1. The Contractor shall deliver the equipment to perform against the System Requirements (SRs) as set out in this Statement of Technical Requirement. Testing and Acceptance of the equipment will be undertaken against the Integrated Test and Acceptance Plan at Annex I to the Contract.

2. Should the equipment fail to meet the requirements acceptance trials, the Authority may Reject the goods in accordance with Condition 30 of the Terms and Conditions.

Serial (a)	System Requirement (d)	Priority (e)	Justification (f)	Measures Of Performance (h)	V&V Method (see tab) (i)	Remarks (l)	Testing and Verification Plan (o)
SR-1	The [EVDD] shall have a low false alarm rate.	1	To prevent [REDACTED] taking longer than necessary.	The EVDD has a false positive rate of less than [REDACTED].	Inspection -Data Sheet -Supplier Statement		Industry standard FAR for IMS technology is [REDACTED], calculation for [REDACTED] is based on legacy calculations ([REDACTED] that utilises the same IMS); these fall below [REDACTED]. This can be tested and validated by user trials.
SR-2	The [EVDD] shall have a high probability of detection.	1	The user needs the system to have a high probability of finding the [REDACTED].	The EVDD has a probability of detection of [REDACTED] of a substance in a [REDACTED] void that contains an [REDACTED].	Inspection -Supplier Statement		Based on legacy [REDACTED] internal testing of [REDACTED] (that uses the same IMS as the [REDACTED]). This can be tested and validated by user trials.
SR-3	The [EVDD] shall detect the [REDACTED] and alert the user in its operational configuration.	2	If the user must fit additional components, that introduces unnecessary opportunity for user error.	The system is able to perform fully while in the operational configuration.	Inspection -Manual		Detailed in the [REDACTED] Manual. This can be tested and validated by demonstration.
SR-4	The [EVDD] must be able to draw no less than [REDACTED] when using an integrated pump	2	To ensure representative sampling of an entire void, the system needs to draw vapour in so that the same is not localised only to the location of the sensor unit.	The system draws no less than [REDACTED] of vapour per min.	inspection -Data Sheet -Supplier Statement		During commissioning process this is checked. Propriatary documents at [REDACTED] support this. This can be tested and validated by user trials.
SR-5	The [EVDD] must be able to detect a single [REDACTED] .	1	If multiple [REDACTED] are detected at once, the system must be able to identify them.	the system will alarm to alert the user to the specific number of threats present	Inspection -Supplier Statement		Detailed in the [REDACTED] Manual. This can be tested and validated by demonstration.
SR-6	The [EVDD] shall be able to detect [REDACTED] .	Key	To allow users to compare detected [REDACTED] .	The EVDD shall be able to detect: [REDACTED] .	Inspection -Data Sheet		Detailed in the [REDACTED] Manual. This can be tested and validated by demonstration.
SR-7	The [EVDD] shall be able to detect [REDACTED] .	3	To allow users to compare [REDACTED] against known threats.	The EVDD shall be able to detect: [REDACTED] , with the addition of: [REDACTED]	Inspection -Data Sheet	Being able to use the EVDD to do some particle detection gives MOD additional resiliency.	Detailed in the [REDACTED] Manual. This can be tested and validated by demonstration.
SR-8	The [EVDD] shall be able to detect [REDACTED] agents.	3	To allow users to compare detected [REDACTED] against known threats.	[REDACTED] .	Inspection -Data Sheet		Detailed in the [REDACTED] Manual. This can be tested and validated by demonstration.
SR-9	The [EVDD] shall detect low concentrations of [REDACTED] .	1	As [REDACTED] may only be present in low concentrations	The EVDD shall be able to detect [REDACTED] for [REDACTED]	Inspection -Data Sheet User Familiarisation		Based on legacy [REDACTED] internal testing of [REDACTED] (that uses the same IMS as the [REDACTED]). This can be tested and validated by user trials.
SR-10	The [EVDD] shall be able to sample a [REDACTED] in a short time.	2	To allow an acceptable rate of search, the dwell time in a [REDACTED] must not be too long.	The system has a dwell time of less than [REDACTED] seconds in a void.	Inspection -Supplier Statement User Familiarisation	The volume of the void is defined in the Explosive Vapour Detection Device (EVDDD) User Assessment Plan.	Based on sample pump activation time testing performed internally at [REDACTED]. This can be tested and validated by user trials.

