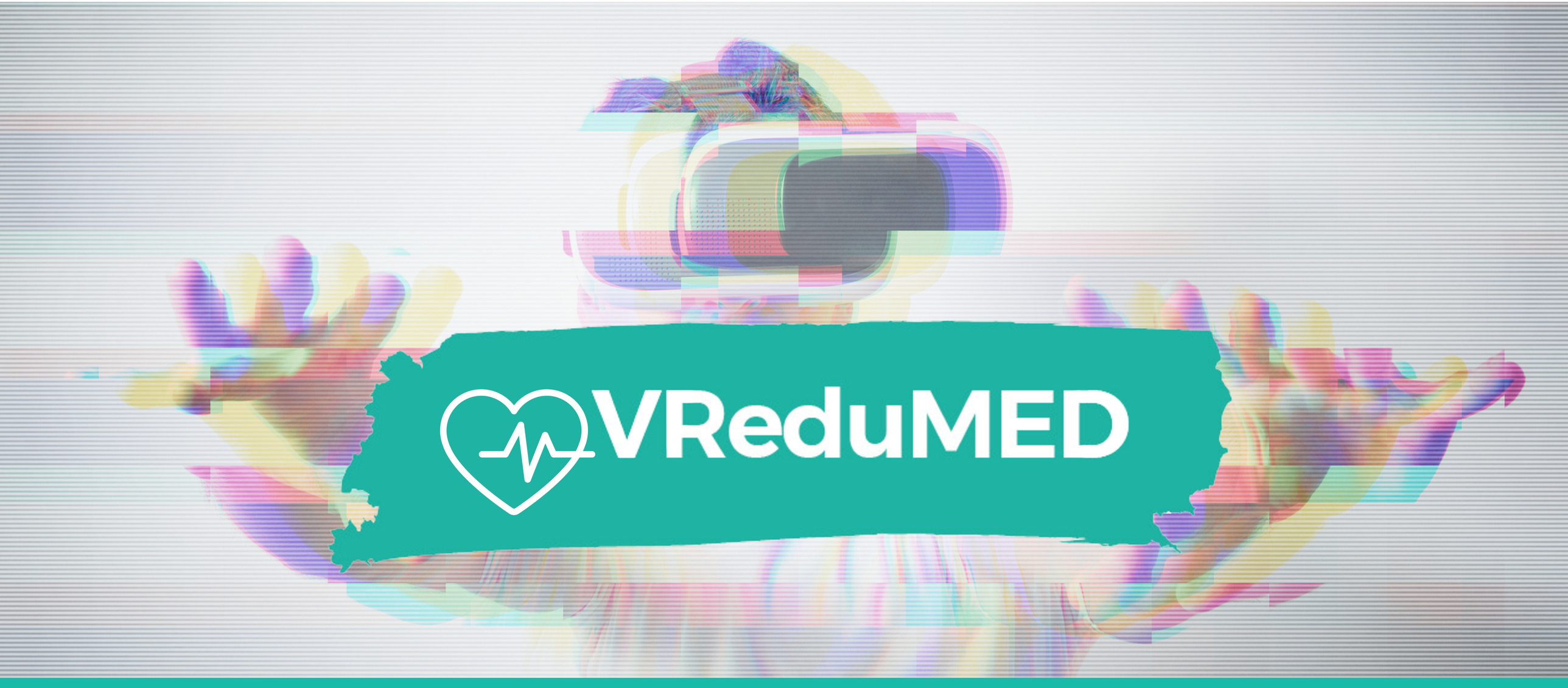
Good Practice Examples

Interreg CENTRAL EUROPE

Co-funded by the European Union

VReduMED



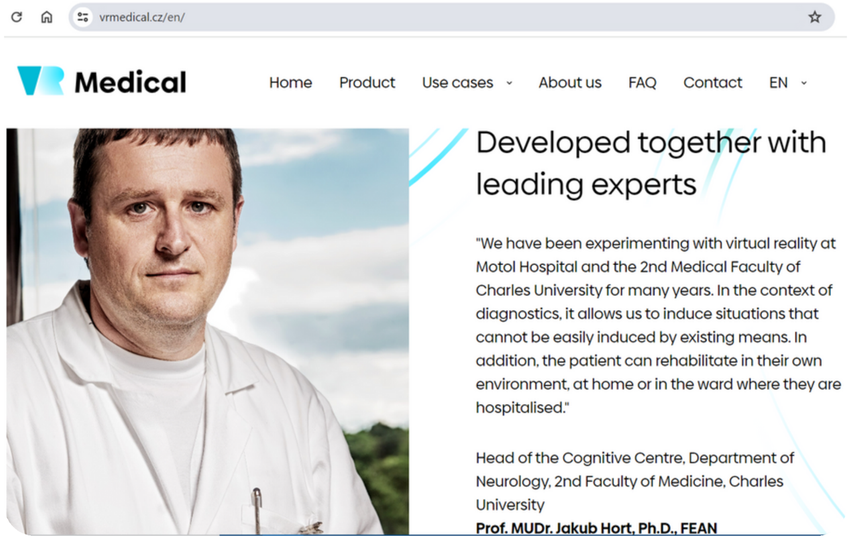
Interreg CENTRAL EUROPE
Co-funded by the European Union

