | √ |
| **13** | **ENVIRONMENTAL REQUIREMENTS** |  |  |
| 13.1 | Storage temperature: –20 0C to 500 C. | √ | √ |
| 13.2 | Operating temperature: 0 0C to 40 0C | √ | √ |
| 13.3 | Relative humidity: 10 to 90% non condensing. | √ | √ |
| **14** | **HEALTH AND SAFETY** |  |  |
| 14.1 | System shall comply with all applicable international health and safety regulations such as USA FDA X-ray systems (Federal Standard 2.1-CFR 1020.40) and Health and Safety at Work Act 1974-Section 6, amended by the Consumer Protection Act 1987 or the EN 61010-2-091 (P 12.101.1) with maximum leakage radiation less than 0.5mR/hr (5µSv/hr) at any point five (5) centimeters outside the external surface. | √ | √ |
| 14.2 | Shall be provided with emergency stop buttons. | √ | √ |
| 14.3 | Shall be provided with System Energized and X-Ray ON indicators at both ends of the X-Ray tunnel and on the operator workstation. | √ | √ |
| 14.4 | Shall include a safety interlock system to prevent X-Ray generation in the event of a critical panel being removed. | √ | √ |
| 14.5 | System shall be compliant with all applicable EU Directives. | √ | √ |
| 14.6 | System shall be approved by an aviation technical centre or by a national Transportation Agency, such as STAC, TSA or any other equivalent organization. | √ | √ |
| 14.7 | The manufacturer shall be ISO 9001 series Certified. | √ | √ |
| **15** | **OTHER REQUIREMENTS** |  |  |
| 15.1 | Each XRAY must be delivered with an input Roller Bed (s) with length of at least 1m with the appropriate compatible height and width with the XRAY offered | √ | √ |
| 15.2 | Each XRAY must be delivered with an output Roller Bed (s) with length of at least 2m and with compatible height and width with the XRAY offered | √ | √ |

1. **TMHMA Β – ΑΝΙΧΝΕΥΤΕΣ ΜΕΤΑΛΛΩΝ – ΤΥΠΟΥ ΑΨΙΔΑΣ**

| **No.** | **ΠΕΡΙΓΡΑΦΗ** | **ΠΡΟΣΦΟΡΑ 1/2**  **GALATARIOTIS TECHNICAL LTD** | **ΠΡΟΣΦΟΡΑ 2/2**  **PAPAETIS SERVICES LTD** |
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|  |  |  |  |
|  | One walk through metal detector | √ | √ |
|  | Make – Model of equipment | RAPIDSCAN SYSTEMS – METOR 6M | CEIA S.p.A. – HI-PE PLUS |
| 1.3 | The supplied system will be new, not a used or a demonstration unit, of latest technology and manufacture and is from the manufacturer's standard product line suitable for Law Enforcement Applications | √ | √ |
| 1.4 | The operational period of the supplied system is continuous) and must not present any overheating phenomena or alter its performance. | √ | √ |
| 1.5 | Minimum passage width of the WTMD must be at least 700mm. | √ | √ |
| 1.6 | Minimum passage height of the WTMD must be at least 2005 mm. | √ | √ |
|  |
|  | Display unit: The display unit shall be mountable on either the entry or exit sides. It shall be equipped with keypad, alphanumeric display and audible indicator. | √ | √ |
|  | Display: The display shall indicate the relative size of the metal objects on bar graph. All programming and error information shall be shown on the display. | √ | √ |
|  | Keypad: The display unit shall be equipped with a keypad or a remote control unit. | √ | √ |
|  | Zone Display: An integrated full-length vertical display on exit side of the WTMD coil panel shall pinpoint the location of the detected metal object(s) being carried through the gate. If multiple metallic objects are detected, the Zone Display shall illuminate simultaneously the areas where the objects are located. The zone display timing shall be adjustable and the display can be switched On or Off. | √ | √ |
|  | Directional Counter: An intelligent Traffic counter shall be built into the WTMD as a standard feature. The desired direction of travel shall be selectable. The traffic counter shall have the capability to increase the count in one direction and decrease the count in the opposite direction. Alternatively the counters shall be settable to increase the count in one direction and have no effect in the opposite direction. | √ | √ |
|  | Continuously Active: The WTMD shall be continuously active. At no time is shall be possible to toss, pass or slide a weapon through undetected. No photoelectric, infrared, or other sensor device shall be used to enable and disable the detection circuitry and thus mask the impact of external interference. | √ | √ |
|  | Multiple Unit Operation: The WTMD shall have several operating frequencies, allowing two or more detectors to operate in close proximity. | √ | √ |
|  | Throughput Rate: 50 persons per minute. Alternatively up to 15 meters per second detection speed. The throughput rate is not limited by the performance of the detector but the human factor during the check process (walking speed of people, time spent to check the people that caused alarm etc) | √ | √ |
| **2.9** | **Security** |
| 2.9.1 | Software key shall be required to access parameter adjustments (different user access levels) | √ | √ |
