



**Subject: Regarding Procurement of “ENT Surgery Simulator, Make: “VOXEL-MAN, Eppendorf, Germany” on Proprietary basis –Inviting comments thereon.**

The request received from Department of ENT-HNS, AIIMS Bhopal for the procurement of **ENT Surgery Simulator, Make: “VOXEL-MAN, Eppendorf, Germany** on Proprietary basis”, through its Indian Supplier M/s DSS Imagetech Pvt. Ltd., New Delhi, on Proprietary basis.

The Notice is being uploaded for general information of Aspirant Manufacturer/Dealer/ Distributor to submit their objections/proposal, if any, on proprietorship of these items.

In case, the product of any Manufacturer/Authorized distributor/dealer conforms to the enclosed specifications, they may submit their proposal for the supply same item along with the following:-

- (i) Details of the required product brochure;
- (ii) Point-by-point compliance of the enclosed specifications, along with all relevant documentary evidence.

The objection/ proposal should be sent in sealed cover to, The I/c Senior Procurement cum Stores Officer, 1<sup>st</sup> Floor, Service Building-II, AIIMS, Saket Nagar, Bhopal (462020) so as to reach on or before **29/03/2023 upto 17:00 Hrs.**, failing which it will be presumed that no any other vendor is interested to offer comments/protest and case will be decided accordingly on its merit.

The reference number: Stores/2022-23/ ENT-Surgery Simulator/2199, Date:22/03/2023, due on: 29/03/2023 should be super scribed on sealed envelope.

**Yours Faithfully,**

**Sd/-**

**I/c Senior Procurement cum Stores Officer  
Central Stores,  
AIIMS Bhopal**

**Enclosure:**

1. Proprietary Certificate – M/s VOXEL-MAN, Eppendorf, Germany
2. Authorization Certificate – M/s VOXEL-MAN, Eppendorf, Germany
3. Technical Specifications of Product
4. Schedule of Requirement



University Medical Center Hamburg-Eppendorf

UKE | Martinistr. 52 | 20251 Hamburg | Germany  
VOXEL-MAN Group



VOXEL-MAN Group  
Dr. Andreas Pommert  
Head

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pommert@uke.de  
www.voxel-man.com

**Proprietary Certificate**

Hamburg, 22.01.2021  
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To Whom It May Concern,

We, the VOXEL-MAN Group of the University Medical Center Hamburg-Eppendorf (UKE) in Hamburg, Germany, are the exclusive developers and producers of the VOXEL-MAN range of products. This includes the surgery simulator VOXEL-MAN ENT with its modules Tempo, My Cases and Sinus. VOXEL-MAN is a registered trademark of UKE in Germany and other countries.

We hereby certify to the best of our knowledge:

1. VOXEL-MAN Tempo is the only virtual surgery simulator for ear surgery which is commercially available.
2. VOXEL-MAN Sinus is the only virtual surgery simulator for endoscopic sinus surgery which is commercially available.
3. VOXEL-MAN My Cases is the only virtual surgery simulator for creating own training cases from CT which is commercially available.
4. All VOXEL-MAN surgery simulators use a proprietary, high fidelity haptics control, which is protected by U.S. Patent No. 8,396,698.
5. VOXEL-MAN ENT includes an authoring system that allows you to create your own training tasks with automatic evaluation.
6. VOXEL-MAN ENT is the only virtual surgery simulator which allows for intra-operative 3D printing of the surgical site and implants (optional 3D Printing module and 3D printer required).
7. All VOXEL-MAN surgery simulators use only standard electronics components.

Yours sincerely,

Dr. Andreas Pommert  
Head, VOXEL-MAN Group

Gerichtsstand: Hamburg  
Körperschaft des öffentlichen Rechts  
USt-Id: DE 21 8618 946

Bank: Hamburg Commercial Bank AG  
BIC: HSHNDE33 | Konto: 104 364 000  
IBAN: DE97 2105 0000 0104 3640 00

Vorstandsmitglieder:  
Prof. Dr. Burkhard Göke (Vorstandsvorsitzender)  
Joachim Prall | Prof. Dr. Rüdiger Schenck | Prof. Dr. Rüdiger Schenck

**VOXEL-MAN**

## **Authorization Certificate – M/s VOXEL-MAN, Eppendorf, Germany**



University Medical Center Hamburg-Eppendorf

UKE | Martinistr. 52 | 20251 Hamburg | Germany  
VOXEL-MAN Group

To  
The Director  
All India Institute of Medical Sciences  
AllIMS Campus Rd, AllIMS Campus  
Saket Nagar, Habib Ganj  
Bhopal, Madhya Pradesh 462026

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### **Letter of Authorization**

Hamburg, 13.02.2023  
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Dear Sir,

We, the VOXEL-MAN Group of the University Medical Center Hamburg-Eppendorf (UKE), Martinistr. 52, 20251 Hamburg, Germany, proven and reputable manufacturers of the VOXEL-MAN ENT Surgical Simulator, hereby authorize Messers DSS Imagetech Pvt. Ltd., # A-5, Mohan Co-Operative Industrial Estate, Mathura Road, New Delhi – 110 044, to submit the bid, process the same further and enter into a Contract with All India Institute of Medical Sciences, Bhopal, against your requirements for the goods manufactured and marketed by us.