VReduMED

Introduction

A catalogue of good practice examples as collected within the framework of the VReduMED project. The collection contains selected organizations from the healthcare and social care sector that have gained considerable experience in actively using virtual or augmented reality systems, and which are using them as part of their daily work procedures. The catalogue is not only one of the project deliverables but also serves as an invaluable source of information for further project implementation.

VR Medical



Credits: VR medical

Story Behind

Virtual reality in rehabilitation is an excellent diagnostic and motivational tool that speeds up the patient's return to normal life. It supports the patient in engaging in functional and long-term training and increases his interest in completing the exercise. Exercising in virtual reality increases his pain threshold, because he is so drawn into the virtual environment that he forgets about the obstacles.

Usage Habits

VR Medical uses virtual reality for rehabilitation. They work with more than 50 cooperating facilities and more than 100 health professionals, have over 1000 patients and more than 8500 implemented therapies.

Location	Plzeň (Czechia)
Organization type	Private company
Target Group	General public
Url	www.vrmedical.cz
Start use of VR	2022
Technology	Own solution

Interreg CENTRAL EUROPE
Co-funded by the European Union

FAKULTA BIOMEDICÍNSKÉHO INŽENÝRSTVÍ ČVUT V PRAZE

Fakulta biomedicínského inženýrství ČVUT



Credits: https://www.fbmi.cvut.cz/cs/fakulta/pracoviste/kzooo-informace

Story Behind

VR in the simulation of emergency situations for the purpose of training future crisis managers. VR tools are used for interactive individual and group teaching. Various extraordinary situations are simulated in the virtual environment and it is thus possible to practice specific activities and gain professional and practical experience in a short time and in an organizationally and financially less demanding form.

Usage Habits

The software is a permanent part of the Laboratory of Simulation and Practical Methods for Population Protection of the Department of Health Sciences and Population Protection of the FBMI. Can be used individually or in groups.

Location	Kladno (Czechia)
Organization type	College (Faculty)
Target Group	Higher education and research
Url	www.fbmi.cvut.cz
Start use of VR	2019
Technology	XVR on Scene, Resource Management

Interreg CENTRAL EUROPE
Co-funded by the European Union

AGEL
Střední zdravotnická škola a Vyšší odborná škola zdravotnická s.r.o.



Credits: Martin Mach (Secondary Medical School and Higher Vocational Medical School in České Budějovice)

Story Behind

Students of AGEl work with certified software of VR Medical company. Virtual reality is used during the teaching of rehabilitation nursing and nursing care for seniors. Students can practice targeted movements in the role of a patient, e.g. after a stroke, injuries and surgeries of the upper limbs as well as in the case of functional mobility disorders, Alzheimer's disease and others.

Usage Habits

Regular (more than once a week) use of VR in teaching science and professional health subjects. Linking learning and practice through software tools for physiotherapy and ergotherapy.

Location	Ostrava (Czechia)
Organization type	Secondary and higher medical schools
Target Group	Education/training center and school
Url	www.ostrava.szs.agel.cz
Start use of VR	2022
Technology	Oculus Quest/VR Medical

Interreg CENTRAL EUROPE
Co-funded by the European Union

Střední zdravotnická škola a vyšší odborná škola zdravotnická Karlovy Vary



Credits: Martin Mach (Secondary Medical School and Higher Vocational Medical School in České Budějovice)

Story Behind

Virtual reality helps students especially when teaching anatomy. In 2019, the school received 16 virtual headsets from a sponsor, running Virtual Medicine software. It allows you to view all the structures of the human body in detail, layer by layer, rotate objects and so on. The multiplayer mode allows students to see the body parts displayed with the same view as the teacher in the glasses.

Usage Habits

A comprehensive solution linking hardware and educational software.
Effective use in education (anatomy and professional medical subjects).

