European VR Training Provider

Companies for Virtual Reality Training solutions in the law enforcement domain.

SHOTPROS

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Introduction

Technological developments are changing our daily lifes. From a professional point of view, novel technologies like Virtual Reality (VR) can lead to immense improvements and increased efficiency. However, it is of central importance to develop and adapt technologies to the needs of the users and carefully integrate them into existing systems. In a highly complex application area such as law enforcement training, this can be an extensive process.

We at USECON (www.usecon.com) have many years of experience in digital transformation management and end-user are in the center of our attention. To enable the combination of research, technology development and implementation in the field, USECON initiated the SHOTPROS project. Since the start of the project in 2019, great progress has been made by the multidisciplinary consortium in the area of Virtual Reality police training.

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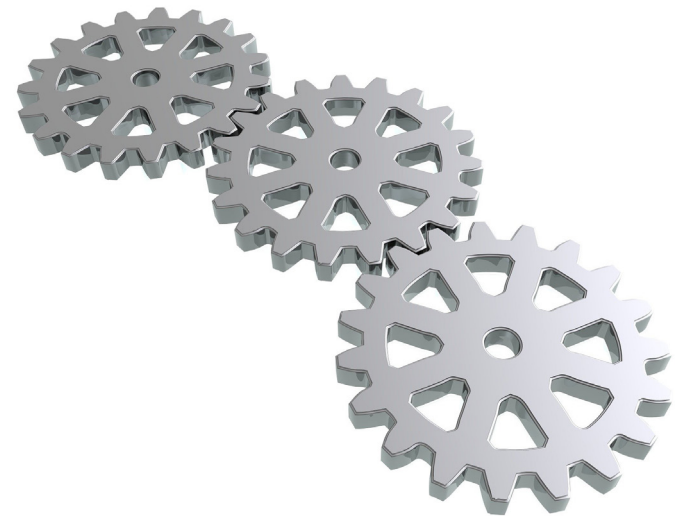Mail: murtinger@usecon.com

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Methodology

The companies presented in this booklet were identified based on their field of expertise and contacted on behalf of the SHOTPROS project. All companies that expressed their interest to contribute to this booklet and provided the presented information and other content (e.g. visuals).

This booklet was developed as part of the project to offer a comprehensive overview of the companies providing VR training in the area of law enforcement. It will be further developed and enhanced by including additional companies and other relevant content.

About SHOTPROS

SHOTPROS is a research and innvovation project funded by Horizon 2020 Programme. A team of 13 European partners from high-ranked research institutions, business companies and international Law Enforcement Agencies cooperate for 3 years on SHOTPROS

The project aims to investigate the influence of psychological and contextual human factors (HFs) on the behaviour of decision-making and acting (DMA) of police officers under stress and in high-risk operational situations in order to design better training for police officers to improve DMA Performance. SHOTPROS will develop a Virtual Reality (VR) solution to experimentally assess the degree to which these factors influence DMA behaviour.
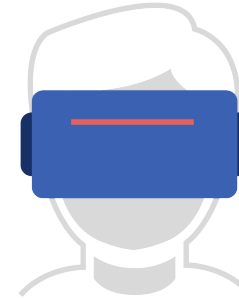
Key facts
- Funding: Horizon 2020
- Duration: 05/2019 - 04/2022
- Coordinator: USECON
- (VR-) Technology Provider: RE-liON
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SHOTPROS

Virtual / Augmented / Mixed Reality

Delimination of extended realities (XR)
XR is an emerging umbrella term for all the immersive technologies. The ones we already have today—augmented reality (AR), virtual reality (VR), and mixed reality (MR).
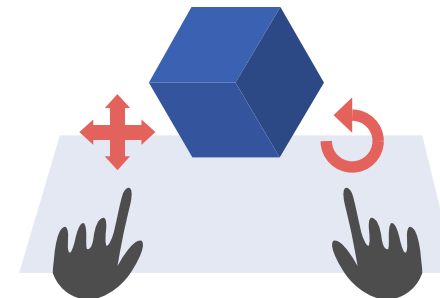
Virtual Reality (VR)

Artificial environment
Full immersion the virtual scenario

Augmented Reality (AR)

