OMNIDECK

› Motorized 360° treadmill

The Omnideck is a 360° platform that can be used to enhance analysis and exploration into any field or industry, allowing full immersion before implementing practical changes. It enables you to perform natural instinctive movement, in any direction within the virtual world – walking, running, jumping, and even even crawling, are all possible.

SMI EYE TRACKING GLASSES 2 WIRELESS

› Lightweight glasses for mobile eye tracking, sampling rate up to 120Hz

SMI-ETG are designed to record a person's natural gaze behaviour in real-time. The device is provided together with software to design various types of experiments and transform the tracking data into more structured and meaningful representations.

MICROSOFT HOLOLENS

› Holographic head-mounted computer and display
› See-through holographic lenses
› Holog. Resolution: 2.3M total light points

Microsoft HoloLens offers a unique, hands-free AR experience with its excellent hologram resolution and spatial sound.
HTC VIVE PRO

- VR Headset
- Display: AMOLED
- Resolution: 2880 x 1600
- Refresh rate: 90 Hz
- Field of view: 110°

HTC VIVE

- VR Headset
- Display: OLED
- Resolution: 2160 x 1200
- Refresh rate: 90 Hz
- Field of view: 110°

OCULUS GO

- VR Headset
- Display: Fast-Switch LCD
- Resolution: 2560 x 1440
- Refresh rate: 60-72 Hz
- Field of view: 100°

OCULUS RIFT

- VR Headset
- Display: OLED
- Resolution: 2160 x 1200
- Refresh rate: 90 Hz
- Field of view: 110°

OCULUS RIFT DK2

- VR headset
- Display: OLED
- Resolution: 1920 x 1080
- Refresh rate: 60-75 Hz
- Field of view: 100°
SAMSUNG GEAR VR INNOVATOR EDITION

› VR headset
› Display: Smartphone
› Resolution: Smartphone
› Refresh rate: Smartphone refresh rate
› Field of view: 96°

ZEISS VR ONE

› VR Headset
› Display: Smartphone
› Resolution: Smartphone
› Refresh rate: Smartphone refresh rate
› Field of view: 100°

HOLOGRAFIKA HOLOVIZIO 722RC LIGHT FIELD DISPLAY

› Glasses-free 72" 3D Light Field display
› 73 Mpixel 3D resolution

The Holovizio offers realistic 3D visualizations of rendered content with its 74 million individually controlled light rays at a 1 degree angular resolution in a 70 degree viewing angle. It has a highly stable 3D image and continuous motion parallax that provides a “look-behind” capability.

ZSPACE 100

› Stereo display that can be connected to PC with HDMI and USB
› 6 DoF stylus interface, 1920 x 1080 full HD resolution

The Zspace 100 is a 23.6" 3D display that enables unique natural interaction with virtual-holographic 3D imagery.

ALIOSCOPY 3D UHD 31.5" SV

› Glasses-free ultra-high-definition 3D display

The Alioscopy 3D UHD SV is an autostereoscopic 31.5" lenticular sheet based 3D display panel that steers different pixels of the underlying 4K panel to different directions. It shows 3D images instantaneously.
NOKIA OZO 360 CAMERA

» 3D 360° virtual reality camera for capturing video and audio
» Frame rate: 30 fps

The Nokia OZO is a professional 360° camera for recording stereoscopic video and audio with exceptional quality. It has eight microphones and lenses that each have a 195 degree field of view. You can monitor the action of the frame in real-time with OZO, as it offers a live preview of the footage being captured.

GOPRO OMNI 360 CAMERA

» 8K 360° camera for creating high-quality virtual reality content

The GoPro Omni is a 360° camera for creating and distributing impressive immersive virtual content. It is a multi-camera rig that enables high resolution output and quality and integrated pixel-level syncing that minimizes motion artifacts.

