SMI Mobile Eye Tracking HMD
based on Samsung GearVR

- Get insight from virtual shops and virtual reality packages
- Perform spatial cognition research
- Improve situational awareness in sports training
- Implement gaze interaction and foveated rendering

www.smivision.com
SMI Mobile Eye Tracking HMD

SMI Mobile Eye Tracking HMD unites SensoMotoric Instrument’s 25 years of eye tracking experience with the globally successful Samsung Gear VR to form the first commercially-available mobile VR headset with eye tracking.

This modified Samsung Gear VR is supplied with eye tracking cameras that have been integrated by SMI and it comes with a specially-modified Samsung Galaxy mobile phone with SMI software pre-installed. Together, they form a VR platform with eye tracking that is intuitive, adaptable, quick to set-up, and easy-to-use.

Perfect for Developers, Professionals and Academic Researchers

The SMI Mobile Eye Tracking HMD meets the needs of a wide range of professional and scientific sectors including:

- Market Research: Get valuable shopper insight from virtual shops quickly and easily with SMI Mobile Eye Tracking HMD.
- Academic Research: Perform spatial cognition research and task dependent perception analysis in fully controlled visual immersion.
- Training Solutions: Improve performance such as situational awareness in sports training with professional athletes.
- Sales and Sales Training: Know the difference between product features and genuinely “eye catching features”.

Utilizing the Gold Standard in Eye Tracking

SMI offers the gold standard in eye tracking - a globally respected technology proven with more than 150,000 users. It features slip compensation and calibration free mode and now, its integration in the Samsung Gear VR makes this acclaimed technology more accessible than ever before.

Create VR Environments That Are Highly Detailed or Simple as a 360° Photo

Building a virtual environment is now easier than ever thanks to the Unity plugin but just how detailed you want that environment to be is up to you. Something as simple as a 360° still image – taken by a 360° camera or even downloaded from an external source - can be imported and very simply manipulated to become stimulus content that yields valuable data during your experiments.

A Smoother Workflow From Set-Up to Analysis

SMI Mobile Eye Tracking HMD is just the part of a suite of products that will work with you at every stage of the VR-eye tracking process. With the VR environment created, the workflow thereafter is straightforward. The project is loaded onto the Samsung Galaxy smart phone and an app launched to begin the experience.

Those conducting the experiment will be able to see live what the subject is seeing along with the gaze cursor on a remote PC, tablet or even another smart phone. At the conclusion of the experiment the full mobile phone output – complete with comprehensive eye tracking data – can be analyzed on SMI’s BeGaze analysis platform. From there reports are generated with a single click, yielding data sets that are consistent with proven SMI metrics.

Find Out How SMI Mobile Eye Tracking HMD Can Work For You

SMI’s product range has grown from its enduring relationships with academia and industry. Throughout our 25 year history, our customers have been finding new and innovative ways of using eye tracking and we have evolved our products to meet these changing needs.

Need to know how the SMI Mobile Eye Tracking HMD could work for you? Take a tour of our website and peruse our product information or else, get in touch with the SMI product team.

Learn more: www.smivision.com/eyetracking-hmd

Creating virtual reality environments can start with just a 360° photo
**Choose the SMI Mobile ET-HMD Package, That’s Right For You**

SMI has built around the Samsung Gear VR a suite of packages tailored to fit your professional and research needs. The SMI Mobile ET-HMD Developer is the perfect entry level package that lets you explore how the combination of VR and eye tracking. SMI Mobile ET-HMD Observation has many extra features including wireless remote observation with gaze cursor, which means you know exactly what your subject is looking at in real time.

The top of the range SMI Mobile ET-HMD Analysis Pro has been especially developed for ease of qualitative and quantitative analysis with SMI’s Semantic Gaze Mapping – the end-to-end solution for eye tracking research using the Samsung Gear VR.