Enhanced world
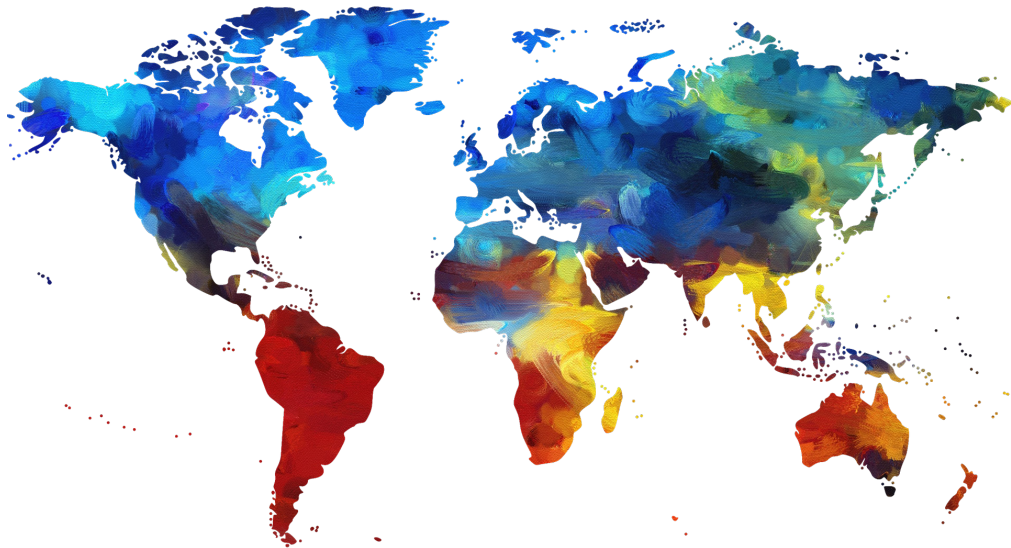Virtual Objects overlaid on real-life environment

Mixed Reality (MR)

Virtual environment combined with real world
Virtual Objects overlaid on real-life environment

VR Training Landscape in Europe

Europe has a rich tradition in academic VR & AR research and is also the place where niche and high-precision technologies are developed. These technologies can be used for industrial purposes or in specific areas, such as law enforcement training.

Distribution Areas

of the VR Training Provider presented in this Booklet
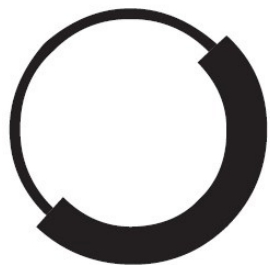
- **RE-LiON:** Netherlands

- **Refense**: EU, Switzerland, USA

- **Asterion**: France, Switzerland, Germany, Austria, Poland, Sweden, Denmark, Norway, Spain, KSA, Thailand, Peru, Bolivia, Canada, USA

- **innerspace**: EU, Switzerland, USA

- **Altheria Solutions**: Europe

- **STP VR / iXtenda**: Europe, world-wide

- **Mindconsole**: world-wide

- **VRTS**: world-wide

About

RE-liON provides life saving solutions using the in VR & AR technologies for Defence, Law Enforcement Agencies and Fire & Rescue Services to stay prepared and be ready for operations.

RE-liON has a focus on first responders and therefore detailed knowledge of requirements as well as the capability to build and maintain hard- and software.

For all solutions, we offer through-life support. This ensures optimal utilisation of the training technologies.

VR solutions

1.BLACKSUIT

A mobile VR training system for up to 16 operators. It enables special police units to train with realistic weapons and equipment at almost any location. BLACKSUIT facilitates a wide range of (self created) scenarios from dynamic hostage rescue in airplanes to night time raids in urban areas. Performance data collected during training is instantly available for after action reviews.

2.BLUESUIT

A mobile VR training system for up to 16 police officers. It enables police units to train with realistic weapons, both lethal and non-lethal, at almost any location. BLUESUIT facilitates a wide range of (self created) scenarios from AMOK and domestic disturbance to patrol and crime scenes. Performance data collected during training is instantly available for after action reviews.

RE-LiON´s USP

- Switch between multiple weapon systems (on a sling, in a holster, etc)
- Multi-user (up to 16 people)
- Mobile, transportable to point of need: 2 pax, 1 hour build-up time
- Allows physical contact between trainees as required in tactical procedures
- Only needs a flat floor + roof for infrastructure
- Outdoor use in case of good weather
- Guaranteed high up time
- Highly customisable due to our hard- and software capabilities
- Ruggedised equipment: no headaches when replacing damaged parts
- After action reviews with performance based measurements

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Refense AG

About

Refense AG was founded in July 2019 and is a joint venture between Pandally AG (fusion arena) and RedCube GmbH (trueVRsystems). Both companies joined forces to combine their extensive experience in the areas of defense, virtual reality and training into one all-encompassing solution. Together with the international partner network of trueVRsystems, in addition to our own locations in Switzerland, certified training centers abroad will be offering Refense training solutions in the future.

