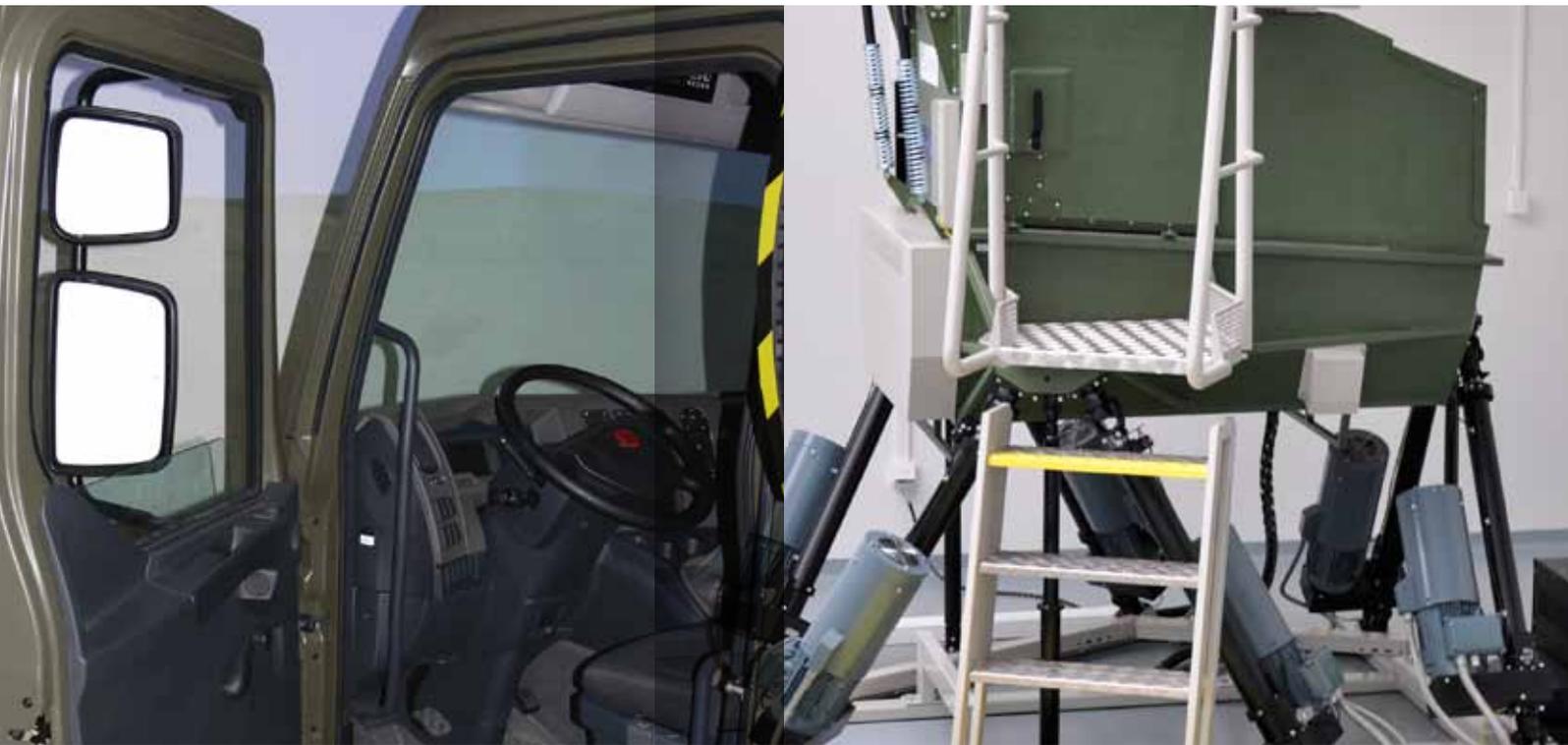# DRIVING SIMULATORS
PREPARE FOR ALL SITUATIONS

Driving simulators are an important and necessary component in the training and education of drivers. With full-size replicas of the driver's cabin and a realistic virtual environment, it is as close to the real experience as possible.

