



WWW.SOGECLAIR.COM



Sydac Pty. Ltd.
15 Cypress Street
Adelaide, South Australia
5000, Australia



Phone: +61 8 8239 3600



sales@sogclair.com
www.sogclair.com

Truck **Simulators**

WWW.SOGECLAIR.COM

A realistic driving experience

The Oktal Sydac Truck Simulator is a powerful and flexible system for training professional truck drivers, from beginners to the most experienced. The simulator is designed to be representative of any modern truck and used for scenario-based training, especially in unusual or risky driving conditions.

SIMULATOR FEATURES

- Superior construction and replication of truck driver console.
- Advanced computer generated imagery (CGI).
- 2-6 degrees of motion base variants.
- Validated modelling of modern safety systems including ABS, EBS, ESP and ACC.
- High-fidelity spatial audio simulation.
- Mobile simulators in container and trailer forms.



Technical specifications

- Original truck OEM components (steering wheel, seat and gear lever).
- 180 degrees horizontal field of view.
- 31 degrees vertical field of view.
- 4x 55" full HD monitors.
- High end computers with Nvidia GTX graphics card.
- Steering wheel force feedback (10Nm maximum torque).
- 6 degrees of motion base.
- Motion base safety interlock.
- Low frequency audio transducers (powerful bass without excessive volume).
- 5.1 immersive surround sound with Doppler Effect.
- Surveillance camera.

TRANSMISSION

The Oktal Sydac truck simulator provides automatic and manual gearbox options and can include customer-specified shift patterns and ratios, plus multi-axe power splitting and differential locks. The standard configuration includes a seven speed automatic gearbox and/or a simulated 18 speed Eaton Road Ranger gearbox.

MOBILE OPTIONS

For drivers based in multiple depots, we can provide a cost-effective solution of packaging the simulator, and taking it to your drivers. Options include articulated trailers, shipping containers and dedicated rigid trucks.



Scored reporting

The simulator's driver reporting system provides recording, replay and comprehensively-scored reports, including instructor observations and the following automatically detected driver errors:

- Overturning (roll-over).
- Skidding of front or rear axle.
- Pedestrian or side collisions.
- Swerving into an oncoming lane.
- Overtaking on a continuous line.
- Incorrect use of indicators.
- Failing to stop at a red light.
- Speeding through yellow signals.
- Sudden braking.
- Not maintaining a safe distance.
- Depressing clutch before service brake.
- Sudden turning of the steering wheel.
- Failing to stop to engage reverse or forward gear.
- Attempting to drive in neutral or when depressing the clutch.
- Changing gears without correctly depressing clutch.
- Depressing accelerator pedal 75% below the green zone.
- Exceeding RPM red zone.
- Errors in managing lights.
- Driving with hand brake engaged.
- Not engaging the handbrake when parked..

Real benefits

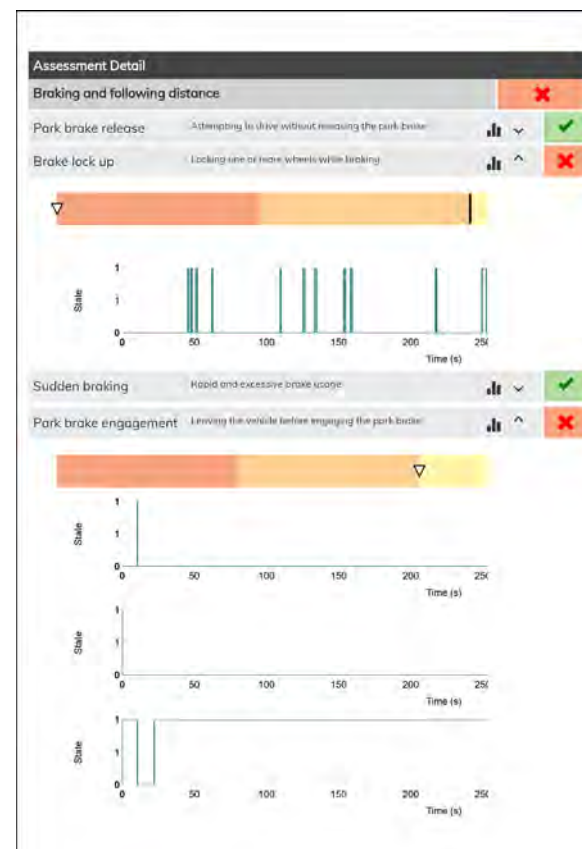
- Reduced accidents through the ability to safely train for emergencies, eg.:
 - Roll-over avoidance
 - Tyre blowouts
 - Load shift
 - Severe weather/poor traction
 - Unpredictable road users, eg. children, pedestrians, cyclists and poor drivers.
- Reduced insurance premiums.
- Improved analytics of driver performance.
- Improved fuel efficiency.
- Reduced vehicle wear and tear (brakes and minor scrapes).
- Improved company image through better driving performance.
- Improved defensive driving techniques.
- Consistent and repeatable training experience.

