

**TECHNICAL BID PROFORMA**

Item Name: “Wireless IMU-based Motion Tracking System” Bidder Eligibility Criteria:

1.0	Bidder Eligibility Criteria-I (Public Procurement – Preference to Make in India)	Class I / Class II	Local Content value	Reference, Page No.
I	Only 'Class-I local suppliers' and 'Class-II local suppliers', as defined under DIPP, MoCI Order No. P-45021/2/2017-PP (BE II) dated 16 <sup>th</sup> September 2020 and other subsequent orders issued therein.			
2.0	Bidder Eligibility Criteria-II	Complied / Not Complied	Reference Page No.	Remarks, If any
1	The bidder/OEM should have supplied the quoted item to IITs, NITs, IISERs, CSIR Labs or other Govt. R&D organizations and reputed organizations in the last 5 years, PO copies or installation certificates along with contact details of end user need to be submitted as the proof of supply. IIT Madras reserves its right to verify the claims submitted by the bidder and the feedback from the previous customers and it will be part of technical evaluation.			
2	The bidder should have 48 lakhs turnover in any one of the last 3 Financial Year.			

**3.0 Technical Compliance:**

S.No	Specifications	Complied / Not Complied	Reference Page No.
1.	<b>A.Har dware</b> <b>Working principle:</b> The system should be able to acquire data from several IMU sensors with motion trackers measuring the 3D orientation, acceleration, etc...		
2.	<b>Calibration:</b> Should perform the calibration of sensors with the minimal human requirement.		
3.	<b>Synchronization:</b> Hardware should be synchronized with 3 <sup>rd</sup> party hardware like Force plate, EMG, EEG etc...		
4.	<b>Operation:</b> At least 4 hrs of continuous acquisition.		
5.	At least 17 wireless IMU body motion trackers with an at least Accelerometer range: +/- 150 m/s <sup>2</sup> or 15 g, gyroscope range: +/- 2000 deg/s supported by a full body set of straps, wearable cloth/shirt.		
6.	<b>Sampling Frequency:</b> Minimum 50 frames per second,		

		for data acquisition at least 600 Hz or higher.		
7.		The setup should be portable and easy to interface.		
8.		<b>Output Measurements:</b> Should measure joint angles, segment kinematics, segment global positions, etc.		
9.		<b>Recorded motion data:</b> The acquired data should be precise and consistent with the position and orientation of each segment or joint angle.		
10.		<b>Compatibility:</b> It should be compatible with various market-leading biomechanics and ergonomics packages.		
11.		<b>Wireless communication:</b> RF/ Bluetooth/Wifi etc...		
12.		<b>Wireless Acquisition Range:</b> At least 20 meters.		
13.		A passive magnetic immunity in all field conditions.		
14.		<b>Calibration timing:</b> Less than a minute.		
15.		<b>Power Options:</b> Charging powered via a computer USB port and/or external source		
16.		using an AC power adapter. The AC power adapter, if provided, should be compatible to standard Indian power system specifications (230 V AC, 50 Hz frequency).		
17.		User-friendly, real-time visualization of data for easy analysis.		
<b>B.</b>		<b>Software :</b> Synchronized data should be transferable to software and can be applied to various biomechanical models.		
18.		Real-time viewing: 3D animation, graphs, data streaming, and video. It must output joint angles, segment kinematics, segment global positions, etc...		
19.		Single-user software license for lifetime validity.		
20.		Compatibility: Windows/MAC/Linux system.		
21.		Output Export Format: .c3d/.avi/.bvh/.fbx which can be processed in other musculoskeletal software platforms.		
22.		The system should be able to stream the 3D kinematic data of 23 segments with 26 joint angles, foot contact points, predict the body center of mass, and graphical representation.		
23.		Software outputs: 3D Kinematics, motion tracking, centre of mass, graphical representation, export data to different		

		formats.		
<b>C</b>	<b>Enduser Application</b>			
24.		Athletes’s movements can be easily measured and analyzed, no matter how fast the movement or how extreme the sport is (e.g. Combat sports).		
25		Each quotation of a Wireless IMU-based Motion Tracking System should also include a catalog, containing the technical specification of the IMU motion tracking offered, failing which the offer is liable to be rejected.		
<b>Other Terms and Conditions</b>				
1.	Warranty - 1 year Standard Warranty from Date of Installation			
2.	Extended Warranty: 2 Years(Optional)			

**SIGNATURE OF BIDDER ALONG WITH  
SEAL OF THE COMPANY WITH DATE**