

Corrigendum

In Tender Document Tender Enquiry 24/PMR/272(i)/2017-Rish(ADMN)

Dated: 11/11/2017

Technical Specification which is mentioned at page no. 18-21 in tender document may be read as following:

Revised -Technical Specification **Gait and Motion Analysis System**

Component systems:-
1. Infrared Camera system to acquire Motion Analysis
1. No. of IR cameras 12 (Twelve)
2. Should be expandable up to 16 digital cameras
3. Gigabit Ethernet communication
4. Type may be infrared cameras or CMOS cameras
5. Cameras should operate at 250Hz with full resolution
6. Camera resolution: Minimum 1500 x 1000 Pixel or higher
7. Minimum acquisition frequency 1000 fps
8. Accuracy < 0.1 mm on a volume of 4x3x3 m
9. Marker detection system & markerless ready system
10. Processing: On Camera
11. Camera Power: Directly supplied by the Data Station
12. System must be able to acquire complex movements in both indoor and outdoor conditions
13. System should be able to capture the marker trajectory (Unlimited number of markers)
14. System should be supplied with markers to capture both upper limb and lower limb bilaterally and 50 spare markers to be supplied alongwith the equipment.
15. System should be supplied with markers suitable for both paediatric as well as adult population
16. Should be integratable with other kinetic, kinematic data & EMG data.
17. Should be wall mountable and securable (to avoid in advertent calibration errors) or mountable on a light weight tripod. Eight (8) tripods must be provided for portability needs.
18. Necessary calibration apparatus suitable for a fast system set up even with obstacles in the field of view.
19. System should be supplied with the evaluation of the spatial-temporal gait parameters with the following features: Sensor Typology: Tri-axial accelerometer, Tri-axial magnetometer, Tri-axial gyroscope. Connectivity: Bluetooth, Frequency: upto 200Hz, Battery: rechargeable via USB
2. Video cameras: 4 Nos
1. Digital video base system to support the movement analysis
2. Standalone- Four (4) digital color cameras with interchangeable lenses CS- Mount, acquisition frequencies 25 fps, time/color and saturation software control.
3. Capable to merge four views in a single video
4. Synchronized video capture, playback, slow motion, frame by frame Integratable with other data
5. To be able to save video picture on MPEG format.
6. Provision for upgradeability
7. Data transmission by IP protocol
3. Force platforms: 8 Nos
1. Sensing area 1200mm x 800mm
2. Should be able to acquire static and dynamic forces in x, y, z axes
3. Digital output via Ethernet
4. Self-calibration of platform position.
5. Integratable software with kinematic and EMG data
6. Platform should have the facility of measurement in real time the ground reaction forces overlaid on the video shoot of the moving patient.

4. Foot Pressure Plate for Plantar Pressure:
1. The system should be able to capture multiple sequential foot strikes of humans for analysis of foot function and gait.
2. Should display spatial and temporal parameters of speed, cadence, step length, stride length, step width, gait cycle duration, stance duration, swing, single and double support.
4. The system should have minimum 9000 sensors
5. It should be able to identify plantar pressure profile discrepancies between left and right feet during static & dynamic plantar support.
6. It should be able to monitor improvements in balance, sway, strength & weight bearing.
7. The system should be based on resistive sensor technology.
8. Should be upgradeable for increasing sensing areas.
9. Should display 2-D and 3-D real-time and recorded data
10. Should have automatic stance detection
11. Should be able to provide averaged pressure profile display for selected multiple foot strikes
12. The software should have the ability to save data in commonly used formats.
13. Pressure profiles should be transferrable in common formats.
14. Should be able to import and export client movie files
5. Surface EMG system (16 wireless EMG channel)
A. Wireless probes:
1. Should be surface electrodes: variable geometry electrodes with mounting clip 16 bit resolution-acquisition frequency upto 4 KHz
2. Data transmission should be wireless (probes-receiving unit)
3. Probes- receiving unit up to 50 metres (160 feet) in free space
4. Memory on board solid state buffer memory system
5. Should be of light weight, including battery and satellite electrode identification labels
B. Mobile receiving unit
1. EMG channels upto 16 wireless probes on each receiving unit
2. Data transmission wireless WiFi (receiving unit- workstation)
3. Display 4" VGA touch screen
4. Recording duration more than 3 hours with a single battery
5. Range receiving unit- workstation up to 30 metres (100 feet) indoor- up to 350 metres (380 yards) outdoor.
C. Software
1. Should have a dedicated software for data acquisition, display and analysis
2. Analysis of localized myoelectric muscular fatigue phenomena
3. Oscilloscope for the real time viewing of the signals
4. Database for data storage
5. Integratable with kinematic, force platforms, and video systems on real time basis
6. Software and system specifications
1. To integrate, analyze, store, reproduce and report 3D motion analysis, video picture, kinematic, kinetic (force plate) and EMG data in the same control system. Simultaneous visualization of all the above data in graphs. Long duration motion captures facility.
2. Free software updates mandatory
3. Real time visualization of all integrated devices data
4. Immediate upload of data to workstation and storage
5. Easy drag and drop data processing software package for protocol creation, without any programming language knowledge.
6. To differentiate stance phase and swing phase kinematics, kinetics, EMG. Display of full perspective 3D representation of work space, markers and trajectories (mouse controllable).
7. Auto 3D reconstruction of marker trajectories.
8. Quick setup calibration, even with some obstacles partially obstructing camera view.
7. Virtual Reality system: Virtual reality interactive system for the therapeutic and rehabilitation process of patients affected by Neuro-motor diseases by multi sensory stimulation.
1. The unit should have two marker-less infra red sensors

