Leverage Immersive Virtual Reality To Enhance Safety Education

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Abstract

Objectives/Scope: The Fourth Industrial Revolution (IR 4.0) is expected to change how we live, work, and communicate. The term is used to describe the current automation trend and data exchanges. It is typically describing the integration of several existing and developing technologies. Artificial Intelligence, Internet of Things (IoT), and Virtual Reality are all examples of what would emerge from this revolution. This presentation would focus on how Saudi Aramco leverages the latest IVR technologies to improve education specially in safety. This would include the mandatory safety training, Safety awareness simulations, and learning from incidents.

Methods, Procedures, Process: It all started with the mandatory safety training where in Aramco we started the efforts of introducing multiple scenarios as part of the existing mandatory safety courses using virtual assets that reflect Aramco environment. This help the instructor to ensure that the message is well received through real scenarios from the field. Then, multiple off the shelf safety awareness simulations has been introduced to enhance the safety awareness among the employees. this was made possible after the introduction of the extended reality platform which allows company organizations to access these conferences using their own VR headsets and PCs. Finally, the virtual reality safety bulletins project was kicked off to convert the safety bulletins into virtual reality learning module. Employees will be taken through what happened, what went wrong, and the key learnings from the incidents in virtual format.

Results, Observations, Conclusions: Key benefits of using immersive virtual reality in safety training include providing hand-on safety training without risking exposing inexperiece employees to the risks associated with the site which will definitely improve trainees’ retention. In addition, using virtual reality in safety training will also allow the use of multiple realistic scenarios. Finally, it will also enhance the received feedback.

Novel/Additive Information: all these projects result in better comprehension of the material presented where the blended learning approach has been proven to enhance learning outcomes.