



KONGSBERG

# PROTECTOR

Training System



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# WORLD CLASS – through people, technology and dedication

Kongsberg Gruppen (KONGSBERG) is a multinational, knowledge-based corporation with more than 5200 employees in more than 25 countries.

KONGSBERG delivers high-technology systems to customers in offshore oil and gas production, the merchant marine and the defence and aerospace markets.

Kongsberg Defence & Aerospace AS generates more than 75% of its sales outside of Norway. KDA's market segments are; anti-ship missiles, surveillance systems, communication systems, command and weapon control systems with the highly successful PROTECTOR Remote Weapon Station.

# PROTECTOR Training System

The PROTECTOR Training System covers every aspect of training for the PROTECTOR Remote Weapon Station. That includes The Gunner Skill Trainer, Computer Based Training for Operators and Interactive Maintenance Library and The Combat Vehicle Training System.

As of August 2009, the PROTECTOR Training System is chosen by 10 of the 16 PROTECTOR Remote Weapon Station customers.



# Preparing scenarios where the automatic reaction is crucial

Training is the key element in any skill-based job. Educational research concludes that people learn better by experience than through reading or lectures. It is impossible to replace real experience from combat operations with simulated training, but simulators can in a cost effective way increase soldier-skills to be mission ready faster.

Training also has an important role in maintaining skills on the achieved level. Another important factor of training is that it allows soldiers to prepare for scenarios where the automatic reaction is crucial. With the possibility to customize scenarios for specific missions, soldiers can practise on similar situations like the once faced in combat operations.

The PROTECTOR Training System allows the gunner to practise for the moments when their decisions mean the difference between life and death.

## Multiple weapon stations – one training system

The PROTECTOR Family consist of M151, CROWS II, Lite and Sea PROTECTOR mounted on several platforms. The PROTECTOR Training System covers all different weapon stations, weapons, ammunition and platforms.

The design focus on commonality ensures easy adaptation to new weapons, ammunition, and platforms and reduces life cycle cost for the simulators.



M151 PROTECTOR



PROTECTOR CROWS



PROTECTOR LITE



# PROTECTOR

## Table Top Trainer

Classroom training represents a key element in educating soldiers for basic skills on the PROTECTOR RWS.

Simulators allow the users to practice on operations impossible to recreate in the real world. The PROTECTOR Training System contains entities and terrain databases making the training

realistic. No live training can recreate the scenarios faced in combat operations but the PROTECTOR Training System can.

The PROTECTOR Training System makes use of real equipment, giving the soldier the right look and feel whilst training. The classroom system is configured for several trainees in a network, with one or more Instructor Stations.

This configuration maximizes the output of each training session together with a Learning Management System.

The combination of Commercial Off The Shelf (COTS) hardware and Operational equipment makes this a cost effective and realistic solution.



# PROTECTOR

## Embedded Trainer

Troops do not have access to traditional training facilities and equipment when on duty in theatre.

The PROTECTOR Embedded Trainer allows training to take place in the actual vehicle and with the actual equipment that will be used during combat operations. Training can be conducted during vehicle down time, allowing soldiers to improve their skills on the specific equipment they will use in combat.

The PROTECTOR Embedded Trainer is a gunner skill trainer. The Trainer is built in close cooperation with the PROTECTOR RWS development and experience and reflects the handling and the manoeuvring of the weapon station on all aspects.

Each training system comes with a set of training scenarios. Together with the possibility to download an evaluation report of each exercise, the PROTECTOR Training System makes sure the users get maximum output of their training time.



# Instructor Operator Station

The PROTECTOR Training System includes an Instructor Operator Station with full exercise control. The instructor plays a key role during basic skill training and controls a set of tools for maximum output of each training session.

The Instructor Station enables the creation of new exercise scenarios and modifications of existing ones. The instructor can connect to a specific trainees exercise session to monitor the progress and activities of the trainee in real time.

After each exercise the trainees results can be stored in the database and then linked to the trainee. Trainee performance is registered throughout a training exercise and an extensive report generated.

With the instructor toolset for exercise control, scenario development, trainee guidance and feedback, the Instructor Operator Station ensures the most effective and flexible student monitoring and guidance possible when training in a synthetic environment.



## Visual Simulation

### Weapons

- Realistic visual effects of own tracers and smoke grenades
- Fire, smoke, explosions, ground detonation, muzzle flash, flares/light grenades

### Dynamic Models

- Vehicles (military and civilian)
- Aircrafts (helicopters and planes)
- Human entities
- Damage models

### Sensor suite

- IR
- Night and day camera

### Environment and effects

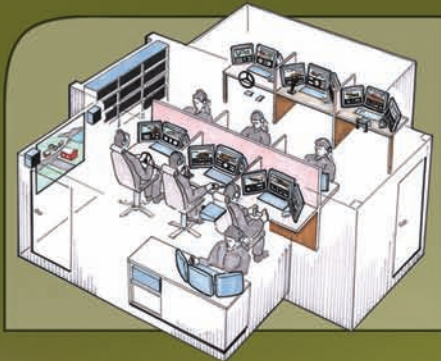
- Time-of-year, Time-of-day
- Visibility (fog, haze and precipitation)
- Sky (clear, overcast and clouds)
- Terrain databases



## Tactical training – Convoy operations

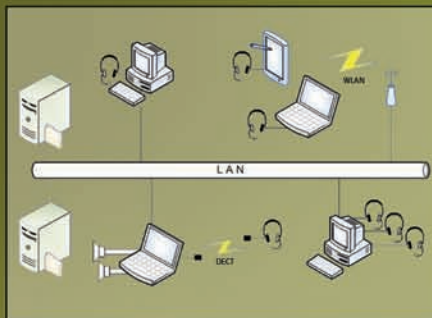
The PROTECTOR Training System can be delivered for tactical training as convoy operations to educate the vehicle crew (driver, gunner and/or commander) to operate as a part of a convoy.

The number of vehicle crews to operate in the same training environment is configurable together with the type of weapon station and the vehicle type.



### Mobile Container Based Training Standard self contained container Configurable training setup:

- 10 gunners
- 3 crews (gunner, driver, commander)
- 5 crews (gunner, driver)



### CONNECT - VoIP Radio and Intercom system:

- Voice over IP (VoIP)
- Intercom for vehicle
- Tactical radio simulation
- Recording/replay



### Driver position - Low cost crew training:

- Enables crew training
- Low cost COTS HW
- Usable for tactical training like convoy operations

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