

the Naledi3d Factory

Industrial safety – belt conveyor safety (2007)

Purpose: Deep mining is recognised as an extremely hazardous working environment and safety regulations are rigorously enforced. Major resources are allocated by mining houses to safety training to help mining teams better understand the consequences of unsafe actions - where unsafe practices can quickly lead to fatalities. VR is a powerful tool to visually demonstrate the consequence of incorrect behaviour. In this simulation, conveyor-belt safety is addressed along with the most common potential hazards that can be encountered.



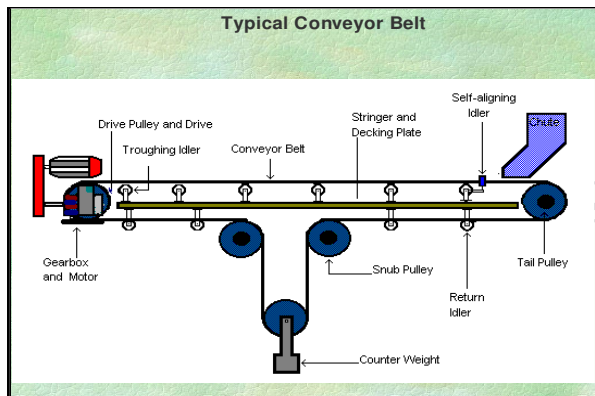
Partner:
AngloGold Ashanti



In a Nutshell:
The learner is immersed in a typical 3D simulated conveyor-belt environment where they are required to "walk around" and identify potential hazards; to practice the correct start-up procedure as well as react to hazards which are randomly triggered. Should the user neglect to take appropriate steps to address hazards, the simulation points this out.

The hazards

Over and above showing the correct start up process (including inspections and uncontrolled start-up); the simulation also addresses walking on the belts; slipping belts; loose counterweights and guards; belt-drift; emergency stopping, breaking belts; belts in tunnels; running back and shutdown. For each of these situations the simulation looks at (1) causes (2) remedial actions in emergency situations (3) consequences of inaction and finally (4) remedial actions (based on prevention being better than cure).



Interactive safety awareness:

While walking around the conveyor-belt environment, learners must identify hazards & take preventative steps, or if an incident occurs, respond immediately to rectify the situation. Failure to take appropriate action results in the user being SHOWN the consequence of their inaction, either by way of simulated injury, a short video or photographic material. The user interface also provides a direct link to each hazard by way of a slide-out menu. This is useful in facilitation or group work where time doesn't allow for exploration (important from an individual learning perspective).