ORAH 4I 360 CAMERA

» 360° camera with a 170° field of view
» Full-spherical area coverage (360° x 80°)
» Frame rate: 30fps

With Orah 4i you to live stream 4K 360° video, capture or post-produce your 360 content. It is very easy to setup thanks to the camera calibration that has been done automatically upon root.
**INSTA360 PRO2**

- Professional VR camera
- 6 x F2.4 fisheye lenses
- Real-time Stitching: 3840 x 3840 @30 fps (3D)
- Wifi & GPS Antenna, Ethernet

The Insta360 Pro 2 uses six cameras to capture every angle of a scene at once. Videos and photos are then fused into two 8K 360 images to create immersive, detailed 3D VR. The Insta360 Pro 2 offers long-range live monitoring, FlowState stabilization and simplified post-production.

**MH ACOUSTICS EIGENMIKE® DIRECTIONAL MICROPHONE**

- Spherical microphone array
- Composed of 32 high-quality microphones

The Eigenmike® microphone can be used for real time multichannel surround sound recording or close-talking applications in sound production for music, film or broadcast, gaming, consumer products, sports or news reporting for example.

**OPTITRACK INSIGHT VCS:MINI VIRTUAL CAMERA**

- Virtual camera system
- 8.9” LED-backlit widescreen display and a shoulder rig

The Optitrack Insight VCS is a professional virtual camera system that offers real-time visualization, reduced production effort and time as well as MotionBuilder and Maya Plugins for example. it replicates the organic cinematographers' experience with exquisite fidelity.
**OPTRONIS CP70-12-C-167 4K INDUSTRIAL CAMERA**

- 12 Megapixel camera
- Frame rate: 166 fps

The Optronis CP70-12-C-167 4K is an industrial CoaxPress camera recording up to 166 fps with full resolution. The camera is Compatible with F-mount lenses with manual aperture control of G-type lenses meant for Nikon DSRLs.

**LYTRO ILLUM LIGHT FIELD CAMERA**

- 40 megaray light-field camera
- Constant F/2.0, 8X optical zoom
- 4” tilt screen

The Lytro Illum is a light field camera that allows the users to refocus their pictures after shooting. The camera is capable of amazing effects and it offers a good control.

**RAYTRIX R29 3D LIGHT FIELD CAMERA**

- Mountable light-field camera
- Frame rate: 6.2 fps
- Resolution: 29 megapixel, 6576 x 4384 pixels

The Raytrix R29 is a 3D light field camera that offers high resolution with large, low noise pixels. It can be used for 3D depth estimation, 3D stereo, multiviews and software refocus.
**FOTONIC E-SERIE 16W ToF CAMERA**

- 3D Smart camera with $45^\circ \times 34^\circ$ field of view
- Pixel array size $160 \times 120$ (h) x 120 (w)
- Frame rate: 58 fps

You can run continuous measurements up to 58 fps with the Fotonic E-serie ToF Camera. It sends the measurements to a computer for display or further processing.

**ODOS IMAGING VS-1000 ToF CAMERA**

- High resolution time-of-flight depth camera
- Frame-rate: 30 fps (streaming video), 450 fps (burst mode)

The Odos captures 3D and 2D images of the same scene from a single camera with its unique ToF technique.

**PMDTEC PICO FLEXX ToF CAMERA**

- USB-powered time-of-flight camera
- 3D camera development kit
- 0.1m - 4m range
- Frame rate: 45 fps

The Pico flexx is a small USB-connected depth sensor that can be used for flexible 3D sensing cases using a VCSEL based IR illumination.
FLIR A315 THERMAL CAMERA

- IR temperature sensor with GigE (motorized focus)
- High-frequency streaming
- Plug-and-play
- 320 x 240 pixel microbolometer

The FLIR A315 is a compact thermal camera that is fully controlled by PC. It streams full-frame 16-bit images at 60 Hz with radiometric data, signal and temperature linear.