VR solutions

Currently, up to 10 participants can freely move and interact in an immersive and highly realistic environment based in a warehouse-sized arena. Police instructors can directly influence the simulation by controlling virtual civilians and hostiles or leaving decisions up to the AI system. The „Refense After Action Review" application enables further analysis of the training session as a continuous 3D model.

Refense has its own team of developers, so that custom features and scenarios can be created. In the future, the scenarios will become more photorealistic and the participants will feel a higher level of immersion.

Refense´s USP

The solution offers a multiplayer full body VR experience. Participants do not have to use controllers to interact in the virtual world. There is no need for consumable supplies. All civilians and hostiles in the scenario are virtual by default, but an actor can take over any role. Thus, actors are not necessarily needed. The refense training solution can be used on your own platform or in an arena of our partner network, currently 12 VR centers worldwide. By taking advantage of the virtual civilians and hostiles, one scenario can result in many different actions and outcomes.
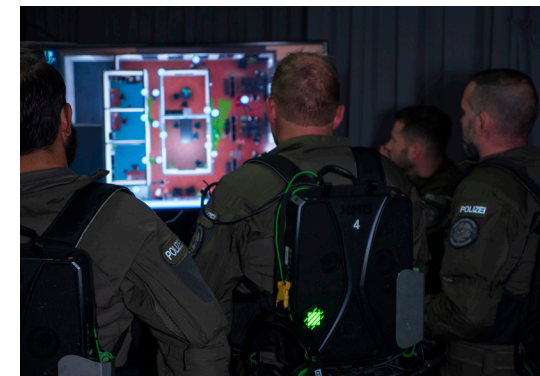
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Asterion XR Technologies

About

ASTERION VR XR technologies was founded in 2016 by Dr. Erik GESLIN who has a Ph.D. in Virtual Engineering and a post-doctorate in cognitive and emotional sciences of virtual worlds and virtual video games (carried out at Ubisoft Canada), and Franck Geslin, an officer of police special force RAID and currently in GSPR security of the President of the French Republic. The brothers wanted to combine their common skills to the service and production of new tools in the fields of XR technologies for the training in police, military and special forces.

Asterion VR has developed the first Virtual Fire Range and is specialized in the production of complex emotional AIs, allowing to simulate infinite situations with a scenario editor dedicated to instructors.

VR solutions

ASTERION VR and XR technologies is one of the rare VR simulation companies to provide and distribute a truly effective Virtual Reality Shooting Simulator Turnkey solution. This VFR Virtual Fire range is also distributed under the name VRS in Germany and northern European countries. VFRs allows to practice shooting in an Indoor and Outdoor Fire Range, IPSC Challenge, and crisis situations with the need for shooting decision making.

ASTERION has also developed a VR CQB (Close Quarter battle) that enables multi-user training of crisis scenarios with multiple high-quality environments. This VR CQB allows for total control of the instructors. It can be a scenario of crises against terrorists' boots with AI of Autonomous Emotional Agents or in Force on Force!

After the development of numerous tools and algorithmic filters for the integration of service weapons in VR, we integrated shots signature recognizing as well as complex scripting tools with AI. ASTERION is currently working on correcting SLAM tracking drift in order to allow multi-users to train in colocalization in 3D scanned environments without tracking size limits, and in unmatched precision of actions and shooting.

ASTERION´s USP

- First to market for Accurate Virtual Reality Fire Range
- First VR Tracker for Service Weapons
- Low Cost and accurate in-side out tracking system (instead of Motion Tracking)
- First to market Mixed Reality Products With real occlusions (Walls) in VR
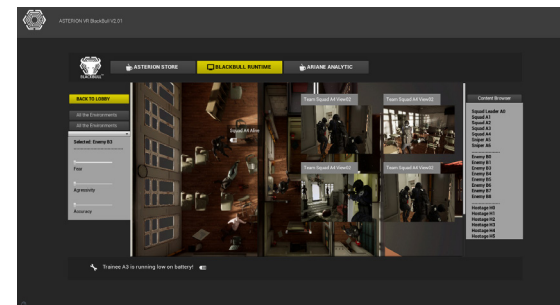- More than 30 different Crisis Environments

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innerspace

About

We are Innerspace - a fast growing Virtual-Reality-Training company. Our purpose is to empower our customers and their employees to master essential industrial processes. We are bundling expertise in VR, training and industry know-how, to build and deliver impactful and scalable VR training systems for operators in the pharmaceutical industry all over the world. Innerspace was founded and based in Wattens/ Austria in 2017.

