

Part Two: Specification

**Handheld Terrestrial Laser Scanner**

**Contract Reference: RBGKEW/465**

(This document is for information)

Part two of this Invitation To Tender sets out the requirement for which the Customer invites Tenderers to submit a Tender Response.

1. **Summary**

RBG Kew requires Handheld Terrestrial Laser Scanning technology (TLS) equipment to address the increasing demand for quick, repeatable, high resolution ground surveys of vegetation for habitat and tree assessment, to support RBG Kew’s strategic science priorities of documenting global plant diversity and disseminating this knowledge of plants to maximize impact on science, conservation policy and restoration. The system is to be used within an academic/charity/conservation institution with no commercial gain.

We would expect the following or equivalent:

1. **Scope of requirements**

The TLS must have the following essential features. Note that only proposals which pass all of the pass/fail criteria will be evaluated further:

|  |  |  |
| --- | --- | --- |
| **Requirement reference** | **Specification** | **Scoring methodology / Weighting** |
| Technical | | |
| 1 | Handheld TLS must be small and light enough and be able to be easily carried by one person, with the handheld part weighing under 1.5 kg and being within dimensions of 30cm x 30cm x 30 cm | Pass/Fail |
| 2 | To be able to scan an area of 10 x 10 metres in 20 minutes or less | Pass/Fail |
| 3 | Scan to a range of 20 metres or more | Pass/Fail |
| 4 | Software to process scanned data to formats compatible with ESRI and Cloud Compare | Pass/Fail |
| 5 | Laser to be Class 1 safe | Pass/Fail |
| 6 | Scan rates of 10,000 points per second or more | Pass/Fail |
| 7 | Camera capable of simultaneous image capture | Pass/Fail |
| 8 | Total weight below 7 kg | 10% |
| 9 | To be able to work for more than 2 hours from one battery | 5% |
| 10 | Relative accuracy to 3 cm | 20% |
| 11 | Field of View of at least 180 x 180 degrees | 10% |
| 12 | Software that provides some form of automated registration, such as Automatic SLAM Cloud-to-cloud registration | 15% |
| 13 | Spares/accessories for remote field working, we would expect the equivalent of:   * Spare batteries x 2 * Backpack or equivalent * Other spare parts as required for use on remote fieldwork, such as spare cables and storage | 10% |
| 14 | Manufacturer’s warranty of 2 years on TLS, to include parts, labour, annual servicing to ensure TLS are running efficiently and is calibrate, and all available updates to the software | Pass/Fail |
| Commercial | | |
| 15 | Price to meet requirements 1 - 14, fully inclusive of delivery and training. | 25% |
| 16 | Additional years of warranty (inclusive of all maintenance required by terms of warranty) as described in requirement 14 | 5% |
| **Total** | | **100%** |

1. **Training**

Required for 4 expert users at RBG Kew, within 3 months of delivery, at a time agreed by both parties.

1. **Delivery**

The equipment must be delivered to the Jodrell Laboratory, Royal Botanic Gardens Kew, Jodrell Gate, Kew, Richmond, Surrey, TW9 3DS, within 1 month of purchase.

Please provide a minimum of 1 week notice prior to delivery.