



Virtual Training:

The Realistic Option for Training of Countries

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Imagine!

A train station in the town centre, the train is standing still and one of the wagons is leaking. What kind of liquid is leaking out of the wagon is not clear. Passengers at the station are in panic. You can hear the sirens from the firefighters coming to the accident.

There has been a car accident on the highway. Three passenger cars, two big trucks and a mini van. The van is on his side. There are bystanders screaming for help. There are multiple injured victims and there is a car on fire. There are several people who are trying to help but the fire is holding them back.

There is black smoke coming out of the window from a house in the middle of the street. A fire is burning in the kitchen. It is night, very dark and it is raining hard. It's not clear if the family is still in the house. Neighbors are standing on the street and trying to get into the house but there is too much smoke and it is too hot. On the same moment the window is breaking, the firefighters arrive on the scene.

What do you do! How do you prepare and most importantly, how do you train for these scenarios or any other – as this specific scenario's or a million others can happen.

Fortunately the victims are not real, the fire is not hot and the smoke is not toxic. These three accidents are just a small example of what is possible with the Artesis Virtual Training Program.

Especially in the Asian pacific region training is a hot topic seen that the development of the emergency organizations are growing rapidly. This growth raises the question countries are trained adequately to deal with the available equipment, and with all possible emergency scenario's that may arise. Not all countries in the Asia Pacific region are, but how do you train the large amount of people to a specific level and keep cost within proportion. With the development of virtual training programs there may be a opportunity to deal with this.

Virtual training programs offer advantages that can change the way fireman are trained and prepared for scenarios and the proper use of equipment. Virtual training can be a big step forward and offer countries and organizations, but the programs that where around so far had limitations making it use limited. With the new developments and new technologies, is virtual training ready for large deployment and what advantages and changes will it offer? This article describes the development and what you need to know about this revolution in training.



What is Virtual Training?

Training is an essential part to be adequately prepared for incidents with which emergency personnel will be confronted. A fire department team consists of several people with everyone a different function. So to make a team function together properly, all team members need to be trained separately, and as a group. Every team member needs to know how equipment works and be able to perform his individual part. All with the objective that once an incident occurs the team is a well-organized machine where everybody functions properly and can handle any scenario adequately. Basically it comes down to the fact that everybody is comfortable in what he is doing and the tools being used.

Training is the only tool that provides that objective, but unfortunately to become comfortable to handle equipment and all the different possible scenarios' repetition, real-life feeling and variation is necessary. Unfortunately something that physical training cannot offer, but virtual training can. Virtual training is nothing more than a digital surrounding where numerous scenarios and procedures can be created to train an individual or team to an adequate level. It is a digital representation of the physical one, but due to the fact it is digital, it offers many advantages which we will discuss in more detail.

Any training, including virtual, can be separated into a procedure or scenario-based training.

- **Procedure:** the correct steps in a process for correct operation of a tool or specific operation like extrication.
- **Scenario:** a real-life surrounding and incident to train a team to take correct actions during the whole incident.

Why Virtual Training?

Virtual training offers many advantages above other ways of training. Out of research it has been proven that approx 30% of training can be done virtual. Logically, this results in a huge saving in time and money. There is little to no need to set up trainings, which with physical training is needed. No need to put down all the necessary equipment, and no need to have the training objects in place, just to name a few. With virtual training once the program is loaded it can replay itself over and over again. The main advantage therefore is that many people can be trained in a short period of time. A student can go on his own place and repeat a procedure over and over until the necessary level is achieved.

So besides that 30% can be trained virtual, more important is that physical training is done, it is much more effective, as the class or student is to a higher level and has the basic understanding. The main belief why virtual training can become a success is that training should start at the base (see a procedure), where you grow your knowledge over time. This base can be trained virtual! It is furthermore also a fact that lessons learned in a virtual training are better retained than theoretical lessons.

Besides the possible tremendous savings that can be achieved, virtual training also offers the possibility to train and exam people to a safe level or standard. Also in their own level from assistant to commander.

Working of a Virtual Training System

Like mentioned before the working virtual training program is based on procedures and scenarios. Procedures for learning the correct predefined steps and scenarios for making correct choices in

a real life surrounding. This approach is based on the Dutch guidelines of training. A proven method which the Dutch fire services use reaches its high required level and maintains it. It is a collection of individual as well as group training, both on fireman and commander level.

Procedure Training

To teach the rescue workers and to let them practice the use of for example hydraulic rescue equipment, there is a possibility to use this virtual system. With this system, the men learn how to use the tools, which preparation the tools need, how to connect them properly and how to use them on a wreckage. The big advantage of this way of working is that the procedure can be repeated till the rescue workers can work with it without making any mistakes. The Virtual System helps the rescue workers to be ready for work with real incidents. The rescue workers can practice their skills on realistic designed cars.

To save victims from a car accident, there are some standard procedures. For example, how to take a door out or do a dash roll. These procedures are applicable for all car accidents. With the Virtual training these procedures can be practiced without the use of several car wrecks.

These procedures come out of the guidelines and are built in cooperation with leading manufacturers. Students therefore truly use the equipment that looks the same as they would in real life.

Scenario Training

In the virtual training world there are several different scenes to make, so the men will have a new challenge every time they use the virtual training system. Men can build specific scenarios with existing buildings, so you can practice specific needs without having to go to the building itself. The virtual practice can be done in different levels. The experience most people who has worked with this training have is that the training is lifelike and they have the same tension as when they practice outside.

Training Commander

To train the commander and to practice, the whole team has to be on the scene, without the opportunity to train the team.

This is not efficient or instructive for the team. With the use of the Artesis Virtual training system, the commander has the ability to practice his skills in a realistic environment without the rest of the team has to be present. The commander can practice on every suitable moment and can be done as many times he needs the practice.

The way the system is built it gives the commander the feeling that he is actually at the scene.

Possibilities with Artesis Virtual – scenarios and procedure practices

Artesis Virtual is the leading manufacturer when it comes to virtual training programs. In the last years they have developed a new system that uses



cutting edge technology. Let's take a look how it works.

How does the system work?

The Artesis Virtual Computer system is a stand alone system and can be placed on every location. There has been a virtual world created in the system where there can be different scenarios built in and which can be used for training in groups or alone. Procedure training a student can do by themselves.

The system exists from a computer and two screens. One screen is for the instructor and the other screen is for the student. The instructor has a keyboard and a mouse to operate the system. The instructor can design the scene and follow the student on every move.

The student has his own screen. Every order he gives his team, the instructor has to make these changes in the scene. The operation of the system is very simple.

Design your own scenarios

The system gives you the possibility to create your own scenarios. You can make virtual fires on the places you want them. You can create car crashes on very different ways. You can put tank and freight cars on every location you want or cars can be placed on his side. Every existing vehicle and rescue device is available to use on the screen.

Instructor's screen

The instructor can see on his own screen which actions his student is making and can help if the situation needs it.

The scenario can be adjusted during the training to make the scenes more difficult or even easier for the student. During the training all the details will be saved so it all can be discussed and evaluated after the training and it can be compared with previous scenarios.

The system is now used for the emergency services in The Netherlands is in Dutch language and typical Dutch buildings and airports are used for this. It is very easy to adjust this to any country in the world with its own language, buildings and airports.

The system can be used mono or multi disciplinary.

The instructors for this system will receive enough training to design the scenes and to help the students through the training.