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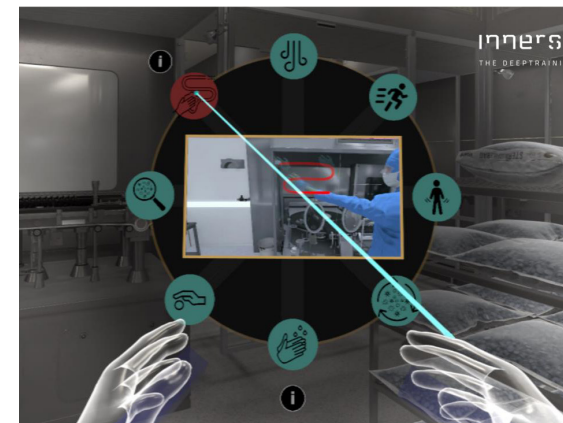
Located in: Wattens, AUT

VR solutions

We provide for our customers an end-to -end solutions in software & hardware & service for virtual reality training. Herby we use the HTC VIVE headsets. Our solution is established especially for pharma operators, who work in an aseptic cleanroom production sides (grade A-C).

Thus we can avoid human mistakes in production side such as:

- Incorrect Hand movement
- Incorrect Movement of the whole body
- Incorrect disinfection of gloves
- Incorrect estimation of disinfection times
- Incorrect folding of disinfection wipes
- Incorrect disinfection of surfaces

innerspace´s USP

- Train experience for mission-critical abilities in cleanroom production
- Train correct behaviour and avoid incorrect habits & human errors
- Train in-depth, real-world experience of complex scenarios
- Integrate experience training into your existing training curricula and SOPs

innerspace
THE DEEPTRAINING COMPANY

VR DeepTraining for pharma cleanroom operators. Risk free training, effective and scalable!

Altheria Solutions

About

Altheria Solutions offers solutions in VR and Augmented Reality (AR) for industrial and manufacturing businesses such as SKF.
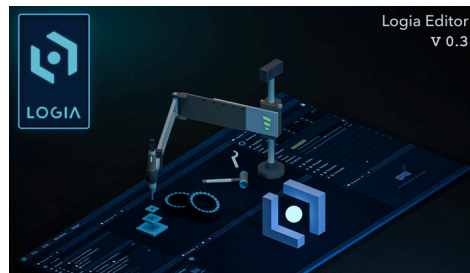
Logia, its first product, is a software that allows industrial companies to build their own VR trainings, without using any code and without having to contract an external studio. Altheria aims to become an industry-leader in the sector of XR software by offering a vast portfolio of disruptive solutions in addition to Logia.

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VR solutions

Although our focus is not on law enforcement training specifically, the goal of our Logia-Software, is to simulate dangerous and stressful situations that are immersive, accurate and realistic. We see the future of VR training technologies in the hands of the companies and organisations, as they would be autonomous in their use of VR. We envision a way for these organisations to create and distribute VR trainings without relying on any external development resources, and we are willing to provide, a common thread in the journey of the trainee in the organisation, from recruitment and training to qualification.

Logia Editor
V 0.3

Altheria Solutions´ USP

The software is designed to meet the industry standards and blends into the organisation's habits. Logia can seamlessly import many formats within the organisation's departments.

The Node Editor, our code-free scenario builder, allows to draw up experiences and edit them at will. This key feature frees the organisation from its reliance to VR Studios.

Our VR-preview tool provides a real-time visual feedback of the VR project that works directly in VR: what you see is what you get. To share the VR trainings inside the organisation, we created the ".logia" file that is easy to export and can be read by any Logia license.

FAIL ⇒ LEARN ⇒ REPEAT

STP VR / iXtenda

About

iXtenda is a Berlin-based, worldwide operating software and custom application development company with more than 10- years of history and a team of 10 high-level specialists. We deliver scalable software solutions for any OS, browser and device. We merge new technologies with ideas and approaches in order to generate added value for our customers. We work on a large range of projects from simple mobile application to AR and VR experiences to complex industrial planning and simulation software.