SR-11	The [EVDD] shall be able to complete sampling in a short time.	2	To allow an acceptable rate of search the time between samples needs to be as short as possible.	The EVDD has a time between samples of less than [REDACTED] seconds.	Inspection -Supplier Statement User Familiarisation	For this requirement, it is assumed that the samples under test will return a negative result.	Internal testing at [REDACTED]. This can be tested and validated by demonstration or user trials.
SR-12	The [EVDD] shall return to a search state from an alarm state in a short time.	2	To allow the searchers to continue a search in the event of a false positive.	The system can move from an alarm state to a search state in less than [REDACTED] seconds	Inspection -Data sheet User Familiarisation		Internal testing at [REDACTED]. This can be tested and validated by demonstration or user trials.
SR-13	The [EVDD] shall provide timely information to the operator when [REDACTED] are detected.	1	So that users are not unknowingly operating in the presence of [REDACTED].	Awareness made to operators within [REDACTED] seconds.	Inspection -Supplier Statement User Familiarisation		Detailed in the [REDACTED] Datasheet and based on internal testing at [REDACTED]. This can be tested and validated by user trials.
SR-14	The [EVDD] shall provide timely analysis to the operator when [REDACTED] are detected.	1	So that users are not unknowingly operating in the presence of [REDACTED].	Full analysis of the threat within [REDACTED] seconds	Inspection -Data sheet -Manual User Familiarisation		Detailed in the[REDACTED] Datasheet and based on internal testing at [REDACTED]. This can be tested and validated by user trials.
SR-15	The EVDD shall be available to operate within [REDACTED] minutes from initial start up.	1	The user must be able to bring the capability online quickly on arrival of task.	Start up in [REDACTED] minutes	Inspection -Data sheet User Familiarisation	This time is excluded from the search time.	Detailed in the [REDACTED] Datasheet and based on internal testing at [REDACTED] Detection. This can be tested and validated by user trials.
SR-16	The system shall allow modifications to the Substance of Interest (SoI) List.	2	To allow the addition and removal of SoIs to the EVDD library.	Updatable at user location.	Inspection -Manual	It is anticapated that the SoI list will evolve slowly over time with no more than [REDACTED] updates per year.	Detailed in the Instrument Manager Manual. This can be tested and validated by demonstration or user trials.
SR-17	The [EVDD] shall be able to be calibrated with minimal user input.	2	To reduce the cognitive burden on the user.	Calibration can be completed with no more than 5 user actions.	Inspection -Manual	If an External Valaidation Target (EVT) is needed to confirm the calibration is successful this would be acceptable and would need to be provided by the OEM.	As deteiled in the [REDACTED] Manual. This can be tested and validated by demonstration.
SR-18	The [EVDD Unit] shall be operable with a single hand.	1	To allow searcher to access areas that require searching. For example, opening doors.	Operable with either hand	Inspection -Manual		As detailed in the [REDACTED] Manual. This can be tested and validated by demonstration or user trials.
SR-19	The [EVDD Unit] shall weigh less than[REDACTED]kg when in operational configuration	2	The unit will be carried by hand and so must not place too high a burden on the operator.	[EVDD Unit] in operational configuration weighs less than [REDACTED]kg	Inspection -Data Sheet	Not including spare batteries, charging units, calibration equipment or any other ancillary.	As deteiled in the [REDACTED] Datasheet. This can be tested and validated by demonstration or user trials.
SR-20	The full system when packaged shall be a one-person lift.	3	To allow easier logistic movement of equipment	The full system when packaged does not exceed [REDACTED]kg.	Inspection -Data Sheet		Based on internal testing at [REDACTED]. This can be tested and validated by demonstration or user trials.
SR-21	The [EVDD] shall be able to be operated whilst the user is wearing PPE.	3	The User is likely to be wearing PPE and the operation of the capability must not be hindered by it.	HES kit and/or CBRN Dress State 4R	Inspection -Data Sheet User Familiarisation		As deteiled in the [REDACTED] Manual. This can be tested and validated by demonstration or user trials.
SR-22	All scheduled level 4 maintenance shall allow operational availability to be maintained.	2	To prevent scheduled maintenance reducing fleet size such that operational capability is diminished.	All scheduled level 4 maintenance activity is planned such that the operational availability is not impacted.	Ease of maintenance Assessment - Suppler Statement User Familiarisation	[REDACTED] teams need to be equipped at all times.	This can be tested and validated by demonstration or user trials.