Location	Karlovy Vary (Czechia)
Organization type	Secondary and higher medical schools
Target Group	Education/training center and school
Url	www.zdravkakv.cz
Start use of VR	2019
Technology	Samsung Gear/Virtual Medicine

Interreg CENTRAL EUROPE
Co-funded by the European Union

IGF
Care Centre
Třebíč

IGF Care Centre Třebíč



Credits: IGF Care Centre Třebíč

Story Behind

IGF are looking for all the possibilities to improve their stay for clients and how to keep them in shape for as long as possible, or slow down the progress of their illness. At the beginning of the use of VR, both employees and clients at different stages of Alzheimer's disease participated together to test who was willing to try the technology, how they would be able to recognize the difference between VR and the real world.

Usage Habits

They use VR for activation therapies, group therapy with clients and at the same time for employee relaxation. The fact that in this facility the staff uses VR not only for clients, but also for themselves is pleasing.

Location	Třebíč (Czechia)
Organization type	Social service facility
Target Group	General public
Url	www.igfac.cz
Start use of VR	2021
Technology	Wonder, Ocean Ocean Rift, Natur Track, VR Senior Pack, ZSF Relax

Interreg CENTRAL EUROPE
Co-funded by the European Union

Centrum sociálních služeb Emausy



Credits: Centrum sociálních služeb Emausy

Story Behind

This is a nursing home that started using virtual reality already in the time of COVID to help reduce the frustration of its clients from being alone and not being able to meet others. They regularly use this technology to activate clients who watch VR videos from nature, do activities in interactive applications both in nature and in other interesting places (for example, in a spaceship, etc.)

Usage Habits

They regularly use virtual reality for activation therapy and stress reduction for clients.

Location	Dobrá Voda u ČB (Czechia)
Organization type	Social service facility
Target Group	General public
Url	www.ledax.cz
Start use of VR	2021
Technology	Natur Track, Mission ISS, VR Senior Pack, ZSF Relax, Tilt Brush.

Střední zdravotnická škola a Vyšší odborná škola zdravotnická



Credits: Martin Mach (Secondary Medical School and Higher Vocational Medical School in České Budějovice)

Location	České Budějovice (Czechia)
Organization type	Secondary and higher medical schools
Target Group	Education and trainnig center, school
Url	www.szscb.cz
Start use of VR	2022
Technology	Oculus Quest 2/3D Organon, Human Anatomy Puzzle, etc.

Story Behind

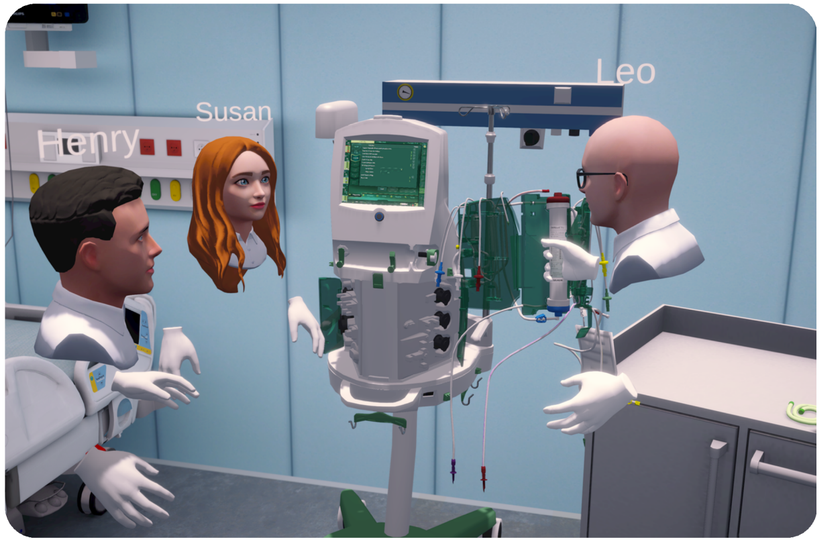
The school has purchased 30 headsets in phases starting in 2020. One of the goals is to incorporate VR into teaching in as many subjects as possible. In particular, applications suitable for learning anatomy, biology (and other sciences) as well as foreign languages and history are currently being tested. Using of VR applications for 3d modelling of teeth in the field of dental technology seems to be promising.

Usage Habits

Use of VR across fields of study and educational subjects. Making VR technology accessible to primary school students.The school has also organised project days for partner primary schools.

Interreg CENTRAL EUROPE
Co-funded by the European Union

Virtual Lab, s.r.o.



Credits: Virtual Lab, s.r.o.

