

FOR IMMEDIATE RELEASE

**Murray & Roberts Cementation Training Academy Uses Simulators  
To Enhance The Learning Experience**

Virtual learning and the use of simulators has become extremely widespread on a global platform. However, research shows that most mining companies do not use simulation to its full capacity often just going through the motions to acquire basic skills. This is according to Tony Pretorius, risk manager at the Murray & Roberts Cementation Training Academy.

“At Murray & Roberts Cementation we take a more targeted and holistic approach by applying simulators in a blended learning experience. This approach is in line with the situational leadership development model of ‘Tell Sell Participate and Delegate’. For example, learners complete structured e-Learning modules, then visual training and then pre-simulation training. Thereafter, they undergo simulation training, followed by in-workplace learning using an actual machine under the direct supervision of a competent person,” he says.

ThoroughTec Simulation, the largest global supplier of both surface and underground mining simulators, has acknowledged the Murray & Roberts Cementation Training Academy’s training styles and methodologies as industry best practice. “We have set the benchmark in Africa and played a role in the design and development of the proficiency scorecard for future simulation models with ThoroughTec,” says Pretorius.

The Murray & Roberts Cementation Training Academy subscribes to an applied competency model. This entails using e-Learning to cover the foundation competence component and then advancing into a visual based training environment to ascertain reflexive competence. “Reflexive competence is not only coupled to visual based training, but also to simulation to a large degree. E-Learning considers knowledge acquisition, while a visual based environment brings about understanding, through virtual training or simulation that measures performance against a set of practical outcomes.”

Learners at the Murray & Roberts Cementation Training Academy begin with a series of generic modules on the simulator that indicate basic machine operation behaviour. Typically, simulation covers start-up of the machine, testing of the brakes, tramming to the workplace, the operational function of the machine, for example load-haul-dump, drilling and/or bolting, and then trucking back to the surface.

There are a number of feedback results provided by the simulator which will indicate whether the individual is a safe worker and will be able to meet production requirements. The feedback can also be used to assess whether an operator's habits could lead to unnecessary damage to equipment during operation. This information is useful for mitigating and correcting operational habits.

The Vienna Test System indicates if an individual has specific psycho-motor deficiencies such as hand eye co-ordination, depth perception or concentration issues. This knowledge will allow the training provider to provide additional exercises on the simulator to address and rectify any deficiencies.

"Once you have a basic idea of the kind of learner with which you are working, you can set a specific development programme on the simulator for the individual learner. This will allow the learner to acquire the necessary skills required for the desired performance. On exit from the programme, a proficiency scorecard, detailing the habitual skills of the operator, is provided for the workplace supervisors," Pretorius points out.

Simulators are not just used for assessing and training novices but are also very useful for refresher training and in scenarios where companies wish to eliminate the bad habits that some operators have developed over many years of operation. In addition, simulators can be used to mimic accidents and incidents. This is particularly useful in instances where an unfortunate event has occurred as it allows companies to take all the operators through a simulated event to prevent a recurrence of the event.

Simulation significantly reduces risk and accelerates the turnaround time of learners in training.

"The end result is an operator who is considered to exhibit safe workplace practice due to the fact that one is able to identify and respond to various operator habitual skills in a 'what if?' or

emergency scenario. It is also possible to identify those operators with the desired innate skills needed for emergency responses. This provides companies with an up-front due diligence approach that is considerably superior to the approach adopted by the average mining training provider,” says Pretorius.

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SIMULATORS AND VIRTUAL TRAINING PIC 01 : Murray & Roberts Cementation Training Academy uses simulators to enhance the learning experience.

SIMULATORS AND VIRTUAL TRAINING PIC 02 : Typically, simulation covers start-up of the machine, testing of the brakes, tramming to the workplace, and the operational function of the machine, for example load-haul-dump, drilling and/or bolting, and then trucking back to the surface.

SIMULATORS AND VIRTUAL TRAINING PIC 03 : Typically, simulation covers start-up of the machine, testing of the brakes, tramming to the workplace, and the operational function of the machine, for example load-haul-dump, drilling and/or bolting, and then trucking back to the surface.

SIMULATORS AND VIRTUAL TRAINING PIC 04 : Simulation significantly reduces risk and accelerates the turnaround time of learners in training.

SIMULATORS AND VIRTUAL TRAINING PIC 05 : Simulation significantly reduces risk and accelerates the turnaround time of learners in training.

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