SR-23	The [system] shall be supportable and [maintainable] throughout its life.	2	The user requires the ability to support and maintain its capability throughout its life.	Supportable and Maintainable throughout its life in accordance with Def Stan 00-600 (all parts) and JSP 935	Inspection -Suppler ILS Plan	Includes all ancillaries and consumables and software	This can be tested and validated by demonstration.
SR-24	The system, spares, consumables, (LRU)s and (STTE) shall be marked and packaged.	1	Reduced (WLC) through: a. Reduced initial acquisition cost. b. Reduced through life support costs. c. Reduced logistic footprint.	Marked and packaged in accordance with Def Stan 81-041 and Defcon 129.	Inspection -Suppler ILS Plan		This can be tested and validated by demonstration.
SR-25	All [operational maintenance] shall be conducted at Maintenance Level 1.	2	Users need to be able to conduct basic maintenance without specialist support. This is to maintain availability on task.	Basic level 1 user maintenance, Level 4 return to manufacture.	Ease of maintenance Assessment - Supplier Statement User Familiarisation	Any maintenance not at level 1 must be handled in accordance with the ILS SOW.	As detailed in the [REDACTED] Manual. This can be tested and validated by demonstration or user trials.
SR-26	The [EVDD] shall display configuration data.	1	To allow effective asset and configuration management as hardware, software and threat libraries are updated.	Identified through the user interface: hardware version software version Firmware version Threat library version.	Inspection -Manual	The intent is for DE&S to use JAMES to manage the EVDDD equipment.	As detailed in the [REDACTED] Manual. This can be tested and validated by demonstration or user trials.
SR-27	The system shall be reliable.	2	The User needs to have confidence that the equipment will perform as designed when they need it to.	No more than one major failure during the user familiarisation training.	Inspection -Supplier Statement User familiarisation	A major failure prevents completion of a search, even if Level 1 repairs are conducted. A minor failure can be repaired at Level 1.	As deteiled Reliability Statement (MTBF), demonstrated by reliability analysis on multiple systems.
SR-28	The [EVDD] shall be provided with required ancillaries	2	To ensure that all actions can be conducted without requiring the purchase of additional cables.	Supplied with all cables required by the Authority to operate, maintain and update the system.	Inspection -Manual		As detailed in the [REDACTED] Manual. This can be tested and validated by demonstration or user trials.
SR-29	All [software] shall be compatible with Windows 10.	2	The laptops available operate using Windows 10.	All software that is required to be used by the Technical Authority and the Users can operate on Windows 10.	Inspection -Suppler Statement		As detailed in the Instrument Manager Manual and through internal testing at [REDACTED]. This can be tested and validated by demonstration or user trials.
SR-30	The [system] shall be safe to use and comply with relevant legislation.	Mandatory	To reduce the risk to life for the user.	Compliance with the UK legislative obligations.	Inspection -Supplier Statement -SDS -Legislation Compliance Assessment (LCA)	Supplier to provide LCA matrix as described in the safety statement of requirement Includes but not limited to: - Health And Safety At Work Act 1974 (HASWA) - Ionising Radiations Regulations 2017 (IRR17) - The Control of Noise at Work Regulations 2005 - Health and Safety (Display Screen Equipment) Regulations 1992 - The Control of Vibration at Work Regulations 2005 - Manual Handling Operations Regulations 1992 - JSP 392, Leaflet 28	This can be tested and validated by demonstration or user trials. [REDACTED] has not logged any customer safety issues related to the normal use of the [REDACTED]
SR-31	The [system] shall be safe for its intended Use within the scope of the Safety Case.	Mandatory	The MOD must, within the UK be compliant with all applicable Health, Safety and Environmental Protection legislation and ensure that work-related fatalities, injuries, ill-health and adverse effects on the environment, and health and safety risks are as low as reasonably practicable (ALARP).	The system shall have all safety risks agreed at a level that is Broadly Acceptable or Tolerable, and As Low As Reasonably Practicable (ALARP) by the Project Safety and Environmental Panel (PSEP) before entering service.	Inspection -Supplier Statement -SDS -Legislation Compliance Assessment (LCA)		MSDS and CE certificates provide validation