Story Behind

VR ICU® emerged as a virtual training ground for healthcare professionals, initiated by Virtual Lab to meet the urgent demands of hospitals amidst the Covid pandemic. The platform offers a simulated setting for hands-on experience with critical ICU equipment—like pulmonary ventilators and dialysis machines—without the risks of practicing on real patients. Supported by leading manufacturers such as BBraun, Fresenius etc.

Usage Habits

Training can be conducted remotely in a shared virtual space, increasing the effectiveness of certified training programs. Manufacturers themselves confirm the importance of training modules that enable staff to use sophisticated devices.

Location	České Budějovice (Czechia)
Organization type	Private company
Target Group	Hospital
Url	https://virtual-lab.cz/
Start use of VR	2019
Technology	Own Solution, Oculus Quest

Interreg CENTRAL EUROPE
Co-funded by the European Union

VIREAS

VIREAS



Credits: VIREAS

Story Behind

The purpose of the project is a comprehensive solution to the use of virtual reality as an activation tool in residential facilities and home environment. Two main results were created within the project - the VIREAS Virtual Experience Set software and the methodology for using virtual reality in homes for the elderly. The VR offers the user a naturally stimulating environment and also key psycho-spiritual needs of seniors.

Usage Habits

The use of VIREAS software is particularly beneficial in homes for the elderly, as it expands the range of activation activities. The methodology is primarily intended for activation workers and managers of geriatric facilities.

Location	České Budějovice (Czechia)
Organization type	Private company
Target Group	General public
Url	www.vireas.cz
Start use of VR	2022
Technology	Own Solution, Oculus Quest

Interreg CENTRAL EUROPE
Co-funded by the European Union

Soma Reality GmbH



Credits: https://www.lazarus.at/2023/04/14/innovation-virtual-reality-training-sensibilisiert-personal-fuer-potenzielle-krankenhausinfektionen/

Story Behind

Soma together with partners have developed a VR application to raise awareness of hospital staff on hospital infections and to prevent wound infections. This project is co-funded by the Austrian FFG organization. Through training in virtual reality, medical procedures can be trained and perfected. At the same time, essential hygiene measures are more easily internalized and possible transmission routes of invisible pathogens.

Usage Habits

The implementation of cognitive analyzes based on eye tracking, which is incorporated into high risk and high stress training environments. In that way it is possible to measure a person's cognitive load in real time.

Location	Wien (Austria)
Organization type	Private company
Target Group	Education/training center and school
Url	www.somareality.com
Start use of VR	2022
Technology	Own solution

XRCONSOLE

XRCONSOLE



Credits: https://xrconsole.net/xrtrain/

Story Behind

Own solution in the education and training of health and safety emergency services. The preparation of an endotracheal intubation is an important assistance service for doctors in the healthcare system. This action is primarily carried out by nursing and medical staff. Since this measure is life-sustaining, it is important to work as error-free and quickly as possible. Fire protection and building evacuation plays a major role in healthcare.

Usage Habits

Two use cases were created and were subjected to an evaluation study.15 minutes of our XR training resulted in trainees completing endotracheal intubation preparation 36 seconds faster.

Location	Graz (Austria)
Organization type	Private company
Target Group	Hospitals and medical centres
Url	www.xrconsole.net/xrtrain/
Start use of VR	2021
Technology	Own solution

Interreg CENTRAL EUROPE
Co-funded by the European Union

FH Technikum Wien



Credits: PrepaCare VR operating room VR technology is used, among other things, to simulate particularly critical scenarios. © FH Technikum Wien

Story Behind

One learning scenario is aimed specifically at emergency room personnel and covers the clinical processes that must be used in the course of complex airway management (closure of the airway). A virtual reality (VR) application has also been developed, with the help of which communication processes can be practiced and consolidated in team mode. During the course of the project, further such treatment and simulation scenarios will be designed and implemented.

Usage Habits

Well-trained health workers play a central role in the health system. In-depth training, lots of practice and further training have a special priority. This affects doctors or nursing staff, but also medical technicians.

