**704423453**

**Request for Information: GPS Trackers with Biometric Monitors, Maintenance and Connectivity**

**Statement of Requirements (subject to change)**

**Background**

1. Moving to a modern and innovative GPS tracking capability that informs Exercise Control (ExCon), compatible with monitors for early detection and prevention of heat injury, will allow Royal Navy and Royal Marines to deploy trainees onto multi-terrain exercise areas with the minimum of supervision and increased confidence in the ability to track and recover trainees as required. The system should be capable of displaying individuals’ positions on digital mapping (OS or foreign equivalent) and provide an 8- figure grid reference of their location. It must be simple to operate by the military user and require minimal training. To maximize efficiency the system and its proposed connectivity must be compatible with current devices used. The concept should have the ability to bolt on options, such as air time, and stagger licenses and delivery dates to consolidate various contracts. An assisted system with third-party management is not acceptable.

2. The GPS Tracking and monitoring capability must provide:

a. The ability to remotely track trainees during field exercises in the UK and abroad1.

b. The ability to locate trainees should they become lost or separated during field training exercises in the UK and abroad.

c. The ability for the tracked person to send an SOS signal should they need assistance.

d. The directing staff (DS) with better situation awareness of all ‘tagged’ personnel conducting and supervising the exercise ensuring exercise risks are reduced to as low as reasonably practicable (ALARP).

e. Increased efficiencies by reducing the need for DS to man check points.

f. DS with the ability to monitor and de-brief trainees more accurately and rectify shortcomings in their navigational skills.

g. Continue to develop the technology to incorporate optimum cellular options in the future which will have utility across other High-Risk Evolutions.

h. Be compatible with OBAN/ iridium technology using the Kestrel software currently used.

**Proving the solution**

3. As part of the final tender process the supplier may need to provide a demonstration on location, in a typical exercise scenario, under exercise conditions. This would be to ensure that the system has the requisite coverage, is able to be operated by military personnel and delivers the output outlined in paragraphs 2 and 4. This demonstration is expected to take place on Dartmoor.

**Current Equipment**

4. The following two tables represent the requirements in terms of capability and equipment which are already held. This requirement would be to enable augmentation of existing equipment with the items listed in paragraph 2.

 **a. Existing Equipment Specification 1:**

 i. Sufficient equipment is held to support 2 x 40-man activities and 1 x 10- man activity (with 3 x ExCons).

 ii. These should be compatible with biometric Heat Illness monitoring, OBAN/ iridium technology and the Kestrel software currently used.

 iii. These would need to be maintained and supported with airtime.

 iv. It is estimated that there may be a need to procure an additional 175 trackers and proportionate supporting equipment.

 v. Items would need to be maintained, repaired, undergo software updates and fixes, and be provided with sufficient airtime for functionality as per statement of requirement.

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| **Ser****(a)** | **User Requirement****(b)** | **Threshold****(c)** | **Objective****(d)** | **Justification****(e)** | **Remarks****(f)** |
| **Capability requirement** |
| 1 | **Monitoring station**Ability to track/monitor multiple trainees (up to 90 x individuals) remotely when operating in field conditions (under canvass). | Two ExCons monitoring two exercises simultaneously (max90 personnel in total) using portable systems. | Three ExCons monitoring three exercises simultaneously (max90 personnel in total) using portable systems. | DS will start a search procedure once a cut-off time has been reached if all trainees are not accounted for. The ability to tracktrainees will reduce this search time. | The threshold reflects a compromise should three monitoring stations be prohibitively expensive. |
| 2 | **Tracking** Ability to show individuals’ positions on OS (or foreign equivalent) digital mapping (1:50,000 &1:25,000) with 8-Figure grid references. | Positions updated at least every 2½ minutes. | Positions updated at least every 2½ minutes.Ability to play-back individuals’ routes. | The capability requirement is to locate a trainee should he become lost – not necessarily to track him throughout, although this is preferable. | The ‘play- back’ will add significant trainingvalue, although this is not its primary purpose. |
| 3 | **SOS/Help function** Ability for the tracked person to summon help at the push of a button | Single push button | Single push button | Function allows the trainee to summon help should theyget in difficulty – ie if they get injured. |  |
| 4 | **Mapping**Monitoring station to have integrated (not streamed) electronic OS mapping or foreign equivalent. | 1:25,0001:50,000 | 1:250,0001:100,0001:50,0001:25,000 | To ensure coherency with mapping used during training. |  |
| 5 | **Coverage**Must be able to track personnel in all parts of the UK and selected countries abroad. | UK and the following foreign countries Norway, USA and Switzerland. | Coverage anywhere in the world. | CTCRM train on all UK training areas. Small elements train in USA, Norway and Switzerland on an annual basis. |  |
| 6 | **Usage**The anticipated average use is 90 x tracked personnel for 8 hours a day,225 days a year. | Fixed usage (limited use) based on an anticipated usage | Unlimited usage, unconstrained by‘limited’ air time. | User does not want to be constrainedby having ‘limited air-time’ | Training requirements vary from year to year. |
| **Training** |
| 7 | **Self-teach system**A self-teach system, which is intuitive and easy to use.An initial train the trainer package to be included, delivered to key personnel. | A train the trainer package delivered to key personnel to cascade the training to all users. | Minimal time required to self- teach using supplied literature. “Minimal time” means no longer than 40 minutes. | Users will use this system infrequently and there is insufficient time available to establish formal training on aregular basis. |  |
| **Ser****(a)** | **User Requirement****(b)** | **Threshold****(c)** | **Objective****(d)** | **Justification****(e)** | **Remarks****(f)** |
| **Equipment** |
| 8 | **Monitoring equipment**a. **Robustness.** All equipment must be sufficiently robust for deployment into the field. | Robust enough to operate from a vehicle or tent. | Robust enough to be man-packed. | The equipment will be used by different users every week; it needs to stand up to the rigours of austere and arduous field exercises. |  |