| 2.9.2 | The WTMD shall be equipped with Power On/Off switch. | √ | √ |
| 2.9.3 | The crosspiece shall be key-locked preventing any unauthorized persons to access the electronics unit or the Remote Control Unit | √ | √ |
| **2.10** | **Assembly** |  |  |
| 2.10.1 | Power cable can be taken from the bottom of both panels or from the top | √ | √ |
| **2.11** | **Controls and programming** |  |  |
| 2.11.1 | Remote Control and/or display unit keypad | √ | √ |
| 2.11.2 | The display unit keypad and/or wireless remote control unit shall have the capacity to adjust parameters of the WTMD. | √ | √ |
| **2.12** | **Access Code Protection** |  |  |
| 2.12.1 | Parameter adjustments shall be access code protected in order to eliminate any unauthorized tampering with parameters. Only authorized personnel shall be able to change the access code. | √ | √ |
| **2.13** | **User Access Levels** |  |  |
| 2.13.1 | The WTMD shall have at least two user access levels. This allows different type of users to have access to all or only some specific functions. | √ | √ |
| **2.14** | **Detection Programs** |  |  |
| 2.14.1 | The WTMD shall have a selection of pre-set detection programs for weapon detection and for material selective applications. The weapon detection programs include: | √ | √ |
| 2.14.2 | Programs for different threat levels. | √ | √ |
| 2.14.3 | Programs according to the requirements of recognized security organizations. | √ | √ |
| **2.15** | The material selective detection programs are designed to detect specific metals and alloys. WTMD shall be capable of detecting both magnetic and non-magnetic metals and alloys. | √ | √ |
| 2.15.1 | There shall be 100 sensitivity steps in each program and each of the detection zones.  Minimum number of zones: 8 | √ | √ |
| **2.16** | **Automatic Sensitivity Calibration** |  |  |
| 2.16.1 | An Automatic interactive Sensitivity Calibration Program shall enable the detector’s sensitivity to be automatically selected for a specific weapon or test object. The user can choose the amount of walkthroughs with the test object(s) on which the automatic sensitivity setting is based. | √ | √ |
| **2.17** | **Self Diagnostics** |  |  |
| 2.17.1 | A comprehensive self-diagnostics system shall continuously monitor the unit’s operation. If a fault condition occurs, a display shall indicate the exact nature of the problem. Operating personnel cannot override a fault condition prior to it being corrected. | √ | √ |
| **2.18** | **Mechanical construction** |  |  |
| 2.18.1 | The WTMD panels shall be finished in laminate with plastic zone display profiles. The coil panels shall also be equipped with integrated boots that protect the panels against floor washing liquids. | √ | √ |
| **2.23** | **Hardware** |  |  |
| 2.23.1 | The WTMD shall have a modular electronics unit in a metal cage for screening purposes. Other materials will be considered provided that, the electronics will be screened from external interference. The electronics unit shall consist of easily replaceable plug-in boards. | √ | √ |
| **2.24** |  | | |
| 2.24.1 | The design and construction of the WTMD shall enable an excellent immunity against mechanical vibration. | √ | √ |
| **2.25** | **Parameter Memory** |  |  |
| 2.25.1 | Non-volatile memory shall be used to store all of the parameters regardless of the power connection and to maintain the parameters when the main power is disconnected. | √ | √ |
| **2.26** |  | | |
| 2.26.1 | Audible tone and adjustable volume. | √ | √ |
| 2.26.2 | Vertical zone display on the Transmitter coil panel, when a target has been detected. | √ | √ |
| **2.27** |  | | |
| 2.27.1 | Mains, nominal: 115/230 VAC, ±15% | √ | √ |
| 2.27.2 | Mains frequency (nominal): 50-60 Hz | √ | √ |
| 2.27.3 | The WTMD shall have the  ability to adjust automatically to  variations in line voltage from  95 to 250 VAC or 12 VDC without  operator intervention. | √ | √ |
| **2.28** | **Operating Temperatures** |  |  |
| 2.28.1 | Operating Temperature 0°C to 40°C | √ | √ |
| 2.28.2 | Humidity range: 10 to 90%, no condensing | √ | √ |
| **2.29** | **Standards and Directives** |  |  |
| 2.29.1 | The equipment shall be complied with the Laws and Regulations of the Republic of Cyprus and with the provisions of all applicable European Directives.(CE and EMC compliant) | √ | √ |
| 2.29.2 | The WTMD must be be approved by a national Transportation Agency, such as STAC, TSA or any other equivalent organization | √ | √ |
| **2.30** | **Safety** |  |  |
| 2.30.1 | The WTMD shall not erase, alter, or damage magnetic storage media including credit cards, computer floppy disks, tapes, or IC's. The effects from the operation of the electronics and the low intensity magnetic fields of the WTMD shall be harmless to people with pacemakers, pregnant women, the operator, and general pedestrian traffic. | √ | √ |