

Safety & Reality

Simulator Platform Solution





Military Simulator Product



DCTS

Damage Control Training Simulator

Simulates damage and damage control system similar to actual damage situation

The Damage Control Training Simulator is developed to provide training environment like real world by overcoming the limitations of training in ships and training facilities. Trainees become proficient in damage control with this practical and systematic simulator. To support a realistic training environment, it provides similar structure and rolling of a ship. It simulates the damages(flooding, fire, power loss) from attack or stranding.



Similar structure to ships and similar to actual damage situation



Automated Operating System and Personnel center safety devices



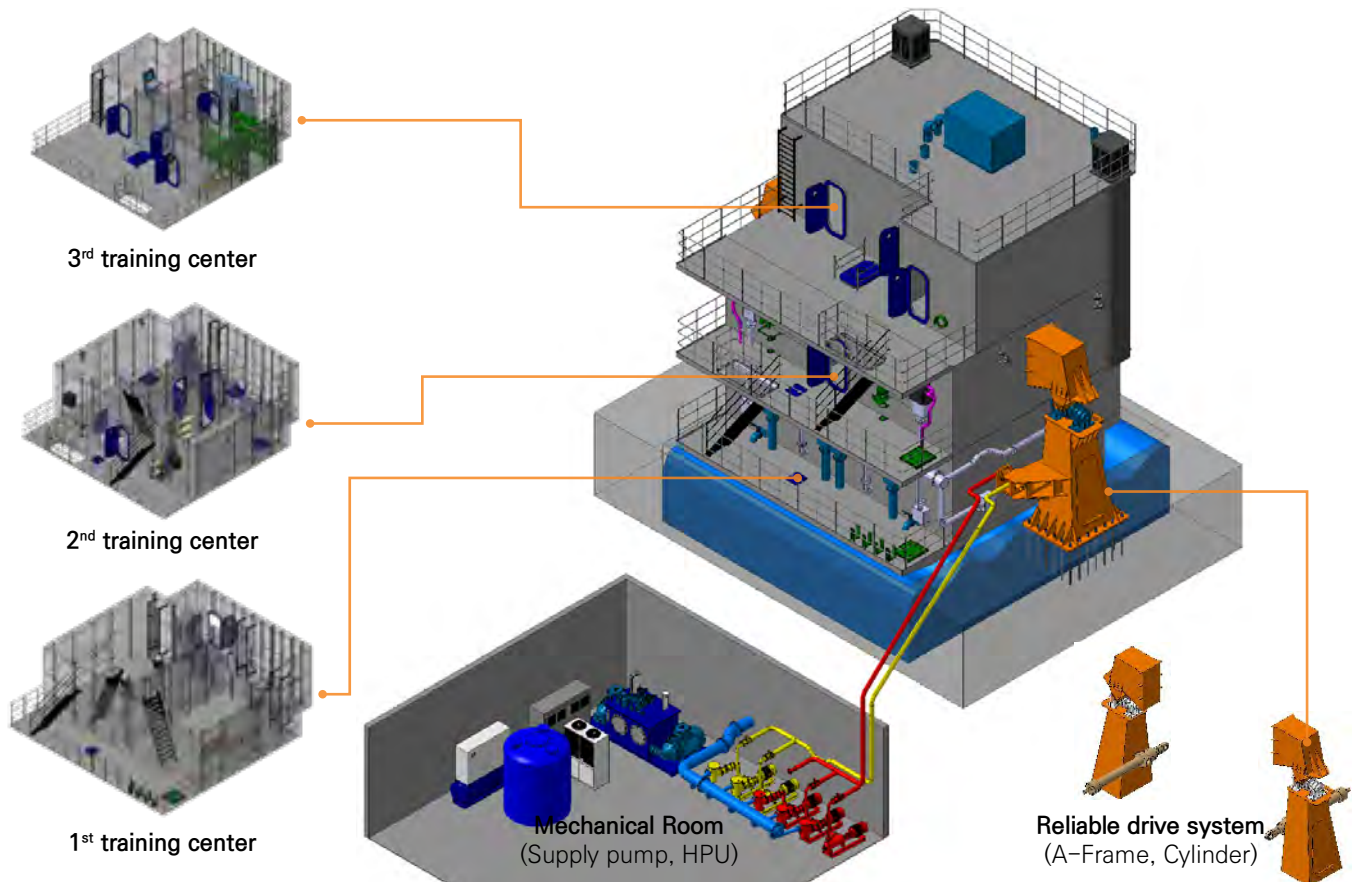
Training image analysis and evaluation functions with monitoring system