SR-32	The [EVDD] shall protect the operator from any hazards relating from radiation.	Mandatory	A known technology in for this capability is Ion Mobility Spectrometry	All radiation hazards through life are reduced to ALARP as defined in JSP 392.	Inspection -Safety Data Sheet		MSDS and CE certificates provide validation. [REDACTED] internal leak test certificates can be provided on request.
SR-33	The [EVDD] shall be protected from water ingress.	2	Equipment may be exposed to rain and must remain functional.		Inspection -Data sheet		Not applicable
SR-34	The [EVDD] shall be protected from solid ingress.	2	Equipment may be exposed to solid particles and must remain functional.	IP2X The level of particle protection does not need to encompass any apertures required for the [REDACTED] ingress.	Inspection -Data sheet		Internal testing at [REDACTED]. This can be tested and validated by demonstration or user trials.
SR-35	The [EVDD] shall be operable day and night.	2	The users operate day and night in all light conditions.	Day and night, with no [degradation] in performance, in the range of light conditions from Bright Sunlight ([REDACTED] Lux) to Full Darkness ([REDACTED] Lux).	Inspection -Supplier Statement -Data sheet		As detailed in the [REDACTED] datasheet and through internal testing at [REDACTED]. This can be tested and validated by demonstration or user trials.
SR-36	The [EVDD] shall be able to operate in a range of temperatures.	2	The EVDD will be used in uncontrolled environments.	The [EVDD] can operate from [REDACTED]oC to [REDACTED]oC	Inspection -Data sheet		As detailed in the[REDACTED] Datasheet. This can be tested and validated by demonstration or user trials.
SR-37	The [EVDD] shall be able to operate in a range of humidity.	2	The EVDD will be used in uncontrolled environments.	The [EVDD] can operate in humidity ranging from [REDACTED]% to [REDACTED]% non condensing.	Inspection -Data sheet		As detailed in the [REDACTED] Datasheet. This can be tested and validated by demonstration or user trials.
SR-38	The [EVDD] batteries shall allow [REDACTED] hours of searching before replacement.	2	The rate of search requires the operators to not be frequently returning to change the batteries.	Batteries provide [REDACTED] hours of search time.	Inspection -Data sheet	The 4 hours does not include time taken to start up or calibrate. If the battery is required to be removed for charging then the user shall be able to replace the batteries without specialist tools and under [REDACTED] mins.	As detailed in the [REDACTED] Datasheet. This can be tested and validated by demonstration or user trials.
SR-39	Each [EVDD] shall be provided with sufficient non-mains power supply to allow [REDACTED] hours of searching.	2	The rate of search requires the operators to not be frequently returning to change the batteries.	Sufficient non-mains power supply provided to allow [REDACTED] hours of searching in a [REDACTED] hour period.	Inspection -Data sheet	The search time does not include time taken to start up or calibrate. Sufficient batteries to be provided to ensure that operating can continue without having to wait for a single battey to charge.	Datasheet will show supply of [REDACTED] battery; two can be supplied to meet the requirement. The charge time can be tested and validated by demonstration or user trials.
SR-40	The [EVDD Battery Units] shall be able to be charged from[REDACTED].	1	To allow charging using existing infrastructure.	Charging unit operable with UK mains supply.	Inspection -Data sheet		As detailed in the [REDACTED] Datasheet and manual. This can be tested and validated by demonstration or user trials.
SR-41	The [charging unit] shall be able to charge EVDD units efficiently.	3	The more units that can be charged from a single charger, the lighter the burden on temporary search power infrastructure.	Each charger can charge one EVDD unit or battery unit.	Inspection -Manual	Requirement written to allow for solutions with integrated batteries and removable batteries. For this requirement, regardless of the number of individual batteries required to power the system, if the batteries are removable, they are treated as a single battery unit.	As detailed in the [REDACTED] Manual. This can be tested and validated by demonstration or user trials.
SR-42	The [EVDD] shall be able to operate when disconnected from mains power.	Key	To allow searchers to move freely throughout the [REDACTED] area without the need for extension cables.	The system is provided with an external, rechargeable battery.	Inspection -Manual		As detailed in the [REDACTED] Manual. This can be tested and validated by demonstration or user trials.

SR-43	The [Battery Units] shall provide an indication of their power levels.	2	MOD regulations require that for unpressurised fixed wing transport, lithium-ion batteries must be confirmed to be at below [REDACTED]% charge.	The system is able to show the that the battery level is under [REDACTED]%.	inspection -Data sheet -Manual	Only applies to lithium-ion batteries. If other technologies are used, this requirement will not apply.	As detailed in the [REDACTED] Manual. This can be tested and validated by demonstration or user trials.
SR-44	The system shall allow updates to the SoI list and other required updates without recourse to use of cloud services	1	Cloud services introduce a potential vulnerability to EVDDD and not acceptable without the Authorities risk appetite.	The system can be updated without using cloud services.	Inspection -Manual -Supplier Statement	A comprehensive narrative of radio interfaces and how these are controlled is invited	As detailed in the Instrument Manager Manual. This can be tested and validated by demonstration or user trials.
SR-45	The system shall limit all open RF interfaces to Level 4 maintenance only.	1	To prevent users being able to activate Wifi, Bluetooth and other open RF interfaces.	All open RF interfaces are only be enabled at L4 maintenance.	inspection -Data sheet -Manual -Supplier Statement	This is to prevent RF emissions and susceptability issues occuring during a task. A comprehensive narrative of radio interfaces and how these are controlled is invited	Not applicable