Location	Wien (Austria)
Organization type	College (Faculty)
Target Group	Higher education and research
Url	www.technikum-wien.at
Start use of VR	2022
Technology	Own solution

Interreg CENTRAL EUROPE
Co-funded by the European Union

Essity Austria GmbH



Credits: https://www.tork.at/hygiene/gute-hygiene/tork-clean-care/gesundheitswesen/virtuelle-realitat

Story Behind

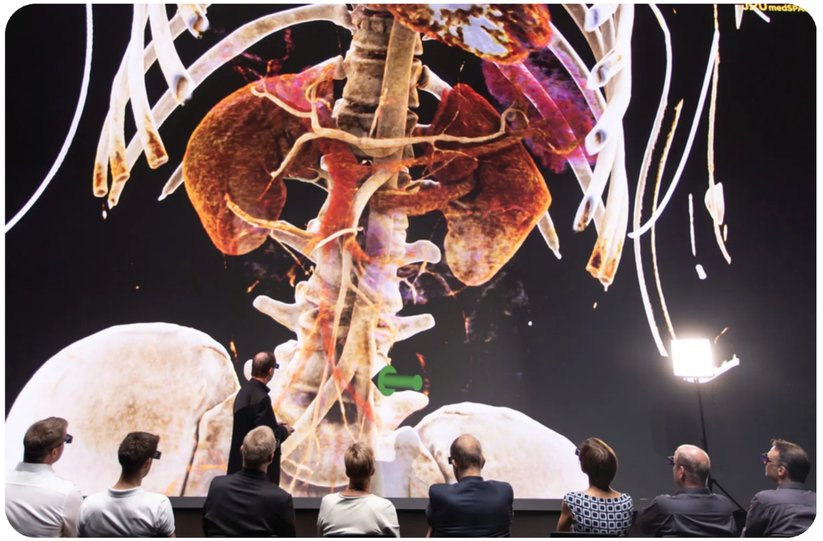
Tork Clean Hands VR Training is a fun and interactive game. It was specially developed to make hand hygiene training more motivating and inspiring than ever. Slip into the role of a nurse or a doctor, put on the VR goggles and start your shift in the virtual world. In a series of concrete practical situations, you practice each of the "5 moments of hand hygiene" of the WHO - with your own hands; see

Usage Habits

This app is fulfilling an important need as a recent survey done by Essity among healthcare workers shows that 80% of healthcare professionals would like to improve their hand hygiene compliance.

Location	Wien (Austria)
Organization type	Private company
Target Group	Hospitals and medical centres
Url	www.tork.com, www.essity.com
Start use of VR	2019
Technology	Own solution

Johannes Kepler University Linz
Ars Electronica Futurelab



Credits: The blood supply of a living person, freely rotatable and zoomable, in unimagined detail from head to toe: “Virtual Anatomy” lets you see the previously impossible[:], Credit: Tom Mesic Source

Story Behind

The JKU medSPACE is a completely new, globally unique teaching location for anatomy at the Johannes Kepler University in Linz. It shows anatomy like never before, in quadruple stereoscopic 3D projection in 4K on 14×7 meters: teachers and students immerse themselves in larger-than-life, photorealistic 3D images of real MRI and CT data, which are pin-sharp from all angles and seamlessly zoomable.

Usage Habits

The JKU medSpace developed by the Ars Electronica Futurelab. It converts data from real patients into photorealistic images in 3D, you can rotate and zoom images to the smallest structures.

Location	Linz (Austria)
Organization type	University
Target Group	Higher education and research
Url	www.ars.electronica.art
Start use of VR	2018
Technology	Ars Electronica Futurelab, Siemens Healthineers

Interreg CENTRAL EUROPE
Co-funded by the European Union

Barmherzige Schwestern
Krankenhaus Ried

Krankenhaus der Barmherzigen Schwestern Ried



Credits: © Krankenhaus Barmherzige Schwestern Ried

Story Behind

The Hospital of the Sisters of Mercy in Ried (Austria) has found an ingenious application of the VR glasses for the insertion of a Venflon (venous catheter): The little patient is distracted with a series until she falls asleep and hears and sees nothing of what is going on in the operating room.

Usage Habits

In order to calm children before an operation, the Hospital has been using video glasses for several months. The children who watch a film on the way to the operating room are much less stressed.

Location	Ried (Austria)
Organization type	Hospital
Target Group	Hospitals and medical centres
Url	www.bhs-ried.at
Start use of VR	2020
Technology	Happymed

Interreg CENTRAL EUROPE
Co-funded by the European Union

Imsimity GmbH



Credits: Imsimity

Story Behind

In an XR workshop, we introduced innovative technologies to geriatric care staff. We utilized existing educational modules from biology and medicine for nursing training. Together with a regional university, we developed concepts for nursing simulations on virtual patients, which were further enhanced by research. Currently, we're actively networking with various nursing facilities and schools to create additional VR simulation scenarios.

Usage Habits

We use VR to present human anatomy interactively, train care sector work processes, and enable digital participation for people with disabilities. Our goal is safe and effective learning with the latest technologies.