<table>
<thead>
<tr>
<th>Developer</th>
<th>Professional</th>
<th>Professional Premium</th>
</tr>
</thead>
</table>

### Components

- **Samsung Gear VR headset incl. 60 Hz Eye Tracking**
  - **Developer**: ✓
  - **Professional**: ✓
  - **Professional Premium**: ✓

- **Samsung smart phone**
  - **Developer**: ✓
  - **Professional**: ✓
  - **Professional Premium**: ✓

- **Hand controller**
  - **Developer**: X
  - **Professional**: ✓
  - **Professional Premium**: ✓

- **SDK and VR engine plug-ins:**
  - **Calibration and validation**
  - **Access to raw gaze data**
    - **Developer**: ✓
    - **Professional**: ✓
    - **Professional Premium**: ✓

- **Operating PC**
  - **Developer**: X
  - **Professional**: X
  - **Professional Premium**: X

### Design & Present

- **2D Screen Composite Stimuli (text, images, videos, targets)**
  - **Developer**: X
  - **Professional**: ✓
  - **Professional Premium**: ✓

- **360° images**
  - **Developer**: X
  - **Professional**: ✓
  - **Professional Premium**: ✓

- **360° videos**
  - **Developer**: X
  - **Professional**: ✓
  - **Professional Premium**: ✓

### Interact & Record

- **Calibrationless; 1,3,5-point calibration**
  - **Developer**: X
  - **Professional**: ✓
  - **Professional Premium**: ✓

- **Live Gaze view**
  - **Developer**: X
  - **Professional**: ✓
  - **Professional Premium**: ✓

- **Orientation Logging**
  - **Developer**: X
  - **Professional**: ✓
  - **Professional Premium**: ✓

- **Participant Observation Camera**
  - **Developer**: X
  - **Professional**: ✓
  - **Professional Premium**: ✓

### Analyze & Report

- **Gaze Replay**
  - **Developer**: X
  - **Professional**: ✓
  - **Professional Premium**: ✓

- **Retrospective Think-Aloud**
  - **Developer**: X
  - **Professional**: ✓
  - **Professional Premium**: ✓

- **Bee swarm, scan path, heat map, focus map**
  - **Developer**: X
  - **Professional**: X
  - **Professional Premium**: ✓

- **Static and dynamic AOIs for all stimuli**
  - **Developer**: X
  - **Professional**: X
  - **Professional Premium**: ✓

- **Key Performance Indicators**
  - **Developer**: X
  - **Professional**: X
  - **Professional Premium**: ✓

- **Raw data, event and AOI statistics**
  - **Developer**: X
  - **Professional**: X
  - **Professional Premium**: ✓

* Requires additional module.
# Technical Data

**SMI Mobile ET-HMD based on Samsung GearVR**

<table>
<thead>
<tr>
<th>Head Gear</th>
<th>Hardware integration</th>
<th>Plug and Play integration into Gear VR HW, no additional wires, no HW adjustments prior to use, Samsung smart phone for stimulus presentation and eye tracking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dimensions head unit</td>
<td>201.9 x 116.4 x 92.6 mm (328g), eye tracking adds 10g to head gear</td>
</tr>
<tr>
<td>Eye Tracking</td>
<td>Tracking</td>
<td>60 Hz binocular</td>
</tr>
<tr>
<td></td>
<td>Trackable field of view</td>
<td>96° (full Samsung Gear VR field of view)</td>
</tr>
<tr>
<td></td>
<td>Accuracy</td>
<td>typ. 0.5</td>
</tr>
<tr>
<td></td>
<td>Calibration</td>
<td>Calibrationless Slip compensation 1- and 3-point</td>
</tr>
<tr>
<td>Interfacing</td>
<td>Software Integration</td>
<td>Eye Tracking server interfaces with SDK VR engine Plugins for: Unity Unreal WorldViz</td>
</tr>
<tr>
<td></td>
<td>Connection</td>
<td>Samsung Gear VR connectivity remains independent from eye tracking</td>
</tr>
<tr>
<td></td>
<td>Communication</td>
<td>SDK (C/C++): 60Hz raw data: Inter- Pupillary- Distance (IPD; Pupil to pupil distance) Inter- Ocular- Distance (IOD; Eye to Eye distance) Point of regard on display (Binoc) Cyclops gaze vector</td>
</tr>
</tbody>
</table>