

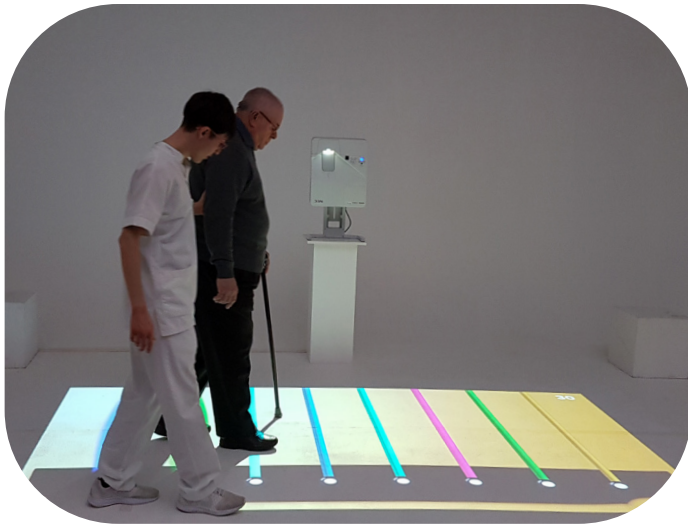


**BTS** Bioengineering



## Sensory and interactive room for rehabilitation

Motor and cognitive rehabilitation supported  
by virtual reality



NIRVANA is a medical device that uses immersive virtual reality techniques to motor and cognitive neuro-rehabilitation.

The system creates different kind of projections on walls or floors for the patient to interact with. A motion analysis device detects the patient's behavior and adjusts the projected environment, providing strong stimulation and rehabilitative audio or visual feedback.

## NIRVANA SENSOR technical specifications

Sensor model	Azure Kinect DK
Dimensions	103x39x126 mm, 440g
Frame rate	30fps
Depth camera	1-Megapixel Time-of-Flight (ToF) Camera
Color Camera	OV12A10 12MP CMOS sensor rolling shutter sensor
Motion sensor (IMU)	LSM6DSMUS - includes both an accelerometer and a gyroscope
Microphone array	high-quality, 7 microphone circular array that identifies as a standard USB audio class 2.0 device
Power connector	The device can be powered using the provided power supply (5V) and the in-box USB Type-A power supply cable.
Data Connector	USB 3.0. for data transmission. If the length is not sufficient, use the supplied active extension cable, which must be powered by connecting it to the external power supply.
Operating environment	Temperature: 10-25°C Humidity: 8-90% (non-condensing) Relative Humidity
Mounting features	Standard 1/4" mounts



## NIRVANA BRAIN technical specifications

Processor	Intel® Core™ i7-1165G7
Graphics	NVIDIA® GeForce RTX™ 2060
Hard disk	NVme™ GEN3 SSD
RAM	DDR4 - 16GB (2x8GB)
Data transmission technology	Intel® Gb Ethernet Intel® Wi-Fi 6 AX201 Bluetooth® 5.1
Connections	2x Thunderbolt™ 4 Mini Displayport 1.4 HDMI 2.0b 6x USB 3.2 Gen2x1
Power	Dedicated power supplier 19.5V
NIRVANA sensors	Up to 2 sensors (1 for floor and 1 for wall projection)
Dimension and weight	22,5x14,5x4,5 cm - 1,4 Kg

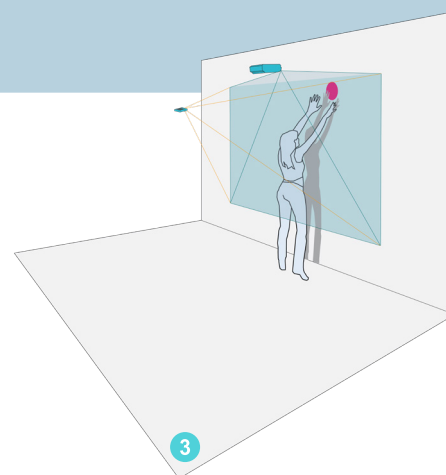
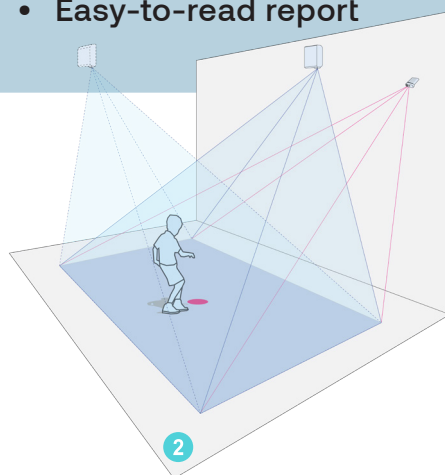
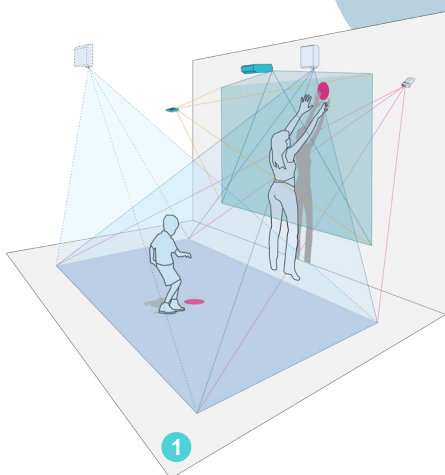




## Videoprojectors minimum requirements

	WALL PROJECTION	FLOOR PROJECTION
Lens	Ultra-Short Throw	Short Throw
Brightness	> 3200 ANSI Lumens	> 3200 ANSI Lumens
Resolution	Full HD (1.920 x 1.080 pixel)	Full HD (1.920 x 1.080 pixel)
Contrast ratio	5.000:1	5.000:1
Connection	HDMI input	HDMI input
Speakers	>16 Watt	>16 Watt

- Motor and Cognitive rehabilitation
- Web-based interface with multi-user access
- Customizable clinical exercise
- Accessible from pc, tablet, smartphone
- Easy-to-perform calibration delivers unparalleled accuracy
- Great responsiveness for an advanced immersive experience
- Easy-to-read report



### Components

	1 - DOUBLE-SENSOR CONFIGURATION	2 - FLOOR CONFIGURATION	3 - WALL CONFIGURATION
NIRVANA SENSOR	n°2	✓	✓
Short-throw Video Projector	up to 2	up to 2	-
Ultra-short-throw Video Projector	✓	-	✓
Nirvana Brain	✓	✓	✓
Webcam	✓	✓	✓
USB 3.0 Active Extension Cable	n°2	✓	✓
Sensor Support	n°2	✓	✓
WiFi router	✓	✓	✓
User Console	✓	✓	✓



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