BLACKMAGIC URSA MINI PRO 4.6K

- Lightweight digital film camera
- Supports EF photographic lenses and PL, B4, and F-mount lenses
- Frame rate: 60 fps

The Blackmagic URSA Mini Pro is a professional digital film camera that has an amazing image quality. It is lightweight and ergonomically designed and it has the controls and features of a traditional broadcast camera.

MANFROTTO 161MK2B TRIPOD

- One of the tallest Manfrotto tripods
- Capable of supporting cameras up to 20 kg

The Manfrotto 161MK2B is a professional tripod that provides a stable platform for cameras at a maximum height of 2.67m and a minimum height of 44cm. It has a clever self-geared locking column for extra speed as well as locking, self-adjusting leg angles.
KUKA KR 16 L6-2 ROBOT

- Industrial 6-axis robotic arm
- Reach of 1,9 meters
- Programmable
- Supports payloads of up to 10kg
- 0,05 mm repeatability

Kuka KR is a programmable industrial robotic arm that can be used for high precision camera control. It is a self-mounted robot that has a long reach of 1,9 meters.

Kuka is extremely precise, it has high-performance gear units and powerful motors. In addition, it has a slender robot wrist and a special arm extension of 300mm that enables the work envelope to expand to a diameter of 4,2 meters.

ROBOTNIK MOBILE ROBOT SUMMIT-XL STEEL

- Robotic development platform
- Suitable for indoor and outdoor use
- 130 kg payload and top speed of 3 m/s

Summit-XL Steel is a robotic platform for application development, which can be configured with various sensors. The robot base can navigate autonomously or it can be teleoperated.
GRYPHON DYNAMICS X8 DRONE

› Industrial drone for high payload missions
› Motor to Motor size: 1700mm
› 8 x Tiger Motor U11 with 10kg thrust each

The X8 has state-of-the-art brushless motors and carbon fibre propellers that make it great for filming. The X8 can fly the biggest cinema cameras and it can be used in challenging weather conditions.

DJI RONIN CAMERA GIMBAL

› Handheld 3-axis gimbal system
› Maximum Controlled Rotation Speed: Pan axis: 90°/s, Tilt axis: 100°/s, Roll axis: 30°/s
› Controlled Rotation Range: Pan axis control: 360°, Tilt axis control: +45° to -120°, Roll axis control: ± 25°
› Mechanical Endpoint Range: Pan axis: 360°, Tilt axis: +110° /-170°, Roll axis: ± 110°

Ronin is a professional, stabilized gimbal system with powerful motors, custom sensors, and advanced algorithms. It is extremely precise and it has three operation modes: upright mode, underslung mode and briefcase mode.
The OptiTrack V:120 Trio is a self-contained, factory-calibrated tracking system with an accurate and flexible optical tracking technology.

The Optitrack Prime 17W can use less cameras for a full 360° shot with an amazing 70° field of view. It also allows you to capture motion in a small space.

The Optitrack Prime 41 is the largest volume motion capture camera in the world. It has exceptional precision, unprecedented range and huge capture volume. It also enables outdoor motion capture.

The Optitrack Flex 13 is a medium volume motion capture camera with great precision.
FARO LASER SCANNER FOCUS 3D

- 3D laser scanner
- 130m range
- Resolution up to 70 megapixel colour
- Field of view: horizontal 360° / vertical 300°

The Faro laser scanner focus 3D is a precise and powerful high-speed 3D scanner for various applications. It has a scanning rate of one million points per second and scanning range up to 130 meters.

VELODYNE VLP-16 LIDAR

- PUCK™ sensor
- 100m range
- Field of view: horizontal 360° / vertical ± 15°

The Velodyne Lidar PUCK™ is a small, real-time 3D lidar sensor that has all the Velodyne’s key features such as calibrated reflectivity measurements. The Puck is very resilient in various conditions and has a low power consumption.

For further information and pricing, contact civit@tut.fi
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