



Fairmount's contribution to safety training

How can you make workers on a new production facility productive more quickly? How can you reduce the costs of downtime by preventing incidents before they happen? How do you prepare your workforce to operate effectively in (emergency) situations without exposing them to dangerous situations? Virtual reality training is a good way to effectively improve knowledge, skills and attitude where training in practice is too dangerous, costly or time-consuming. Fairmount's daughter company VSTEP has developed the tool.

Safety is becoming more and more an issue in today's society. Rules & regulations as well as employee and customer organizations force companies to structurally define their safety procedures, and to train staff to act adequately in case of incidents. Most companies agree with the importance of safety and the prevention of incidents. On the other hand they are confronted with the dilemma that training in practice is time-consuming, expensive and sometimes even outright dangerous.

Fairmount and safety
Safety has always been an important part of Fairmount's projects and working philosophy. Increasingly health, safety and environment issues are becoming key criteria for customers to select Fairmount as their partner



for projects. Fairmount's sister company Studio Yacht (yacht design) is also increasingly confronted with requests to put safety first in the interior and exterior design of yachts and vessels. This, together with Studio Yacht's experience in 3-dimensional (3D) computer models of their vessels, resulted in the creation of daughter company VSTEP: Virtual Reality Safety Training and Education Platform.

Virtual model of the working environment

VSTEP develops interactive 3D models for training, sightline studies and marketing purposes. These models are replicas of an actual working environment, such as a drilling platform or vessel, in which people can walk around and operate as if they were actually there. Whether training operational skills or simply getting the look and feel of a new design, VSTEP's virtual environments allow people to truly experience situations they might encounter in real-life. By using software from the gaming industry, the system runs on a low-cost, standard PC.

VSTEP visualizes ships, rigs and buildings before they have been built to optimize the design process. The 3D models allow designers and operators to walk through their vessel, identify areas for improvement, test alternative solutions and make changes on the spot. As a result, the design process is optimized at an early stage, saving weeks of design time.

VSTEP also creates attractive visualizations that bring assets to life, making it easier to communicate plans. These models have a seductive impact on target audience and are used to allow potential customers to walk-through at eye level, experiencing a design like people will after it has been built.

The training simulations are used for safety or operations training. Safety procedures and various possible (emergency) situations (fire, smoke, flooding, alarms, evacuation, heeling, mustering) are added to create a realistic 3D environment. A trainee, placed in this environment, is taught to assess risks in the workplace, to prevent incidents, and to respond effectively in the situations. All the trainee's movements and actions are registered, and can be played back for evaluation.

Avoid incidents and reduce downtime

Reducing downtime caused by incidents, starts with avoiding the incident altogether. VSTEP facilitates training models to increase safety skills levels across the board.

Familiarization Training allows new workers and visitors to become accustomed to their new environment in safe onshore conditions. A new worker who knows exactly where to go and what (not) to do after arriving offshore is a valuable asset from day one.

Incident Prevention Training teaches workers to recognize unsafe conditions and potential hazards, raising safety awareness standards and creating a safer workplace. Too often people leave tools lying around, don't clear up cables and leave ladders unsecured.

Incident Simulation Training trains people to operate effectively in emergency



situations, focusing on understanding procedures, taking quick decisions and building operating skills. For example, evacuation procedures, helicopter landing procedures, or handling H2S.

Operations Training allows workers to practice operational procedures in a



safe environment. As a result people understand procedures better, cause less accidents and operate more effectively. For example, tank cleaning, engine room procedures, or replacing a compressor on an offshore facility.



Action required

The trainee has full control of his own movements and actions, and experiences situations through his own eyes. During the various incident scenarios (fire, smoke, flooding, alarms, evacuation, heeling, mustering) the trainee has to make decisions: whether or not to open doors, to save others, to extinguish the fire, to communicate with other

people, or where to move. He is confronted immediately with the consequences of his actions. If his actions are not in accordance with general or specific rules and regulations, the situation will become worse, as if it were a real life situation. Alarms will go off, fires will become larger, smoke will become worse, etc. The trainee has a 'health meter', which indicates his personal safety. If for instance he does not crawl when smoke occurs, his health meter will drop until he gets onto his knees.

Effective and low-cost

Virtual reality training proves to be an effective tool. The situation is realistic, action leads to immediate reaction, and

scenario's can be trained over and over again, until the required skill level is reached. People learn faster, get a better insight into the consequences of their own actions, and remember safety procedures better. Technologies from the gaming industry keep the cost of virtual reality training low. VSTEP's trainings run on a standard PC. They can be used in a training center or at a person's desk, without the need for expensive simulation equipment.

Want to know more?

For more information, refer to www.vstep.nl, or contact Cristijn Sarvaas (cristijn@vstep.nl).