Yours sincerely,

Dr. Andreas Pommert  
Head, VOXEL-MAN Group

Jurisdiction: Hamburg  
Corporation Under Public Law  
VAT Id No: DE 21 8618 948

Bank: Hamburg Commercial Bank AG  
BIC: HSHNDE33 | Konto: 104 364 000  
IBAN: DE97 2105 0000 0101 3640 00

Executive Board:  
Prof. Dr. Christian Gerloff (Chairperson)  
Joachim Pröhl | Prof. Dr. Blanche Schwappach-Pignataro | Marya Verdel

**VOXEL-MAN**

Universitätsklinikum Hamburg-Eppendorf



## Technical Specifications of the item

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### Specifications for ENT Surgery Simulator

The simulator features should be highly realistic with force feedback, movements of the patient or endoscope should be real time, pre-defined tasks with automatic skills assessment, bleeding and suction, authoring your own cases and tasks, online updates, and a compact setup with a 3D flat panel display.

- System should have wide spectrum of cases
- Should have automatic recording and administration of training results
- Should have objective evaluation of performance (skills assessment)
- Reduced need for supervision
- Reduced need for cadaveric specimens
- Reduced laboratory and material costs
- Should have ability to training with own patient cases
- Ideal as warm-up prior to an intervention

#### **Basic Hardware**

- System should be table mounted for the ease of working
- The workstation should have the ability to adjust height as per the training requirements
- Should have a 3D flat panel display
- Working table should have two ergonomic arm rests
- Two force feedback devices whose styluses serve as instruments (e.g. drill, endoscope, suction)
- Should have a space navigator for controlling the viewing direction and magnification
- Should have a keyboard in a drawer and a mouse
- The computer hardware should be placed below the table for the easy operations
- Should have a foot pedal for controlling the drill.
- System should be offered with 3D optical glasses

#### **User Interface and Display**

- System should have fully graphic user interface
- Should have 3D display of the patient, with 3D glasses for tempo cases
- Should have endoscopic camera view for sinus cases
- Patient may be freely positioned and zoomed in real time, using a space mouse
- System should offer navigation aids for the novice, that may be switched off for the advance users
- Navigation CT with three orthogonal cross-sectional images of the patient at instrument position, with removed tissues marked
- Should have warnings about structures at risk near the instrument (Tempo, Sinus)
- Acoustic facial nerve monitor (Tempo)

#### **Virtual Patient**

- Should have below modules
  - a. Temporal Bone Surgery
  - b. Endoscopic Sinus Surgery
  - c. My Cases
- 7 (Tempo) resp. 2 (Sinus) pre-defined training cases, representing natural variability
- Should have visualization of bone and major structures at risk (Tempo, Sinus)
- Possibility to upload own patient cases from CT or CBCT in DICOM format and work on bone model (My Cases)

#### **Virtual Instruments**

- Instrument movement controlled with force feedback device

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(Dr. Gaurav Kalyan)

Dr. Gaurav Kalyan

Dr. Gaurav Kalyan

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Dr. Gaurav Kalyan

- Metal and diamond burs of various shapes and diameters, controlled with foot pedal
- Straight and angular endoscopes, variable angle of view (Sinus)
- Debrider, controlled with foot pedal (Sinus)
- Blakesley forceps, ostrum antrum punch, ethmoid cutter (Sinus)
- Visual, haptic and acoustic feedback

#### Recording Ability

- Preparations and results are automatically stored and may be recalled by trainee and/or tutor
- Video capture of complete session
- Visualization of learning curves of individuals and groups

#### Tasks and Skills Assessment

- Pre-defined tasks for selected cases for antrotomy, mastoidectomy (with various subtasks), and open mastoid cavity, with automatic skills assessment based on master preparations (Tempo)
- Should alert when approaching or injuring structures at risk
- Possibility to define own master preparations and tasks

#### Software Updates

- Should have facility to download the latest software updates as when offered by the company

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**Schedule of Requirement:-**

S.No	Particular's	Quantity	Manufacturer
1	ENT Surgery Simulator	01	VOXEL-MAN, Eppendorf, Germany through its Indian Supplier M/s DSS Imagetech Pvt. Ltd., New Delhi

**\*\* Note: Please don't quote the prices of the above schedule requirement**