

Our 2 Part E-Tender No. IPR/TPT/TN/ET/F/19-20/7 Dated 11th June, 2019 for Supply of Force Feedback Haptic Master Arm for Virtual Reality System

SECTION - C

TECHNICAL SPECIFICATIONS OF STORES AND DRAWINGS.

Technical Specifications for Supply of Haptic Force
Feedback arm for Virtual Reality System



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TECHNICAL SPECIFICATIONS CUM COMPLIANCE STATEMENT

Supply of Haptic Force Feedback arm for Virtual Reality System

OBJECTIVE:

The Force Feedback Haptic Device will be used to interact with the Virtual Models during the design reviews and modeling, and will be used as a master arm for control of Remote Handling Equipment during the operation phase and online control. Following are the technical specifications:

HARDWARE:

Sr. No.	Parameter	Specifications	Offered Specifications (To be filled by Vendor)
1	Force-feedback	All 6 degrees-of-freedom (3 translations and 3 rotations)	
2	Operational workspace	It should be corresponding to the movements of an average human arm: Translation: Length: 500 mm or better Width: 500mm or better Height: 500 mm or better Rotation: Yaw: 270° or better Pitch: 120° or better Roll: 270° or better	
3	Maximum force	50 N or higher	
4	Continuous force	20N or higher	
5	Continuous torque	1 Nm or higher	
6	Static Compensation	For device self-weight	
7	End-effector	Modular with programmable switches	
8	Handle Interface	Programmable handle	
9	Network Interface	Ethernet or Ether-CAT RJ45 connection	
10	Accessories	All necessary cables and connectors	

SOFTWARE:

S.No	Parameter	Specifications	Offered Specifications (To be filled by Vendor)
1	Software Features	<ul style="list-style-type: none"> • 6-dof Force-feedback output • Direct integration of the Haptic arm with the design software (CATIA & SolidWorks) without use of any other intermediate software • Should have inherent collision detection feature 	

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		<ul style="list-style-type: none"> • It should support integration with C++ • Should include API for Force based simulations through programming 	
2.	Compatibility with design software	CATIA V5 and SolidWorks along with API for programming	
4.	Operating System Compatibility	Latest version of Microsoft Windows	
5.	Compatibility with Tracking System	Should have compatibility with ART based tracking	
6.	License Validity	PERPETUAL	
7.	Documentation	All the user manuals and handbooks related to hardware and software should be provided in either hard or soft copy.	

Warranty: Minimum 3 years' comprehensive warranty for all the hardware and software components:

GENERAL TERMS AND CONDITIONS:

S.NO	Terms and Conditions	Compliance (To be filled by Vendor)
1.	The software version to be supplied must be the latest version.	
2.	The software should be upgraded within the warranty period soon after the release of any version/ up gradation of the software at free of cost by the vendor. There should not be any delay time due to any reasons in upgrading the software after the official release of up gradation from the OEM.	
3.	All the features (and newly added on features) should be included with the supply of software.	
4.	A technical training of minimum 04 days shall be provided by the Vendor at IPR premises.	
5.	Within the warranty and support period, in case of software not functioning as per the specifications, the vendor should bring out solutions within 5 calendar days.	
6.	The Quotation should include Minimum 3 years' comprehensive warranty for all hardware and software components.	
7.	The warranty will start from the date of successful acceptance by IPR	

Bidder must submit compliance statement dully filled with exact technical values of each specifications (Not with OK, CONFIRM, COMPLY, ACCEPTABLE) alongwith official seal and signature with their offer.

Authorised Signatory

Official Seal

Date :-

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MANDATORY NOTE:

- 1. Bidder must submit the enclosed (1) Mandatory checklist and (2) Authorization letter (Annexure-1) from the OEM of the force feedback haptic master arm they intend to offer for this tender**
- 2. The installation & commissioning of the Haptic Force Feedback arm will be carried out by IPR. The offer by the vendor should not include the installation & commissioning charges.**

SITE ACCEPTANCE TESTS (SAT):

- All the components on their delivery to IPR will be checked as per the specification sheet as specified in the tender.
- The Force Feedback Haptic Device will be tested for the interaction with the Virtual Models (available at IPR) in CATIA and SolidWorks. The maximum forces and torque will be measured for compliance with the required values as mentioned in the specifications
- The workspace as mentioned in the specifications will be measured by rotation and translation of the physical arm.
- The SAT will be carried out by IPR using available infrastructure at IPR.