TANK AND ARMOURVED VEHICLES SIMULATION

Simulation systems delivered in twelve countries

Indra reserves the right to modify these specifications without prior notice.
TANK AND ARMOURED VEHICLES SIMULATION

Introduction
Indra’s tank and armoured vehicles simulation solutions offer a complete array of possibilities applicable to all stages of training.

Training system goals
- Driver operational training
  - Initial training for new drivers
  - Advanced training for experienced drivers
  - Transition from other armoured vehicles
  - Joint training with turret simulator
  - Basic and advanced training for simulating realistic tank operation
  - Load training for main gun and secondary armament
  - Training for all the turret crew members
  - Normal and emergency procedures training

- Turret crew operational training
  - Commander and gunner training for safe and efficient turret operation
  - Loader training for main gun and secondary armament
  - Joint training of all the turret crew members
  - Normal and emergency procedures training

- HLA and interoperability
  - Simulators at different training locations can be connected through HLA
  - Tank platoons can be trained on a single joint tactical scenario against computer generated forces or against each other
  - Joint training with other HLA equipped simulators, such as helicopter simulators or portable missile launchers simulators

- Tank crew tactical training
  - Coordinated joint training of all the tank crew members
  - Coordinated joint training of a whole platoon (four tanks)
  - Tactical exercises

Simulators characteristics
- Driver simulator
  - 1:1 replica of the driving cabin
  - Intensive use of vehicle real parts
  - Motion system
  - Visual display system for driving with the hatch closed (episcopes) or hatch open (direct projection on screens)
  - Control loading system simulating realistic feel of steering wheel, pedals and controls

- Turret simulator
  - Full scale replica of the inside of the turret including all commander, gunner and loader equipment and controls
  - Intensive use of turret real parts
  - Main gun simulation using simulated ammunition with realistic look and feel
  - 360º rotating motion system
  - Visual display system through optics

Common system capabilities
- Instructional system
  - Creation, control, supervision and evaluation of training sessions
  - Automatic evaluation and reports saved for crew and trainee training tracking
  - Control of Computer Generated Forces (CGF) on tactical map
  - Ability to view the trainee cabin visual displays
  - Ability to view the whole operation scenario (through video displays)
  - Exercises recording and replay in a deployable theater for crew analysis and exercise evaluation

- Sound and communication
  - Based on COTS products
  - Digitalized voices transmitted by Ethernet with TCP/IP
  - Simulation of communication’s noises, warnings and tones
  - Sound replica for vehicles and scenarios
  - Simulation of any communication mode: radio, interphone or hot-mic

- Visual system
  - 3D based technology
  - Specialized computer
  - Thermal imagery simulators
  - Open format visual databases
  - Capability to accommodate a wide range of simulators

Computer Based Training (CBT)
- Learning Management System (LMS) specially designed for military training
- Interactive training courses for crew members
- Interactive training courses for maintenance personnel
- Leopard 2E tank CBT: 700 training hours, 20 multimedia classrooms
- Pizarro armoured vehicle CBT: 500 training hours, 3 multimedia classrooms

Platoon tactical and gunnery simulator
- Four complete tank simulators
- Replicas of the crew stations (commander, gunner, loader and driver)
- Can be operated to train any single crew member, a complete tank crew or a full platoon
- Tactical briefing/debriefing units
- Deployable (installed in containers)
- Visual display system through optics

Simulations
- Driver simulator
  - Full scale replica of the inside of the turret including all commander, gunner and loader equipment and controls
  - Intensive use of turret real parts
  - Main gun simulation using simulated ammunition with realistic look and feel
  - 360º rotating motion system
  - Visual display system through optics

- Turret simulator
  - Full scale replica of the inside of the turret including all commander, gunner and loader equipment and controls
  - Intensive use of turret real parts
  - Main gun simulation using simulated ammunition with realistic look and feel
  - 360º rotating motion system
  - Visual display system through optics