Various hull rolling simulation and stable drive system



System Configuration



| | | | |
|---------------------------------------|--|--------------------------|--|
| Size | 9m(W), 10m(L), 8m(H) | height | Flooding, Fire, Power loss, Personnel injury |
| Full load displacement tonnage | 250t (Hu1l: 150t, Water: 83t, Personnel: 5t, training equipment: 2t) | Damage simulation | Emergency stop, CCTV, Various monitoring sensors etc |
| Max. Capacity | 70 (Trainees:65, Instructors:5) | Safety system | Central control room(inside building), Local control room(inside hull) |
| Operating angle/cycle | ±15 degree / 20 ~ 60 sec | Control room | |
| Maximum flooding | 1 st deck : 1.3m, 2 nd deck: 0.3m | | |

- Simulates the similar structure and rolling of a ship
- Simulates damage situations (flooding, fire, power loss)
- Provides various kinds of training scenarios and training intensity
- Operates automatically through the scenario set by instructor
- Real-time monitoring and control of training status
- Real-time monitoring and remote control of all safety devices and equipment
- Provides automatic evaluations, review and analysis of training results
- Provides indirect experience of various damages and improves damage control skills
- Utilizes the original damage control equipment and tools used on the ship



TTTS

Tank Tactical Training System

The tank tactical training system that provides a similar combat training environment and re-enables tram ride in a dynamic research

The tank tactical training system is a comprehensive training simulator which is able to train for individual as a driver, gunner and ammo loader and group trainees of tank and do various training such as driving, gunnery and tactical training under the similar combat environment. The tank tactical training system provides same driving and fire control units that operates the same as the actual tank. Also it supports various highly reliable virtual combat environment using motion and operating SW such as thermal sight, smokescreen, combat sounds and explosive smoke include weather change for day and night time.



All-in-one structure of a turret/body and 6 DOF motion



Carried out as a solo training without system interworking



Training image analysis and evaluation functions with monitoring system



Supports satellite images and terrain-high image databases



System Configuration



Driver system

- | | |
|------------------|-----------------------|
| 1 Display | 4 Fire Control System |
| 2 Exterior Frame | 5 Drive System |
| 3 Turret Frame | |



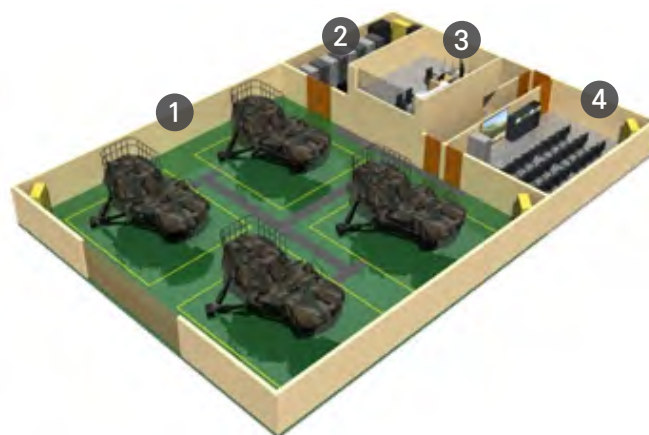
Motion

Providing realistic training, motion is developed for trainee to feel the actual vibration and impact as a real driving



Instructor Station

Control and monitor of the overall training. An instructor can operate the entire system



Education Center

- | | |
|------------------|-------------------|
| 1 Training Room | 3 Control Room |
| 2 Equipment Room | 4 Trainee Station |



Equipment Room

Installation of system computer, video system, air conditioning system, mechanical electrical/electronic devices



