

## ThoroughTec Simulation Improves Mining Simulator with Exlar's GSM20 Actuator

### APPLICATION

Control of mining simulators, which replicate the operation of surface mining vehicles such as haul trucks, excavators, bulldozers, and loaders, and underground mining vehicles such as drill rigs, roof bolters, and XLP dozers.

### CUSTOMER

ThoroughTec Simulation, located in Durban, South Africa, is the largest global supplier of both surface and underground mining vehicle simulators. These simulators are designed to train mine personnel to operate heavy mobile machinery without the risks to equipment and personnel. These simulators also reduce the costs associated with training new personnel on the machinery itself.

### CUSTOMER CHALLENGE

ThoroughTec was previously using an electric motor which drove a crank shaft to create the motion for their surface mining vehicle simulators. However, this solution took up a lot of space in their simulators, and was mechanically complex. Most importantly, this solution did not provide the responsiveness and variety of movement to replicate the real world experience of operating a mining vehicle. ThoroughTec was looking for a solution that was much more compact and simple, and above all, accurately simulated the movement an operator would experience while operating a mining vehicle.

### SOLUTION

Exlar's GSM20 actuators paired with Metronix servo drives offered the ideal solution for ThoroughTec Simulation. The GSM20 actuator was small, compact, and very simple to install. This solution was further simplified when Exlar agreed to custom manufacture cables to connect the actuators to ThoroughTec's mining



*ThoroughTec Simulation's mining vehicle simulator.*

vehicle simulators. Exlar's GSM20 actuators provided the necessary responsiveness and variety to accurately replicate the actual movement an operator of a mining vehicle would experience in the mining simulator. The flexibility of the GSM20 actuators allowed ThoroughTec to duplicate a variety of different mining vehicles in numerous environments. ThoroughTec has been successfully utilizing Exlar's technology since 2008 and continues to design the GSM20 actuators into their mining vehicle simulators because of Exlar's superior product offering, knowledgeable support team, and rapid response time.

### RESULTS

- Compact and complete solution
- Simple installation
- Accurately simulated movement of the mining simulator