

## **Annex I – Technical Description**

*Subject: Metrology instruments / IO/MS/22/JPA*

The key requirements and attributes of the Metrology Instruments needs for this market survey are listed below. Please link this technical description with the questionnaire in Annex II.

- The Contractor shall have the ability to supply and support a wide range of metrology and survey equipment, ideally from within their own organization, with attributes considered such as: accuracy, speed of data acquisition, measurement range, plug & play switching, traceability etc. including systems such as:
  - Laser Trackers with integrated scanning and probing using 6DoF technologies.
    - 3D Laser Scanning: Measurement Uncertainty (MPE) of 2 m scale bar at 10 m less than  $\pm 0.07$  mm with 210,000 points per second.
    - 3D Probing: Measurement Uncertainty (MPE) of 2 m scale bar at 10 m less than  $\pm 0.12$  mm with 1000 points per second.
  - High Density scanners,
  - Total Stations
  - Photogrammetry
  - Metrology Tools & equipment:
    - Laser Trackers & Total Stations:
      - Target nests (various types for all reflector sizes)
      - Retro Targets
      - Reflectors
      - Stands (1m to 6m)
      - Scale Bars
  - Coordinate Measuring machines (Fixed installation and Portable)
  - Hand Tools
    - Micrometers
    - Verners
    - Gauges
    - Indicators and comparators
  - Software:
    - Spatial Analyzer
    - Polyworks
    - Cyclone
- A minimum of 5 Years' service contracts for Laser Tracker systems including probing and scanning tools, covering annual maintenance, calibration and recertification
  - Replacement units shall be supplied within 48 hours of fault diagnosis with full certification for use
  - During annual maintenance, calibration and recertification replacement units shall be supplied for the duration of the activity with full certification for use

- A minimum of 5 Years' maintenance contracts for software systems
- Compatibility with the ITER survey networks and targeting strategies for kinematic alignments must be guaranteed; Leica CatEye reflectors are extensively used therefore compatible laser tracker systems are required.
- A European Service facility is required to ensure expedient support together with a dedicated representative to advise on technical applications and to be available to visit the ITER site as required within the scope of the framework contract
- In house experts to technically support all equipment and software supplied
- Dedicated training and certification
- A discount structure based on cumulative purchases over the duration of the contract and available to companies contracted to the ITER project. All entities purchasing equipment for use related to the ITER project contribute to the cumulative discount received by all participants.