Image Generating Device

Sufficient graphic card installation for huge terrain DB processing

HW System

- Embedded turret
- Provide 6 axis actuator
- Turret rotation : $\pm 225^\circ$
- Mounted driving and shooting devices



Monitoring and Control System

- Monitoring training individually and controlling an unexpected situation
- Training intro and review by the instructor system
- Recording training footage for review and evaluation



Training Range

- Able to conduct joint exercises
- Stand-alone training without an instructor



Display Database

- Terrain image generation same with actual terrain
- Image development of base camp & shooting range



ADTS

Artillery Driving Training System

Artillery driving simulator to Improve operational sense and countermeasures by providing training environments similar to actual skirmishes

Trainees are able to increase own ability to overcome emergency situation using by various scenario training and become skilled actual driving feeling using by actual driving component and VBS (Virtual Battle Space). And also, training system provides two options of VR mode and LCD mode according to training method and is able to use AAR(After Action Review) function as well.



VR/LCD mode
same as
internal equipment



Carried out as a solo
training without
system interworking



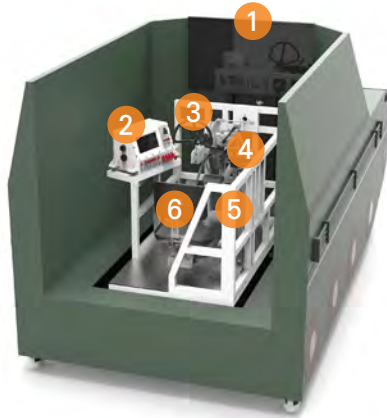
Training image analysis and
evaluation functions with
monitoring system



Implementing thermal
phase, night screen, and 3D
trainer visual angle



System Configuration



Driver system

- | | |
|-------------------------------|----------------------------|
| 1 Monitor | 4 Speed Gear |
| 2 Gauge / Control Penal | 5 Pedal(Acc, Dec, Parking) |
| 3 Steering, Directional Lever | 6 Driver's Seat |



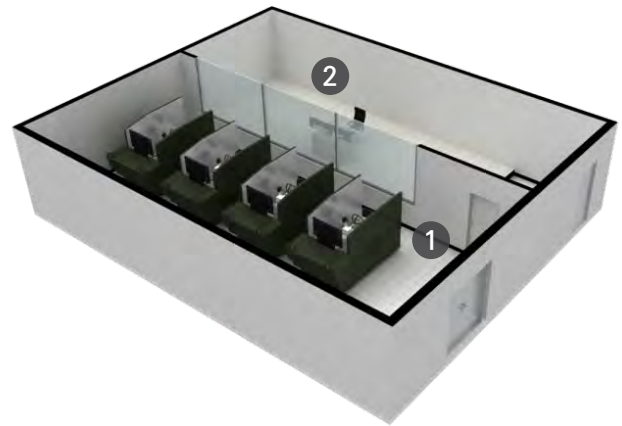
Motion

Providing realistic training, motion is developed for trainee to feel the actual vibration and impact as a real driving



Instructor Station

Able to monitor the trainees' training, analyze and asses of post review and training results



Education Center

- | | |
|--------------------|----------------------|
| 1 VR Training Room | 2 Instructor Station |
|--------------------|----------------------|



VR-based Platform

Provides cognitive training in a situational context based on a virtual training environment for land, air and sea training and mission applications

HW System

- Able to training VR / LCD
- Simulates the similar structure applied real parts of K9
- Detecting gear control by signal processing
- Devices for training artillery shell and controller



Monitor and Control System

- High-load bearing casters for relocation
- Monitoring training individually
- Training intro and review by the instructor system
- Recording training footage for review and evaluation



Training Range

- Able to conduct joint exercises Stand-alone training without an instructor
- The instructor can select / edit the scenario freely



Contents

- Provide tactical training, experimentation in worldwide
- Producing thermos vision of objects, geographical feature
- Provide a wide viewing-angle for 3D display
- Optimize education efficiency with real road data



MTDS

Military Truck Driving Simulator

Simulator for military truck driving education optimized for vehicle learning and safe driving education by implementing vehicle characteristics with actual performance

Military Truck Simulator, with high performance vehicle simulator technology, used for driving safety training of military trucks. It simulates realistic performance of the characteristics of a military truck(1 ton / 2.5 ton / 5 ton), regular bus and fire fighting truck(15 ton), and improves maintainability through system configuration and modular design suitable for military training. The Military Truck Simulator has been delivered to the Army Logistics School, the Transport Training Group of Army and the Marine Corps, providing a safe training environment to frontline drivers through traffic safety education, economic driving education, and familiarization of the operational terrain.