Location	St. Georgen im Schwarzwald (Germany)
Organization type	SME
Target Group	Medicine, care and education sector
Url	https://imsimity.de/
Start use of VR	since 90s
Technology	Own solution

Interreg CENTRAL EUROPE
Co-funded by the European Union

Bamberger Akademie für Gesundheitsberufe gemeinnützige GmbH



Credits: https://www.bamberger-akademien.de/

StoryBehind

The first applications were tested back in 2018, e.g. in combination with a motion platform. With the Skills Lab corporate project, it became concrete and content was developed for the first scenarios. In addition to AR applications in the field of obstetrics, various VR scenarios are being used in acute care, outpatient settings and psychiatric care. The focus is on learning chains of action and communication in patient care.

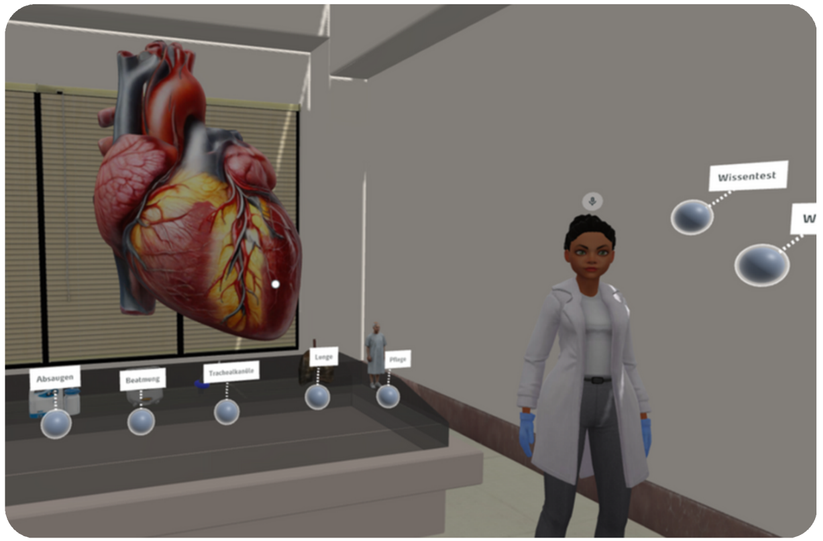
Usage Habits

Since 2020, we've been using VR in nursing education. We collaborated with a German company to develop VR scenarios for care training. Since 2023, we've offered an innovative program, "xR Skills Trainer*in für Gesundheitsberufe", using VR in various courses.

Location	Bamberg (Germany)
Organization type	Healthcare education organisation
Target Group	Healthcare sector
Url	https://www.bamberger-akademien.de/
Start use of VR	since 2020
Technology	Solutions of SimX und Elsevier, AR-Apps of CAE, ThingLink

Interreg CENTRAL EUROPE
Co-funded by the European Union

Teloscope



Credits: www.teloscope.de

StoryBehind

Our VR applications arose from the desire to promote practical skills and communication in nursing training. During our studies, we realized that there are only a few VR training courses that are specifically adapted to the requirements of nursing training. We therefore developed simulations that can be seamlessly integrated into the curriculum, including AI-supported admission interviews with individual feedback.

Usage Habits

Our VR training courses are used by nursing schools, clinics and training centers - both in the classroom and for exam preparation, even without VR glasses. The modules can be used flexibly (10-20 minutes), are individually adaptable and run on all common VR systems. The AI-supported communication, which enables realistic patient conversations, is particularly appreciated.

Location	Gerolzhofen (Germany)
Organization type	Educational Technology
Target Group	**School, Educational Institutions, Companies**
Url	**www.teloscope.de**
Start use of VR	since 2021
Technology	Solutions of SimX und Elsevier, AR-Apps of CAE, ThingLink

Interreg CENTRAL EUROPE
Co-funded by the European Union

Helios Dr. Horst Schmidt Kliniken Wiesbaden



Credits: : https://www.helios-gesundheit.de/karriere/standorte/wiesbaden-hsk/ausbildung

Story Behind

With the start of the digital package came the idea to start using VR in nursing training. In 2021, there was still little on the market that could be used for training. So we came up with the idea of developing programs ourselves. We looked at which scenarios were difficult to reproduce in the demo room and came up with the idea of starting with the PEG probe and its handling. The project started in summer 2022 and was completed in December 2022.

Usage Habits

Patient room was developed, a patient with breathing and eye movements. The calculation of the number of calories, protein requirements and fluid requirements. The selection of food and the implementation of hand disinfection.