Verification Category	Description
Inspection	Formal scrutiny of a system solution at an appropriate level of detail or abstraction, to check for conformance with a requirement or specification. Inspection activities may include but not limited to.: •Reviewing manuals •Reviewing product Data Sheets •Reviewing Safety Data Sheets •Reviewing supplier statements of compliance •Reviewing Legislation Compliance Matrices •Reviewing the Integrated Logistics Support (ILS) Plan
User Familiarisation	This will not be used to assess tenders as it is not a measure that can be assessed during a paper down select. This will be used to set an expectation of how the system is to perform and the User Familiarisation will be used to validate the technical documentation and training solution.

Front Page

SOTR DEFINITIONS

Term
ALARP
CBRN 4R
Charging Unit
EVD
EVD Battery Units
EVT
Maintainable
Maintenance Level 1
Maintenance Level 4
Major Failure
Minor Failure
Operational configuration
System

GLOSSARY

Term	Definition
ALARP	As Low as Reasonably Practicable
CBRN	Chemical, Biological, Radiological, Nuclear
CONEMP	Concept of Employment
COTS	Commercial Off The Shelf
DE&S	Defence Equipment & Support
Def Stan	Defence Standard
DEFCON	Defence Conditions
DNT	Dinitrotoluene
EGDN	Ethylene glycol dinitrate
EMA	Ease of Maintenance Assessment
EMP	Engineering Management Plan
EOD&S	Explosive Ordnance Disposal and Search
EVD	Explosive Vapour Detector
EVT	External Validation Target
FOC	Full Operating Capability
HMTD	Hexamethylene triperoxide diamine
ILS	Integrated Logistics Support
IOC	Initial Operating Capability
ITEAP	Integrated Test Evaluation and Acceptance Plan
JSP	Joint Service Publication
KSR	Key System Requirements
MACA	Military Aid to Civil Authorities
MDAL	Master Data Assumption List
MJP	Military Judgement Panel
MoD	Ministry of Defence
MoP	Measures of Performance
NG	Nitro-glycerine
OEM	Original Equipment Manufacturer
OMoP	Objective Measure of Performance
PETN	Pentaerythritol tetranitrate
PPE	Personal Protective Equipment
PSEP	Project Safety and Environmental Panel
RDX	Research Department eXplosive
RF	Radio Frequency
SAL	Security Aspect Letter
SoI	Substances of Interest
SoW	Statement of Work
SR	System Requirement
SRD	System Requirements Document
TATP	Triacetone Triperoxide
TMoP	Threshold Measure of Performance
TNT	Trinitrotoluene
UR	User Requirement
URD	User Requirement Document
VfM	Value for Money
Vx	Venomous Agent X
WLC	Whole Life Costs

SYSTEM REFERENCE DOCUMENTS

Reference	Description	Issue/Date	Link
Def Stan 00-600	Integrated Logistic Support requirements for MOD Projects	Part 1: Issue 4 (May 2022) Part 2: Issue 1 (April 2018 Part 3: Issue 2 (sept 2020)	Available through STanMIS (https://www.dstan.mod.uk/StanMIS/Account/Login)
JSP 935	Software Acquisition Management for Defence Equipment	Version 1.03 (Aug 2022)	Supplied as GFX
Def Stan 81-041	Packaging of Defence Materiel	Part 1: Issue 10 (Feb 2022) Part 2: Issue 9 (Jan 2017) Part 3: Issue 6 (June 2014) Part 4: Issue 9 (Aug 2018) Part 5: Issue 9 (Aug 2018) Part 6: Issue 11 (Feb 2022)	Available through STanMIS (https://www.dstan.mod.uk/StanMIS/Account/Login)
Defcon 129	Packaging (For Articles other than Munitions)	2022 Edition (Feb 2022)	Available online
MSDS and CE certificate	Material Safety Data Sheets and CE certificate	2017	Supplied with document pack
Instrument Manager Manual	Instrument Manager Manual Rev A	2011	Supplied with document pack
SABRE 5000 datasheet	SABRE 5000 product datasheet	2012	Supplied with document pack