

## Annexure - B

### Scope of Supply & Services

#### A. Desktop / Laptop Hardware Items

Desktop / laptop hardware items are required along with accessories as per below list.

Sr. No.	Hardware Required	Qty.
1)	3D Display System (30 degree stand)	1
2)	Stylus, Stylus holder & Stylus Cable	2
3)	Eye wear & Eye wear Clip-ons	5
4)	Power Supply	3
5)	Accessory box (Cables)	2

The hardware should have following specifications:

- 1) 3D Display System (30 degree stand):- The processor for this should be x86 multicore at 2.0 GHz or higher. The quoted processor should be from latest available reliable series released in the year 2012 or later. The display system should be of 17" or higher flat panel with 30 degree stand, with approximately a 4:3 ratio, with at least 1024 lines of horizontal resolution (e.g. 1280x1024) or higher. The operating system should be Windows 7 or higher with 64 bit. The hard disk should have minimum 40 GB as storage space. The RAM should be 8 GB or higher. The video card should be a) 128MB Radeon 9600 pro or b) 128 MB Radeon X300 or higher. It should have CD/DVD writer. It should have low persistence (3 ms or low) for reduced motion blur with refresh rate (minimum 60 Hz) and judder positional tracking for mapping of movements. The nominal field of view should be 100 degree or more. The internal tracking sensors should be with gyroscope, accelerometer and magnetometer having the refresh rate of 1000 Hz or more.

In addition to above, various other features are also required for better interfaces with other peripherals like USB ports (USB device with USB 2.0, USB host with USB 2.0 for DC power adapter, positional tracker USB with USB 2.0) for standard keyboard / mouse / pen-drive should be inbuilt in the system. It should have HDMI 1.4b port for connectivity. The system should have active 10/100 Ethernet for LAN options for connecting the network printer and for licensing the software modules etc. It should have regular sound card and port to connect external speakers. It should be compatible with 3DVIA modules.

- 2) Stylus, Stylus holder & Stylus Cable: - It should be compatible with the 3D display system as specified above.
- 3) Eye wear & Eye wear Clip-ons:- It should have two options a) with legs for those who do not have number glasses b) without legs for those who have number glasses. These should be compatible with the 3D display system as specified above.
- 4) Power Supply: - It should be compatible with the 3D display system as specified above.
- 5) Accessory box (Cables): - It should be compatible with the 3D display system as specified above.

The hardware should have capability to display CAD models and assemblies in Virtual Reality environment (3D environment) generated from 3D VIA software.

## **B. Installation & Commissioning of software**

Vendor to take full responsibility for carrying out the installation and commissioning of the supplied hardware items at ARP Division, Ground Floor, BHEL House, Sirifort, New Delhi – 110049.

## **C. ACCEPTANCE CRITERIA**

Vendor to demonstrate all key features of all the installed items at ARP Division, Ground Floor, BHEL House, Sirifort, New Delhi – 110049.

#### **D. DOCUMENTATION**

1. One set of documents/Instruction manuals (Hard copy) for use of hardware including setting parameters, in English language should be supplied along with the hardware.
2. One additional set of all the above manual on CD in English language.

#### **E. TRAINING**

1 days basic and 1 days advanced training for a batch of 3, with hands on examples, for application of hardware will be provided by vendor at ARP Division, Ground Floor, BHEL House, Sirifort, New Delhi – 110049.

#### **F. WARRANTY**

1. 12 months from the date of acceptance of the hardware items.
2. In case of hardware items gets corrupted and starts malfunctioning, vendor will have to replace them again at ARP Division, Ground Floor, BHEL House, Sirifort, New Delhi – 110049.
3. The vendor shall provide full technical support for hardware items during the warranty period. The technical support shall include trouble shooting through telephonic conversation, E-mails & visit of their experts, if required.

#### **G. Annual Maintenance Contract (AMC)**

Offer should contain, AMC as a fixed amount rate per FY for next 3 years period, required after successful completion of warranty period. AMC shall cover services, repairs and replacements (same or higher specifications) necessary to keep the equipment in good working order on reasonable use of the equipment during the AMC period. Preventive maintenance, wherever required should be carried out to keep the equipment in good working condition.