1t / 2.5t / 5t / 15t
different options,
implemented as real



Detachable assembly
type for efficient
maintenance



Applying a 48 "monitor and
driving like the actual
driving viewing angle



System Configuration



Simulator

- | | |
|------------------------|---------------|
| 1 Display | 3 Driver seat |
| 2 Operating instrument | 4 |



Driver seat

- | | |
|--------------------------------------|---|
| 1 Steering wheel with reaction force | 3 Program button |
| 2 Dashboard | 4 Pedal(clutch, acceleration, deceleration) |



- Realistic driving sensation with steering wheel reaction force and clutch vibration reproduction mechanism
- Resembling actual driver's seat using by real military truck parts
- 42"monitor used to display driving image similar to actual driving view angle
- Efficient maintenance with removable and attachable lid

- Computer with the latest specifications
- User-friendly interface
- Software with basic operations as well as mastery training scenarios
- Support interoperating system with On/ Off mode
- Support interworking system with LVC / VR



VMTS

Virtual Maintenance Training System

XR maintenance training system that improves the ability to maintain aircraft, ships, tanks, guided missiles, etc. with realistic graphics

Virtual Maintenance Training System enhances trainees repair and maintenance skills regarding of aircrafts, ships, tanks, trains and vehicles. Based on virtual reality training contents, the system enables trainees to acquire and upgrade maintenance technology as real-world experiences in a safe environment. It provides an immersive training environment where skills can be acquired to reduce costs and time, enhance functional efficiency.



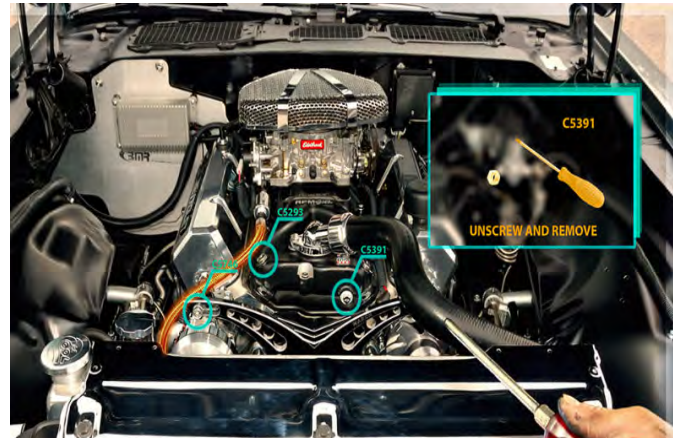
The same XR maintenance environment as aircraft, ships, tanks, etc.



Save time and money on education that you don't need physical equipment



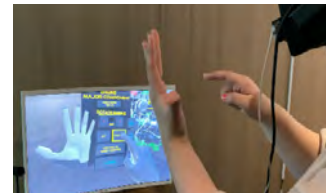
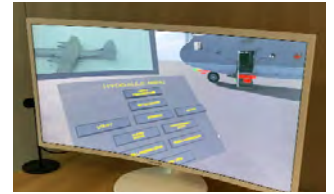
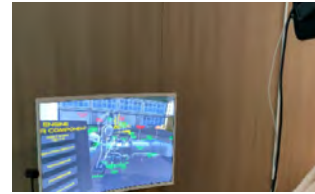
Acquisition of safe and diverse educational advanced technology