 **b. Existing Equipment Specification 2:**

 i. Currently 48 trackers are held.

 ii. There may be a potential need for additional trackers and supportive devices to accommodate 40 exercises per year with up to 66 - 96 recruits per course, plus 6-10 staff per exercise.

 iii. Specification 2 is without biometric monitoring.

 iv. Items would need to be maintained, repaired, undergo software updates and fixes, and be provided with sufficient airtime for functionality as per statement of requirement.

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| **Description** |  | **Remarks** |
| Base Station |  | A separate (stand-alone), single user operated portable main system (one-man carry) incl screen and communications interface. Operating from an office continuously with mains electricity or battery operated in the field for a minimum period of 1hr. Able to monitor up to 15 tags simultaneously.The system is unable to be hosted on the customers own IT/network LAN due to the remote environment and fragility of existing Wifi.Printer not required. |
| Interface | Integrated | Link to Aerial Rescue co-ordination centre. Messaging and tracking module linked to ARCC with pre-programmed facility of notification.Not encrypted or security protected |
| Mapping | Integrated | Integrated (not streamed) electronic Ordnance Survey 1:1m, 250k, 50k, 25k, 10k Full GB Mapping. MoD imagery capable / integrated.Mapping programme installed on hard drive and not streamed.Imagery sufficient detail and clarity for 6-8 figure grid references and identification of conventional OS signs and data. |
| GPS&T ‘tags’ |  | Messaging & tracking module capable of minimum 2½ min tracking intervals to maximum interval of 5 mins. Pre-planned text msgsRechargeable batteries and units providing a minimum of 12 hrs. continuous usage and minimal/quick recharge (4hrs) facility.Simple to use requiring little or no maintenance and easy to secure to the person/rucksack.Durable and provide protection against the environment and climatic conditions such as rain, frost, heat. |
| Back up facility |  | Access to on call support during normal working periods / capable of full data retention / interrogation >5000hrs.Back up and 24hr recording facility |
| Coverage | Integrated | Must be able to give > 98% coverage on Sennybridge trg areas, Brecon Beacons to mitigate any comms blackspots. Not to degrade existing WiFi/IT infrastructure. |
| Route Planning | Integrated | Full GIS (geographic information solutions) for route planning scheduling printing to any size. |
| Training | Integrated as package | Training instruction to Service user as part of annual subscription. Simple user instructions to be supplied allowing for minimal self-teach.  |
| Subscription | Integrated / annual | To include all software (incl OS) updates and 24hr cover. General Maintenance, software upgrades and initial setup and onsite training. |

**Users**

6. The users of the product will be:

 a. Trainees undergoing basic training and career courses for the RN, RM, Reserve Forces and RFA (both direct entrants and in-service)

 b. Instructors facilitating basic training and career courses for the RN, RM, Reserve Forces and RFA (both direct entrants and in-service)

**Provision for spares/damage**

7. It is envisaged that annual instalments will include software upgrade, general maintenance and requirement to replace equipment within one week of damage being reported so as not to reduce holdings or equipment use significantly. Costs agreed for equipment replacement or repair within contract as required, to be paid separately.

**Training**

8. This should be included in initial start-up costs and should last no more than two working days per geographical region where the equipment will be used. Ongoing training support and troubleshooting are to be included within the annual subscription. Additional training for new members of staff would be agreed by the customer and supplier, and priced at as an additional option.

**Duration**

9. The contract is estimated to start by 1st February 2023, lasting for 3 years with two additional option years. The supplier’s solution is to be developed in time for the tender assessment process in October 2022.

**END**