Voxel-Man ENT is a complete VR Surgical Simulation System for temporal bone dissection available either as a Basic or as a Full System. The Full System allows the simulation of Endoscopic sinus surgery.

Voxel-Man Dental provides a versatile emulation of a surgical experience with its look, feel and tactile feedback extremely close to the real intervention.
ADVANTAGES OF THE VOXEL-MAN VR TRAINING SYSTEMS:

+ Reduced costs for surgical training lab
+ Safe training environment with objective skills assessment
+ Predefined training cases and natural variabilities and pathologies
+ Training of surgical approaches and manual dexterity
+ Authorization of training cases and tasks
+ Independent validation studies

TECHNICAL FEATURES

• Simultaneous handling of drill and suction or endoscope and instrument
• Drilling with realistic force feedback including sound
• 3D display with superior image quality and 3D glasses
• Metal and diamond burs with matching haptics and sound
• Foot pedal
• Surgical navigation
• Visualization of learning curves and video capture
• Online software updates and remote service
AVAILABLE SOFTWARE MODULES:

TEMPO – TEMPORAL BONE DRILLING SIMULATION:
- Training cases of middle ear with different anatomy and pathology
- Structures at risk are highlighted (facial nerve, tympanic chord, vestibular labyrinth, cochlea, auditory ossicles and dura)
- Optional support function provides automatic alerts
- Permanent tracking of instrument movements
- Automatic skills assessment provides immediate and objective feedback of performance
- Automatic video capture of session for additional insights
- Learning curves of individuals and groups help monitor and compare progress over time

MY CASES – NEW SIMULATIONS BASED ON OWN DATA:
- Upload own clinical or research data from CT or CBCT to create new specialized training cases
- System provides a bone model ready for drilling within minutes
- 3D anatomy may be further enhanced with structures at risk, identified using an advanced interactive segmentation approach
- Your cases can reach the same functionality as predefined training cases

SINUS – THE ENDOSCOPIC SINUS SURGERY SIMULATION:
- Allows for simultaneous handling of endoscope and a surgical instrument
- Provides straight and angular endoscopes and various instruments
- Structures at risk such as periorbita, optic nerve, optic chiasm, ethmoidal cells, olfactory bulb and internal carotid artery are highlighted
- Virtual surgical navigation system provides additional cross-sectional CT images
- Sinus Surgery only available with the Voxel-Man ENT Full system

VOXEL-MAN DENTAL
VIRTUAL REALITY TRAINING IN DENTISTRY

The dental VR simulation features teeth and instruments visualized on a 3D screen, both one and two-handed operation of instruments, a database of different pathologies, automatic skills assessment and monitoring of progress.

- High resolution tooth models derived from real teeth by microtomography
- Dental hand piece is represented by force feedback device which can be moved in three dimensions
- Dental models include carious lesions at various locations, such as mesial, occlusal, and distal tooth decay
- Instruments include a selection of high and low speed burs of different shapes which are controlled by a foot pedal, as well as a dental mirror

Voxel-Man Dental Full System 1022081
## VIRTUAL REALITY SIMULATION

**CHOOSE THE VIRTUAL REALITY TRAINER THAT BEST FITS YOUR REQUIREMENTS**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>ENT Basic System</th>
<th>ENT Full System</th>
<th>Dental Full System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workstation computer</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3D LCD Monitor</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Two pairs of 3D glasses</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Force feedback device (handle)</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Space navigator</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Foot pedal</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Simulator housing with two arm rests and electrically adjustable height</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Software modules</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Tempo&quot; for temporal bone drilling exercises</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
</tr>
<tr>
<td>&quot;My Cases&quot; for adding new simulations based on own CT or CBCT data</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
</tr>
<tr>
<td>&quot;Sinus&quot; for endoscopic sinus surgery exercises</td>
<td>–</td>
<td>✓</td>
<td>–</td>
</tr>
<tr>
<td>Two-handed operation with bleeding and suction</td>
<td>–</td>
<td>✓</td>
<td>–</td>
</tr>
</tbody>
</table>

**Hands-on Anatomy!**

All 3B Scientific anatomical models are now 3B SMART ANATOMY models. Customers receive an exclusive high-tech label that enables access to a free warranty upgrade from 3 to 5 years as well access to 3B SMART ANATOMY via the award-winning Complete Anatomy platform.

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