



# Virtual Reality Stimulator - VRS

## MARKETS

Neurophysiology  
Investigations  
3D Cognition Studies  
PADMA (Perception,  
Attention,  
Memorization, Decision and  
Action) Studies  
Cognitive Workload Measures

## SERVICES AVAILABLE

Technical Support  
Installation and Setup  
Maintenance  
Application Development  
System Development

## CONTACT

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## OVERVIEW

- VRS is a complete framework designed for cognitive and neurophysiology investigations using Virtual Reality and multimedia.
- VRS is a flexible software and hardware system providing key functionalities for supporting complete experiment protocols, from authoring to data collection.
- VRS provides tools for generating stimuli (visual, aural and mechanical) and authoring experiment (timeline and event based scheduling).
- Using a real-time kernel, VRS supports sub-millisecond accuracy for generating stimuli and for recording subjects' responses. Synchronization with external devices such as EEG recorders is supported.
- VRS supports experiment events and tracking data recording and time stamping, as well as experiment monitoring.
- VRS can perform Cognitive Workload investigations.

## THE PRODUCT

- VRS system for VR and multimedia based experiments:
  - Stereoscopic Head Mounted Display with integrated cameras (for video see-through), headset and eye-tracking system.
  - 6 degrees of freedom head and hand tracking system.
  - Joystick for 3D navigation.
  - Button-box for subject response.
  - Dataglove for mechanical stimulation.
- VRS authoring software:
  - 2D and VR visual, aural and mechanical stimuli authoring.
  - Easy experiment authoring via stimuli scheduling and python scripting.
- VRS experiment execution software:
  - Stimuli scheduling and rendering.
  - Data recording and time stamping.
- VRS monitoring and control software for online supervision of experiments.

VRS has been developed with the support of the European Space Agency.