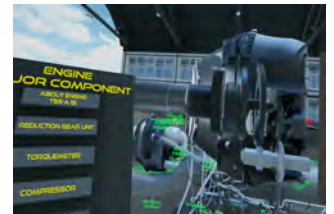
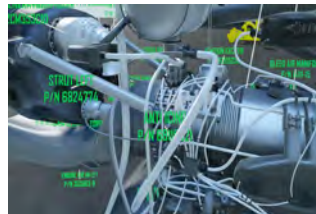
System Configuration



Education Room



Immersive Training



XR Environment

- Provide real maintenance environment based on HMD
- Provide efficient tool for training within a safe environment
- Develop the skills and knowledge for maintenance
- Provide the immediate feedback trainees require to achieve the goal at hand



360° Video

Provides a new perspective that allows users to look in every direction



Augmented Reality

Overlays digitally created content into the user's real-world environment



Virtual Reality

Creates a digital environment that replaces the user's real-world environment



Immersive

Creates multisensory digital experiences and is delivered through any of these technologies



Mixed Reality

Blends digital content into the real world and creates an environment where both coexist and interact



MILES

Multiple Integrated Laser Engagement System

Multiple Integrated Laser Engagement System that enhances tactical command capability by providing a training environment similar to actual practice

MILES system is a training system to manage mutual real time training at control center using by launcher mounted on a rifle and detectors using optical laser technology. Trainees are able to improve level of completion using by AAR function such as command action results, tactical action and doctrine apply results. MILES is a representative training for the live training method which acquires a sense of real-war experience, it enables trainee to utilize the equipment that is compiled into the training unit and maximizes tactical command capability.



Advanced Combat Training System with Various Realistic Equipment





















Training image analysis and evaluation functions with monitoring system



Safely improve tactical command and combat capability



System Configuration

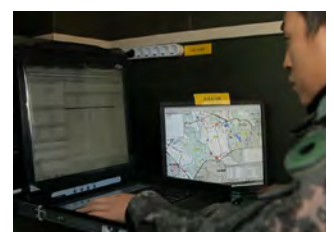
| Transmitter | Detector Set | AAR System | Support Element |
|---|---|---|--|
|  SAT(K-1 / K-2 / K-3) | Personal  Halo  Control Unit  Harness |  Main Computer Sub Computer |  Remote Controller |
|  Claymore(M18A1) | Vehicle  Grenade Launcher(K-201) |  Analytical S/W |  Alignment Fixture |
|  90mm  PZF-III |  Damage Transmitter  Control Unit  Detector Belt  Damage indicator | |  Device Issue System  Storage(Container) |



- Possession of MILES training equipment for the entire unit
- Acquire multiple patents such as launchers, DCN(Data Communication Networks etc.)
- Apply MILES system to direct / indirect weapons
- Apply training procedures of the same tactical rules as the actual doctrine



- Comply with International Energy's laser safety management regulations by the Defense Standards and the Ministry of Commerce Industry
- Support the mobile Miles training system