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VR solutions

With Simulation & Training Platform – STP VR, we developed a software framework that allows first responders to be transferred into any scenario at any time, in order to experience situations and to analyse and improve the psychological preparation. As a single participant or multi-user, scenarios of daily service as well as exceptional situations can be displayed and changed dynamically.
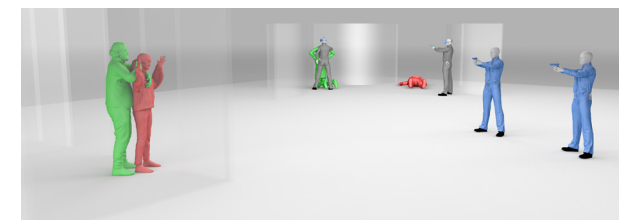
The interaction between physically present participants and / or an AI which is controlled via an operations centre. That allows an infinite number of courses of action in a situation

STP VR´s USP

STP VR works for Mocap Tracking using passive/ active markers, as well as Mocap Suites using an overall location tracking in addition. Due to that, STP VR can be used as a permanent as well as a mobile application. Mobile VR HMDs as well as eye-tracking adds another value. Actions can be influenced dynamically, scenes can be changed and unpredictable situations can be brought in. Evaluation and analysis functions such as motion profile, POI heat map and 3D controllable camera positions in the recorded scenario are basic functions of the after-action review.

Mindconsole GmbH

**MIND
CONSOLE**

About

As highly specialised providers of digital content, motion design and interactive media, Mindconsole GmbH offers an extensive range of services to the international marketplace. The company's services range from full development and production in video production (corporate films, branded content, television commercials), through to AR/VR/MR solutions for industries around the world. These interactive solutions have led to Mindconsole gaining extensive experience in building 3D environments for VR applications. Engagements with clients range from full production (concept, design, build and implementation) as well as the provision of specialised subcontracting services when requested.

VR solutions

In the law enforcement training sector, Mindconsole is currently focused on creating realistic scenarios and content based on an existing framework (XVRSim). In addition, Mindconsole is testing prototypes and possibilities with more realistic avatars to train encounters with law enforcement on a whole new level of confrontation. The benefit of VR training is undeniable these days and will be the missing bridge for the gap between theory and mandatory hands-on experience, whilst giving endless possibilities to train with more (cost-) efficient, realistic, individual and measurable

Mindconsole´s USP

Due to their hands-on experience and expertise in emergency services as tactical officers in the medical field for years, as well as being tactical officer trainers, Mindconsole brings a massive understanding of operations and the needs of emergency service organisations, including law enforcement. This knowledge separates Mindconsole from sole VR solutions creators and helps deliver cutting edge training and solutions, tailored to the individual needs of clients.

From a content creational point of view, having an extensive background in digital storytelling, we pride ourselves on pushing immersiveness to the limit when compared to more "technical" solutions.

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VRTS

About

VRTS is a Belgian company that is 100% focused on police Virtual Reality training.

Together with the Virtual Reality development company OneBonsai, VRTS invested 3 years of research and development done side-by-side with active police trainers. VRTS rolled-out their VR Police Training in June 2020. The feedback from the Police trainers who use VRTS as a training tool is overwhelmingly positive.

But that is only the first step. VRTS, together with OneBonsai, is constantly designing new police training content and making it available to all law-enforcement trainers in the world.

VR solutions

VRTS contains three training modules:

1/ Didactic shooting range: Offers a variety of shooting trainings, optokinetic drills and use-of-force decision making drills. The officer is confronted with a diverse set of shoot/non-shoot targets in 90-, 180- and 360-degrees configuration.

2/ Tactical progression training: Includes a vast set of more than 100 virtual shoot houses set in different environments and lighting conditions. This module teaches house-clearing, team tactical movement and shooting around concealment.

3/ Use-of-force Police drills: Is based on digital humans that react to the actions of the police officers. This is used to train in realistic scenarios and practice skills such as decision making under stress, violence de-escalation and teamwork.

VRTS´ USP

- VRTS is a full-fledged VR police training that is available today.

- VRTS is designed in a modular way. This means that trainees are never confronted with the same situation twice, enabeling officers to train in adaptive mode at all times.

- Teamwork is the mother of police fieldwork - all training modules can be used with up to 18 officers together.

VRTS has been designed collaboratively with police trainers. Therefore, it not only integrates the key components to make it a great training tool, VRTS also contains the Culture of Security and Police. Culture is paramount. Training in a simulation can give the trainees a feeling of being invulnerable. Therefore, VRTS takes immense care in making sure that trainees never overestimate their own human capabilities.

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