- HLA and interoperability
  - Simulators at different training locations can be connected through HLA
  - Tank platoons can be trained on a single joint tactical scenario against computer generated forces or against each other
  - Joint training with other HLA equipped simulators, such as helicopter simulators or portable missile launchers simulators

- Tank crew tactical training
  - Coordinated joint training of all the tank crew members
  - Coordinated joint training of a whole platoon (four tanks)
  - Tactical exercises

- Instructional system
  - Creation, control, supervision and evaluation of training sessions
  - Automatic evaluation and reports saved for crew and trainee training tracking
  - Control of Computer Generated Forces (CGF) on tactical map
  - Ability to view the trainee cabin visual displays
  - Ability to view the whole operation scenario (through video displays)
  - Exercises recording and replay in a deployable theater for crew analysis and exercise evaluation

- Sound and communication
  - Based on COTS products
  - Digitalized voices transmitted by Ethernet with TCP/IP
  - Simulation of communication’s noises, warnings and tones
  - Sound replica for vehicles and scenarios
  - Simulation of any communication mode: radio, interphone or hot-mic

Indra’s tank and armoured vehicles simulation solutions are the result of a complete array of possibilities applicable to all stages of training.

The systems are easily configured and adapted to suit the needs of the operator: from high-fidelity training of a single crew member (driving, firing), a complete crew, or even a full platoon (tactical exercises).
TANK AND ARMoured VEHICLES SIMULATION

Introduction

Indra’s tank and armoured vehicles simulation solutions are a complete array of possibilities applicable to all stages of training.

The right combination of realism, cost and deployability is easy to find with products ranging from desktop computer based training tools to full mission simulators.

The systems are easily configured and adapted to suit different levels of exercise complexity: training of a single crewmember (driving, firing), a complete tank crew, or even a full platoon (tactical exercises).

Simulators characteristics

Driver simulator
- 1:1 replica of the driving cabin
- Intensive use of vehicle real parts
- Motion system
- Visual display system for driving with the hatch closed (episcope) or hatch open (direct projection on screens)
- Control loading system simulating realistic feel of steering wheel, pedals and controls

Turret simulator
- Full scale replica of the inside of the turret including all commander, gunner and loader equipment and controls
- Intensive use of real turret parts
- Main gun simulation using simulated ammunition with realistic look and feel
- 360º rotating motion system
- Visual display system through optics

Motion and sound system
- Based on COTS products
- Digitalized voices transmitted by Ethernet with TCP/IP
- Simulation of communication’s noises, warnings and tones
- Sound replicas for vehicles and scenarios
- Simulation of any communication mode: radio, interphone or hot-mic

Visual system
- OpenGL compatible
- Thermal imagery simulation
- Open format visual databases
- Scalability to accommodate a wide range of simulators

Common system capabilities

Instructional system
- Creation, control, supervision and evaluation of training sessions
- Automatic evaluation and reports saved for crew and trainee training tracking
- Control of Computer Generated Forces (CGF) on tactical map
- Ability to view the trainee cabin visual displays
- Ability to view the whole operation scenario (threat, training) in a deployable theater for crew analysis and exercise evaluation

Simulations

Driver simulator
- 3 replicas of the driving cabin
- Intensive use of vehicle real parts
- Motion system
- Visual display system for driving with the hatch closed (episcope) or hatch open (direct projection on screens)
- Control loading system simulating realistic feel of steering wheel, pedals and controls

Turret simulator
- Full scale replica of the inside of the turret including all commander, gunner and loader equipment and controls
- Intensive use of real turret parts
- Main gun simulation using simulated ammunition with realistic look and feel
- 360º rotating motion system
- Visual display system through optics

Motion and sound system
- Based on COTS products
- Digitalized voices transmitted by Ethernet with TCP/IP
- Simulation of communication’s noises, warnings and tones
- Sound replicas for vehicles and scenarios
- Simulation of any communication mode: radio, interphone or hot-mic