<ol style="list-style-type: none"> 2. The infra red sensor should be a digital board camera with minimum 400 Mbps speed 3. The camera should be CCD sensor type camera with minimum of 30 fps speed 4. The camera strobes should have high radiation power LED with minimum of 850 nm web length. 5. The camera should work on fire wire data transmission technology. 6. The work station of the unit should have a touch screen facility with software to simplify the patient database management. 7. The unit should have two projectors (more than 4000 lumen) for both wall and floor projection. 8. The unit should have ceiling mount for both camera and project. 9. The unit should have webcam to record the therapy session for future assessment. 10. The unit should be supplied with memory card to store the medical record of the patients. 11. The unit should have an audio and visual bio feedback. 12. The unit should have three kinds of typologies 1.) Motion 2.) Hunt 3.) Games. 13. The unit should be compatible for wall projection, floor projection and table projection. 14. The system should have a facility to do both upper limb and lower limb exercise therapy. 15. The unit should have a real time visualization of video recording. 16. The system should be able to perform at the distance of 8 feet for the wall projection and 9 feet for the floor projection.
8. System Necessities
<ol style="list-style-type: none"> 1. Service backup, with response time of 48 hours. 2. The supplier will be responsible for the compatibility of all components in a single system 3. Supplier would be responsible for providing civil/electrical requirement for successful installation of Gait & Motion Analysis Lab at earmarked space. 4. Supplier would be required to provide necessary furniture for the lab (Table, Chairs, Shoe rack, Cabinet for UPS, etc.) 5. Should be provided with one additional remote display/LCD monitor of 50 inch to be used as reference system/ teaching. 6. Certificate regarding satisfactory performance to be furnished from minimum of two reputed Indian institutions using the same system. 7. Acceptance and compliance of the tendered technical specifications are required from the parent manufacturing company 8. The full Gait/Motion Analysis System should be quoted as a full single-package of one-manufacturer as designed for the present site. 9. System should be CE/FDA approved.

Installation & training

1. The vendor should undertake to provide free installation and training for technical and clinical staff at site of installation by their engineer including operation and upkeep of the equipment.
2. The vendor must demonstrate the quoted system anywhere in India at own expenses to the hospital doctors.
3. The manufacturer should provide a clinical knowledge platform with latest information about products, state of the art clinical research and the possibility to exchange with other professionals in the community.

Warranty

1. The unit should be covered under warranty for a period of 5 years
2. Compatible software updates should be provided free of charge during the warranty period.
3. The unit's manufacturer should provide remote technical support and clinical support for questions via email and phone.

Specification of Gait Lab (Turnkey Project)

- 1. AIR CONDITIONED / 3 AC OF 1.5 T EACH**
- 2. ELECTRICAL FITTING OF AC**
- 3. UPS OF 6 KVA RATING WITH 1.5 HR OF BACKUP ON FULL LOAD**
- 4. SEPARATE EARTHING SOURCE REQUIRED**
- 5. RAW POWER POINT, 3 POINTS OF 6A & 15A**
- 6. UPS POWER POINT, 3 POINTS OF 6A & 15A**
- 7. CEILING LIGHTS RE-ARRANGEMENT REQUIRED & IT SHOULD BE ON UPS**
- 8. WOODEN RAMP / DIGGING FOR THE WALKWAY CONSISTING PLATFORM.**

9. VINYL FLOORING , FULL ROOM / WALKWAY AREA
10. MATT FINISH LAMINATION FOR GLASS
11. SINGLE DOOR FOR DRS ENTERENCE & FOR CHANGING ROOM
12. 1 MAIN ENTRANCE DOOR - GLASS DOUBLE DOOR
13. 1 DOUBLE DOOR FOR PATIENT ENTERENCE
14. 1 L SHAPE OFFICE TABLE – SPECIFIED SIZE AS 6X2.5.MAIN 3X1.5 SIDE & 2 CHAIRS
15. 1 RECEPTION TABLE WITH 2 CHAIRS
16. HEIGHT MEASUREMENT & WEIGHT MEASUREMENT INSTRUMENTS REQUIRED
17. POSTERS FOR PATIENT INFORMATION & AWARENESS
18. ALMIRAH TO KEEP CONSUMABLES ETC. – 3X6 RECOMMENDED
19. PATIENT COUCH, ELECTRICAL, 3 SECTIONAL – HEIGHT ADJUSTABLE RECOMMENDED.
20. PATIENT WAITING BENCH, 2 NOS
21. ETHERNET POINT, 2 NOS
22. CEILING FAN FOR WORKSTATION AREA AND FOR PATIENT CHANGING ROOM.
23. CEILING LIGHT FOR CHANGING ROOM
24. WHITE BOARD FOR TEACHING AIDS
25. DB PANEL SHOULD BE OUTSIDE THE ROOM AND SHOULD INCLUDE ALL THE MCB FOR AC LIGHTS FANS STABILISERS. ALSO THE UPS SHOULD BE INSTALLED OUTSIDE THE LAB.
26. THERE SHOULD BE MCB FOR AC AND UPS IN THE CONCEALED BOX NEAR THE WORKSTATION.
27. SEPARATE SWITCHES FOR CEILING LIGHTS & FAN.
28. MIRROR IN CHANGING ROOM.
29. ONE SHOE RACK SHOULD BE PROVIDED OUTSIDE.