Location	Wiesbaden (Germany)
Organization type	Healthcare school
Target Group	Healthcare sector
Url	https://www.helios-gesundheit.de/karriere/standorte/wiesbaden-hsk/ausbildung/
Start use of VR	since 2023
Technology	3DOragon for Anatomy

Interreg CENTRAL EUROPE
Co-funded by the European Union

MEDICOR Elektronika Zrt.
MASSVENTIL®Mobile Crisis Hospital



Credits: : MEDICOR Elektronika Zrt.

StoryBehind

The MASSVENTIL® system allows intensive care of several patients at once, according to their specific needs in a crisis situation, such as a disaster, pandemic, or war. Due to its modular structure and CE marked subsystems, it can also be used to supplement existing hospital infrastructure in case of capacity or medical gas shortage.

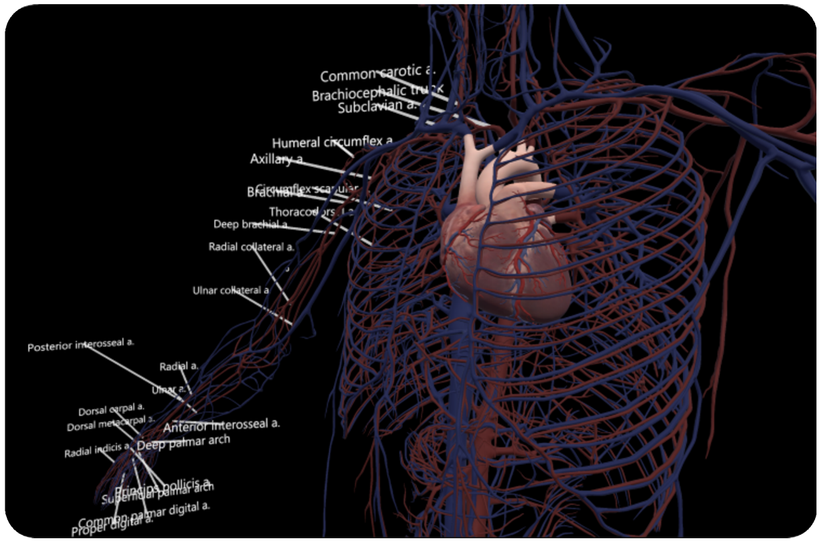
Usage Habits

360-degree VR film for demonstration and marketing purposes, which we can showcase on trade fairs and other events. Since we cannot take a full mobile hospital system with us, it was easier to present the advantages and functions this way.

Location	Budapest (Hungary)
Organization type	SME
Target Group	Governments, NGOs etc.
Url	https://medicor.hu/en
Start use of VR	since 2023
Technology	Meta Quest 2

Interreg CENTRAL EUROPE
Co-funded by the European Union

HoloSapiens Technology Ltd.



Credits: : dr. Kristóf Móga, HoloSapiens Technology ltd., 18.03.2024

StoryBehind

Anatomy is one of the most challenging subjects for medical students during their training because of the vast curriculum and the difficulty of understanding the anatomical structures in 3 dimensions with traditional methods. During the dissection room practices, limited time is available to practice on the cadavers and accurate plastic models. It is essential for a good doctor to have a complete understanding of the human body.

Usage Habits

The head-mounted AR/MR display lets users examine and learn the human body in 3D with the option to project them to real cadavers. Various labelled anatomical structures can be enlarged, rotated, and moved in gamified space.

Location	Budapest (Hungary)
Organization type	Private company
Target Group	Higher education and research organisations Medical Universities
Url	www.holosapienstech.com/
Start use of VR	since 2023
Technology	AR / MR

Interreg CENTRAL EUROPE
Co-funded by the European Union

PentaHospitals Slovensko

Hospital in Trebišov



Credits: : pentahospitals.sk

StoryBehind

The Cognity Care app was created as a co-op activity. The medical side was led by psychologist Richard Bodnár from the psychiatric department. It is mainly intended for patients with certain forms of depressive syndromes (with a symptom of decreased self-esteem). When performing tasks in virtual reality, selected suitable patients improve their executive functions, i.e. planning how to perform a task, when to perform it and how to successfully move on to the next task.

Usage Habits

An application is intended as a treatment supplement for patients with mental disorders. It has already been tried by more than 150 patients, with subjectively and objectively beneficial effect.

Location	Třebišov (Slovakia)
Organization type	Hospital
Target Group	General public
Url	https://pentahospitals.sk
Start use of VR	2021
Technology	Own solution in co-operation with Deutsche Telekom IT Solutions Slovakia

Interreg CENTRAL EUROPE
Co-funded by the European Union

DETSKÉ KARDIOCENTRUM
Pracovisko NÚSCH, a.s.

CHILDREN'S CARDIOCENTER
Workplace of NÚSCH, a.s.