VISION ENGINE

Oktal Sydac uses the Unigine AAA game engine, as this is a proven commercial and robust product providing high frame rates for projection, accurate positioning, rapid processing and drawing of a scene whilst maintaining reliable colour definition.

The use and projection of shapes and colours is particularly important in driver simulator CGI, as there are many features with subtle variations in design and meaning to drivers - such as the large range of road signs, traffic signals and their variations.

Training Simulator Report	
Summary	
Course Information	
Scenario	Shivamogga-Volvo UD-Scenario 05
Instructor Name	Default Instructor
Trainee Name	Default Trainee
Vehicle	Volvo UD
Simulated Start Date/Time	30-06-2017 21:40:00
Simulated Elapsed Time	7m 25.8584s
Session Start Date/Time	18-09-2019 15:45:12
Real Elapsed Time	9m 2.07841s
Proficiency Ratings	
Name	Descriptor
Excellence	Meets and often exceeds standards
Competent	Meets expectations
Development Required	Partially met expectations
Poor	Did not yet meet expectations



Virtual world

Each simulator is supplied with a virtual road network with a range of interconnecting roads, complete with markings, signs and buildings in your region's style. Road types range from residential and industrial, freeways with multiple on/off ramps, dense commercial districts, tunnels and single lane mountain roads. Specific training opportunities include complex intersections, railway crossings, depots, steep hills, uneven surfaced roads and floods.

The high quality graphics provide realistic lighting and visibility conditions such as:

- Time of day (day/night time driving).
- Driving through tunnels.
- Headlamps (depth of beam, on/off).
- Rain, fog, haze, sun-glare and cloud cover.

The driver is correctly left/right positioned in the vehicle cabin and virtual images are calibrated to the real viewpoint of the driver - including front and side blind spots and adjustable (virtual) rear view mirrors.

Our unique traffic control system exhibits natural behaviours in lanes. The Artificial Intelligence for all vehicles, pedestrians and animals includes configurable collision avoidance.

TRAINING SCENARIOS

The truck simulator provides a virtual world and preloaded training scenarios.

VARIABLES

- Traffic density.
- Slow/fast traffic.
- Traffic jams.
- Special vehicles.
- Intersection behaviour.
- Vehicle behaviour, ie. causing dangerous situations.

HAZARDS

- Another vehicle (cyclist, motorcyclist) occupying part of the lane.
- Vehicles suddenly braking, travelling at low speed with/without rear lights, in the wrong lane and not obeying road signs/signals.
- Opening door of a parked vehicle.
- Pedestrians, animals, objects or unmarked holes on the road.

Each customer is trained to create their unique training scenarios or can engage Oktal Sydac to customise their training.

Instructor control

The instructor station allows the instructor to select lessons and control the following variables within each scenario:

- Time of day.
- Weather conditions.
- Starting location.
- Hazardous events.
- Vehicle condition:
 - Load (level and distribution).
 - Tyre condition (including burst).
 - Pneumatic system pressure.
 - Fuel level.
 - Faults or damages.
 - Inclusion/exclusion of safety systems (traction/brake/stability control).
 - Breakdown of pneumatic system, engine and power supply, transmission, retarder, brakes and suspension.

