INVITATION FOR EXPRESSION OF INTEREST (EOI) FROM ELIGIBLE SUPPLIERS OF FACILITY FOR GAIT AND MOTION ANALYSIS

1. Background:

1.1 The Indian Institute of Science (IISc) invites an Expression of Interest (EOI) from suppliers of Facility for gait and motion analysis. The broad intended use of these systems are in:

- Establish an integrated testing facility involving motion tracking and analysis of people and devices
- Establish the gait analysis platform which can be augmented in a phased manner with other relevant facilities to support development and testing of products especially for the aging population.
- Enable in-house motion capture and gait analysis for start-ups in the TBI
- Offer gait analysis facility to researchers in IISc and elsewhere.

1.2 IISc wishes to establish the supplier base for equipment with broad characteristics that are detailed below. A formal tender will be issued at a subsequent date, once IISc completes preliminary interaction with all possible suppliers.

2. Eligibility to respond to this EOI

2.1 All Suppliers responding to this EOI should have demonstrated capability to supply equipment of the broad class indicated in section 3 inclusive of reputed academic institutions in India and other countries

2.2 Item 2.1 requires that suppliers responding to this EOI provide a list of equipment supplied by them that corresponds to the requirements of section 3 and to whom this equipment were sold, with relevant contact information of buyers.

3. Description of equipment

3.1. IISc seeks to buy a **FACILITY FOR GAIT AND MOTION ANALYSIS** for the intended use as mentioned in para 1.1

3.2. IISc at this time has not specifically decided which type of equipments' it will acquire. IISc's decision will be based on the capability of each type of equipment, after interaction with potential suppliers. However, the broad outline specifications **FACILITY FOR GAIT AND MOTION ANALYSIS** is provided in the **Appendix** to this document

3.3. Suppliers should indicate flexibility available in the equipment

3.4. IISc may also consider the acquisition of refurbished equipment, should that prove to be cost-effective. Suppliers may indicate possibility of supplying refurbished equipment.

3.5. Suppliers should indicate mechanisms, procedures and arrangements for long term maintenance of the equipment,

3.6. Suppliers are expected to provide lead times for the supply and establishment of **FACILITY FOR GAIT AND MOTION ANALYSIS**

3.7. As a reputed research organization IISc is also willing to consider collaboration with suppliers on innovative process development, as well as utilization of the equipment by suppliers for demonstration or use of the equipment to and for third parties.

3.8. Suppliers are expected to provide budgetary costs of various equipment options, an estimate of annual maintenance costs and the terms of payment in their responses to this EOI.

4. Response to EOI

4.1. IISc seeks a response to this EOI by 17:00 hours, 25th Sept 2018. Responses after this time and date will not be considered.

4.2. Along with the response to the EOI, suppliers are requested to indicate suitable dates and times for interaction with the IISc technical team in the week starting 1st Oct 2018 and extending to 5th Oct 2018. Suppliers who do not participate in face-to-face interactions (in person or through video conferencing) with IISc team, will not be considered further.

4.3. Suppliers should also indicate clearly the requirement for any export clearance processes for supplying such equipment and any end use declarations that may be sought for this purpose. Any ambiguity in export clearances may disqualify a supplier from future tendering action.

4.4. Suppliers are requested to email their response to Mr Venu Allam, at venuallam@iisc.ac.in.

5. Tender Process

5.1 Based on this EOI, the responses and interaction, and supplier's interest and capability in supplying equipment of characteristics as indicated in sections 2 and 3, IISc will short list a set of potential suppliers by a technical team constituted by competent authority of IISc.

5.2 A formal tender with detailed specifications will be issued to such short-listed suppliers.

5.3 The formal tender shall consist of a two-bid process. A technical bid and price bid shall be supplied in separate covers.

5.4 IISc will first examine the technical bid and further short-list those firms that meet all technical specifications. The price bid of only the final short-listed firms will be opened, and only the firm with the lowest price bid and meeting all technical specifications shall be invited for contract finalization.

5.5 IISc will endeavor to complete contract finalization by the last week of August.

5.6 IISc reserves the right to reject any/or all the EOI's without assigning any reasons whatsoever.

Appendix

Following are the requirements of FACILITY FOR GAIT AND MOTION ANALYSIS:

1. Motion capture system to simultaneously capture the whole body posture of at least two subjects and configuration of at least two objects.
    a. Set up space available: max 30ft x 30ft x 9ft
    b. Capture volume required: at least 10ft x 10ft x 7ft
    c. Reference video: high resolution; colour video is desirable.
    d. Capture resolution required: at least 1 degree for angles and 1 mm for XYZ movements
    e. Temporal resolution required: at least 240 FPS
    f. Video output from all cameras to be saved
    g. Ability to recover tracking of momentarily occluded markers
    h. Latency less than 5ms
    i. Need for special optical environment is NOT preferred
    j. Preferably portable system

2. Pressure plates to measure pressure centres synchronously with dynamic body postures
    a. Measurement area: at least 2ft x 8ft
    b. Force measurement: 3 axis, at least 10kN in Fz and 5kN in Fx and Fy
    c. CoP measurement accuracy: at least 1mm
    d. Hysteresis and latency: minimal to enable capture of dynamic events, viz. impact of multiple falling objects from at least 2m.
    e. Real time assessment of contact/impact and duration is desirable.
    f. Moment measurement: desirable
    g. Portable or semi-portable system is desirable

3. Integration and augmentation:
    a. DAQ system should integrate MoCap and Pressure plates
    b. Software to aid calibration, data visualization and analysis.
    c. Should have facility to add new devices in future such as additional force plates, EMG system, Pressure Profile systems etc.; ability to add custom devices is desirable
    d. Customizable visualization viz. import CAD models to visualize captured motion, is desirable
    e. Availability of SDK for the MoCap and Force Plates is desirable.