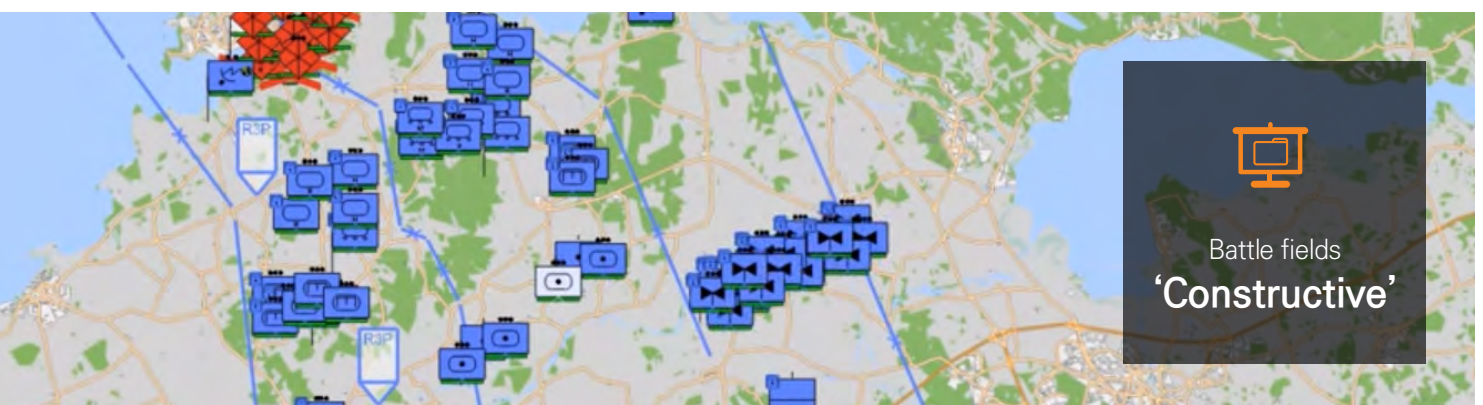
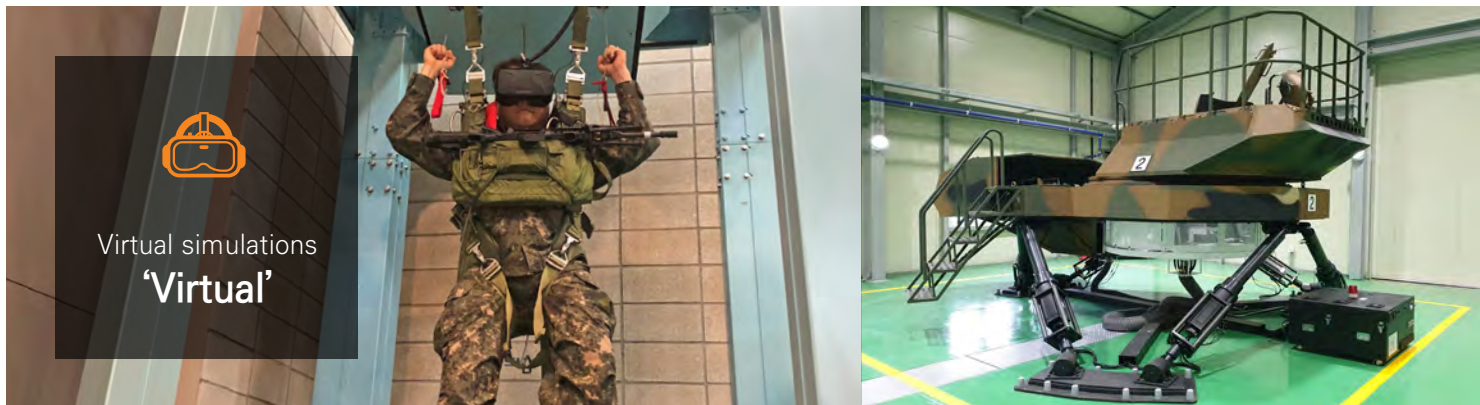


STE

Synthetic Training Environment

Mass training that is difficult to train and synthetic full-length joint training that special assignment performance is not restricted by place and time

The Synthetic Training Environment (STE) is designed to provide a cognitive, collective, multi-echelon training and mission rehearsal capability for the operational, institutional and self-development training domains. It provides an integrated training system with a real operating system(Live), a virtual simulations(Virtual), and battle fields(Constructive) environment. It enables hands-on training regardless of location and time. Besides, practical training and simulation training can be conducted to prepare for actual engagement.



System Configuration

Live

Training that occurs in a real aircraft or vehicle, with real or training weapons



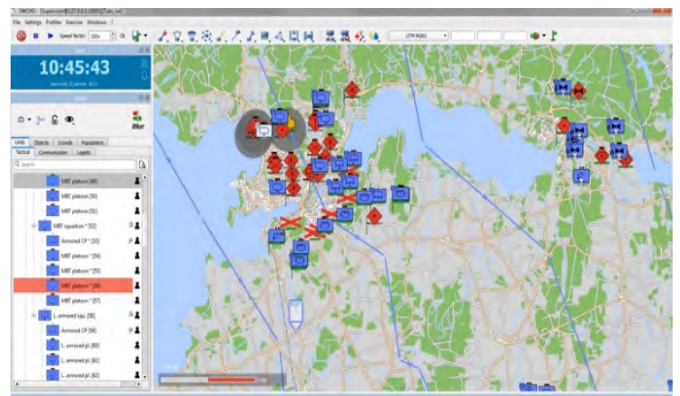
Virtual

The trainee is a real person training in the virtual environment



Constructive

It provides a large-scale unit-based battlefield environment based on logic simulation to support commander and leader control procedures and strategic training