Credits: : detskekardiocentrum.sk

StoryBehind

The use of VR by patients with mental health disorders was designed by the R&D team, part of Deutsche Telekom IT Solutions Slovakia. Using the Cognity training plan, children can train memory, attention, concentration, numbers, visual-spatial perception, and executive brain function. In addition to training, the application has relaxation exercises, where the user finds himself, for example, on the beach or in a forest environment with 3D models of animals.

Usage Habits

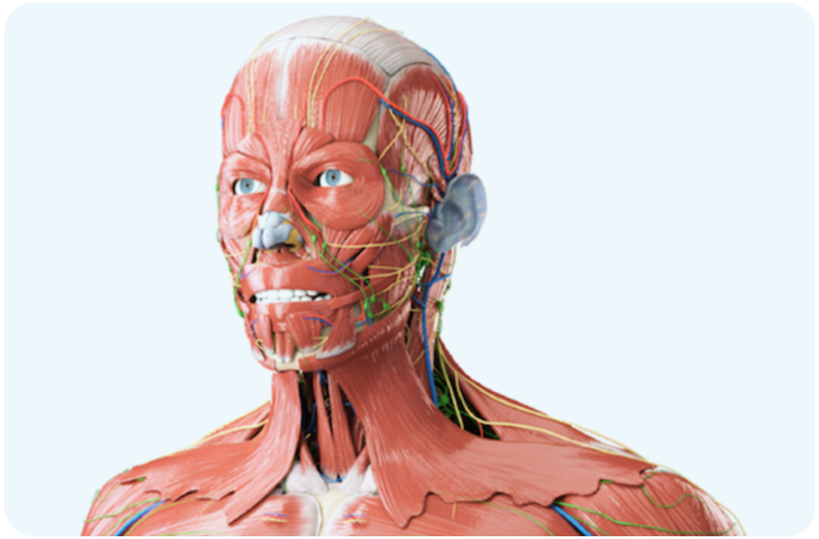
Use of the application in the cardio center – until now, children went to outpatient sessions on a weekly basis, after which they were given assignments. They were supposed to practice them at home together with their parents.

Location	Bratislava (Slovakia)
Organization type	Hospital
Target Group	General public
Url	https://www.detskekardiocentrum.sk
Start use of VR	2022
Technology	Own solution in co-operation with Deutsche Telekom IT Solutions Slovakia

Interreg CENTRAL EUROPE
Co-funded by the European Union

VIRTUAL MEDICINE

VIRTUAL MEDICINE, s.r.o.



Credits: : medicinevirtual.com

StoryBehind

This is a unique approach to teaching human anatomy. Virtual reality makes learning a more effective and engaging experience. The Virtual Medicine platform offers highly detailed 3D models with over 10,000 structures and accurate English/Latin labels allowing students to visualize the human body. More than 5,000 detailed anatomical structures can be viewed together with all students at once using Multi-User collaboration mode.

Usage Habits

Using mobile devices, tablets or VR glasses, allows students to expand or replace the time spent in the autopsy room. The available license allows to share the VR experience between the instructor and students in a socially distant form.

Location	Bratislava (Slovakia)
Organization type	Privat company
Target Group	Medical schools, universities
Url	https://www.medicinevirtual.com
Start use of VR	2016
Technology	Education platform; 3D VR DICOM viewer

Interreg CENTRAL EUROPE
Co-funded by the European Union

PSYCHIATRICKÁ NEMOCNICA
Philippa Pinela Pezinok

Philipp Pinel Psychiatric Hospital in Pezinok



Credits: : pnpp.sk

StoryBehind

In the spring of 2022, a novelty in the form of VR was added to the treatment. It is a modern tool in the treatment of several types of mental illness. It is used at the Psychosomatic Clinic in the treatment of anxiety states, phobias, but also in eating disorders. The session takes place – after acquainting the patient with the course, the patient puts on a VR headset, in which the selected situation is spatially displayed.

Usage Habits

Virtual reality allows the therapist to apply techniques of exposure, systematic desensitization, diaphragmatic breathing, muscle relaxation etc. without the need to leave the therapy room and confront real exposure.

Location	Pezinok (Slovakia)
Organization type	Hospital
Target Group	General public
Url	https://www.pnpp.sk
Start use of VR	2022
Technology	Virtual platform Psious

Interreg CENTRAL EUROPE
Co-funded by the European Union

"We combine the world of virtual reality and healthcare"

Interreg CENTRAL EUROPE

Co-funded by the European Union

VReduMED



Follow us for more information and exciting VR news!