Simulators are excellent, practical and effective learning tools for safe driving, training techniques and skills for all drivers The trainer covers several training levels from the basic familiarisation of the driver compartment controls to the handling of the vehicle in challenging traffic situations or all-terrain environments. Integrated with other virtual systems to form an integrated training solution it even provides effective crew and tactical training.

Thanks to the full-scale replica of the driver's compartment with functioning dash board with switches, buttons and gauges, familiarisation training is easy to achieve.

Driver Training
For the full driving experience, the driving simulator has a 6 degrees-of-freedom motion system and force feed-back for the steering wheel, pedals and other levers. The seats are fitted with a vibration system for realistic motion during driving and for main gun recoil simulation. To maximise the training value, the driver has an outlook into a realistic virtual environment. The driver can drive the vehicle with open or closed hatch and by using actual NVG equipment.

For advanced driver training and to enhance the driving experience, the geographic location, time of day, weather conditions and other parameters can be adjusted to meet the training requirements.

Training in the simulated environment will ensure drivers are well prepared and confident in their skills prior to continuing with on-the-road and in-the-terrain training in real vehicles.

After Action Review
A learning management system is used to keep track of the progress of multiple students simultaneously and, during any training session, all the data is recorded in order to provide a thorough AAR and to contribute to the lessons learnt process.

Mission Planning

To utilise the driving simulator in a tactical scenario, a mission planning system can be included (either as an emulated system or interfacing to an external system).

Traffic generation system

The traffic generation system provides free driving following traffic rules, signs and traffic lights. In this scenario the density and aggressiveness of the traffic can be adjusted as well as traffic jams and predefined incidents to monitor and train the driver in different situations.

Integrated Training Environment

Several driving training simulators can be connected into an Integrated Training Environment. This makes it possible for all vehicles to appear in the same virtual terrain and even cooperate in the same mission or exercise. The driving simulator could also be integrated to a turret simulator and thus crew training could be conducted.

Vehicle types

The modular approach in the design of the simulator makes it possible to supply a driving simulator for virtually any vehicle. The building blocks and capabilities to get a driving simulator are

the same independent of the vehicle type. The vehicles range from civilian cars and military utility vehicles to main battle tanks.

Pandur driver training simulator with full scale cabin replica and electrical motion system

Exact simulation model

The simulator has a mathematical model that accurately replicates the characteristics of the actual vehicle. It includes the parameters for:

- Engine power and torque,
- Gear box,
- Fuel consumption
- Behaviour when driving with trailers
- Behaviour of different surfaces such as snow, ice, mud etc.

It also makes it possibility to generate multiple different malfunctions.

Instructor station

The instructor / operator has full control of the training definition and ongoing exercises. All interaction with the system is through a user friendly graphical user interface in a Windows™ environment.

Cost effective solution

Driving simulators share components and functions with other virtual simulators from Saab. Virtual driving simulators from Saab are a cost effective low risk solution. Accurate monitoring of students and the scenario is an effective way for serious training without any environmental impact or safety implications.

Tatra truck cabin replica and electrical motion system

Drivers compartment replica Pandur

Drivers compartment replica of a T55 MBT

Features

- High quality generic or geospecific database and models for virtual terrain
- PC based visualisation system
- Special effects such as NVG and battle effects
- Three or six degrees of freedom electric motion system

- Audio system for engine and surrounding environmental sounds
- Active force feed-back for steering wheel, pedals and levers.
- Vibration and recoil seat
- Video and voice communication with trainee
- Day and night driving
- Adjustable weather conditions and time of day

- Instructor station with capability control up to five vehicles simultaneously
- Interaction with trainee scenario in real time
- Playback and after action review capability
- Traffic generation system
- Exact mathematical model of the actual vehicle

Driver Trainer ver A