VTTS

XR Tactical Training System

Virtual battlefield environment with no time and place constraints, each tactical training and special mission proficiency training support

Virtual Tactical Training System (XR-TTS) is a training system designed to support individual and team level tactical training based on the synthetic training environment (STE). It provides an optimized combat environment for various types of training from basic infantry training to special warfare command. The system consists of a realistic virtual combat environment, high resolution HMD, motion recognition devices, a variety of simulated guns, gun shock / attacked recognition devices, and a VR platform.



Reality
Combat Environment



Compatible
with all HMD



Optimized
VR Platform



System Configuration



Motion Recognition Devices

- Wireless full body motion capture
- Provide free and un-restriction movement with wireless
- Interworking with trainees and avatars in real-time



Various mock weapons

- Apply to various weapons (H,M,K etc.)
- Able to wireless weapons
- Provide electronic magazine
- Interworking with weapons on a trainee



Recognition Devices

- Realistic sensors as gun shock and attached on body parts (head, body, arm, feet)
- Interworking with gun shock/attached on virtual system
- Provide customized products



Best VR platform

- Provide the best VR platform for development and operating environment
- Provide System integration
- Provide an editor system for scenario and terrain, AAR system



Reality Combat Environment

- Provide VR combat environment with enhanced terrain image
- Provide various AI characters and objects
- Interworking with various weapons and individual guns



High Resolution HMD

- Realistic VR image
- Applying the latest wire/wireless HMD in VTTS



Individual training



Group training

Application fields



Army special forces



Navy UDT



VIP guard



Air Force CCT (fair controller)



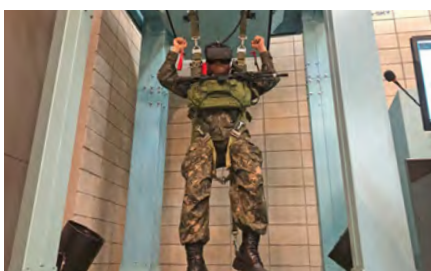
Marine Corps Search



Police commando

Expansion system

VR-TTS + Various tactical training simulators = Providing various tactical training environments



Parachute simulator



High speed assertion simulator



Sniper simulator



Aircraft bombing guidance simulator



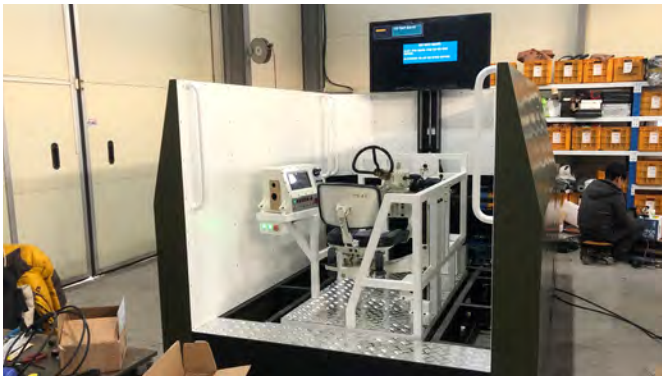
Video shooting simulator



Tank simulator

Application

Military simulator products





INNOSIMULATION is an innovative and dynamic company built on extensive expertise in the area of various simulation providing high tech control system & solution for more than 20 years. VR based research/training simulator systems, motion platforms, VR/AR contents and the cutting-edge simulation technologies in automotive, railway, heavy equipment, and defense allow us to be a top-tier company. We globally recognize by exporting our products to over 80 countries around the world and working closely with universities, government, and industry partners. INNOSIMULATION always strives to provide our customers with the most advanced technical solution strengthening our market-leading position.



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