

Future models

This month Steven Downes looks at three models depicting the futuristic Volvo concept machines, commissioned by Volvo and now released by Motorart in 1:50 scale.



1. The Centaur articulated hauler, Gryphon wheel loader and Sfinx tracked excavator all share a similar concept when it comes to the cab, which features large glazed areas and lattice pillar supports all offering exceptional all-round visibility. The opening door of the Gryphon is a nice feature and shows the easy access to the cabin, as does the Centaur's fold-open front panel with integrated steps and rising front windscreen for easy operator access, while the cab of the Sfinx is fully detachable.

The electric hybrid drive systems remove the need for drive shafts, freeing up the designer. This is evident on the Centaur and Gryphon, whose independent electric motors are mounted to swinging arms that offer smooth travel over rough terrain. The design also enables the machine's ride height to be adjusted, allowing the unit to be lowered for easy loading. Raising the frame provides better clearance over obstacles.

2. On the Gryphon wheel loader, the height of the frame can be raised for easier truck loading and this works on the model. Each freely rotating wheel is mounted on fixed hubs, which is a nice piece of model engineering. The articulating loader arm is an interesting design and allows the bucket to be close to the chassis during loading, increasing the height for discharging while the rear body has an extending counterweight to keep the vehicle balanced.

3. The two-section haul body of the Centaur ADT is another interesting feature. The front part slides into the rear part during discharge to reduce the height of the vehicle for greater stability and safety, a feature that is fully functional on the model. The front unit can be uncoupled from the trailer using powerful computers and gyroscopes to keep level, which allows different applications to be performed and to demonstrate this concept. A plastic support is supplied in the box to keep the front unit upright when disconnected.



4. The Sfinx tracked excavator has a very intricate undercarriage consisting of four arms, each with an adjustable track frame that can change the surface area of the track on the ground – ideal for soft ground – while each arm allows for independent adjustment for level operation on the most uneven terrain. This has been implemented well on the model, on which each track frame is fully pose-able. The extending rear counterweight assists in keeping the machine balanced when at full reach and the detachable cabin allows it to work in hazardous areas while keeping the operator safe, with all functions controlled remotely.