Visual system
- OpenGL compatible
- Thermal imagery simulation
- Open format visual databases
- Scalability to accommodate a wide range of simulators

Training system goals

Driver operational training
- Initial training for new drivers
- Advanced training for experienced drivers
- Transition from other armoured vehicles
- Joint training with turret simulator
- Commander and gunner training for safe and efficient turret operation
- Loader training for main gun and secondary gun operation
- Joint training of all the turret crewmembers
- Normal and emergency procedures training

Turret crew operational training
- Commander and gunner training for safe and efficient turret operation
- Loader training for main gun and secondary gun operation
- Joint training of all the turret crewmembers
- Normal and emergency procedures training

HLA and interoperability
- Simulators at different training locations can be connected through HLA
- Tank platoons can be trained on a single joint tactical scenario against computer generated forces or against each other
- Joint training with other HLA equipped simulators, such as helicopter simulators or portable missile launchers simulators

Tank crew tactical training
- Coordinated joint training of all the tank crewmembers
- Coordinated joint training of a whole platoon (four tanks)
- Tactical operations training
- Normal and emergency procedures training

Simulator Based Training (SBT)
- Learning Management System (LMS) specially designed for military training
- Interactive training courses for crew members
- Interactive training courses for maintenance personnel
- Training on real or simulative vehicles delivery
- Louped 26 seats CBT 700 training hours, 25 multimedia classrooms
- Rooms equipped with CBT 1000 training hours, 5 multimedia classrooms
TANK AND ARMOURED VEHICLES SIMULATION

Complete and reliable multi-level training

Introduction

Indra’s tank and armoured vehicles simulation solutions are offered in a complete range of possibilities applicable to all stages of training.

The right combination of realism, cost and deployability is easy to find with products ranging from desktop computer based training tools to full mission simulators. The systems are easily configured and adapted to suit different levels of exercise complexity: training of a single crewmember (driving, firing), a complete tank crew, or even a full platoon (tactical exercises).

Simulators characteristics

Driver simulator
• 1:1 replica of the driving cabin
• Intensive use of vehicle real parts
• Motion system
• Visual display system for driving with the hatch closed (episcopes) or hatch open (direct projection on screens)
• Control loading system simulating realistic feel of steering wheel, pedals and controls

Turret simulator
• Full scale replica of the inside of the turret including all commander, gunner and loader equipment and controls
• Intensive use of turret real parts
• Main gun simulation using simulated ammunition with realistic look and feel
• 360º rotating motion system
• Visual display system through optics

Platform tactical and gunnery simulator
• Four complete tank simulators
• Replicas of the four crew stations (commander, gunner, loader and driver)
• Can be operated to train any single crew member, a complete tank crew or a full platoon
• Tactical briefing/debriefing units
• Deployable (installed in containers)
• Visual display system through optics

Common system capabilities

Instructional system
• Creation, control, supervision and evaluation of training sessions
• Automatic evaluation and reports saved for crew and trainee training tracking
• Control of Computer Generated Forces (CGF) on tactical map
• Ability to view the trainee cabin visual displays
• Ability to view the whole operation (command post window)
• Exercises recording and replay in a deployable theater for crew analysis and exercise evaluation

Sound and communication
• Based on COTS products
• Digitalized voices transmitted by Ethernet with TCP/IP
• Simulation of communication’s noises, warnings and tones
• Sounds replica for vehicles and scenarios
• Simulation of any communication mode: radio, interphone or hot-mic

Visual system
• CRT based technology
• Special computers
• Thermal imagery simulation
• Open format visual databases
• Scalability to accommodate a wide range of simulators

Training system goals

Driver operational training
• Initial training for new drivers
• Advanced training for experienced drivers
• Transition from other armoured vehicles
• Joint training with turret simulator

Turret crew operational training
• Commander and gunner training for safe and efficient turret operation
• Loader training for main gun and secondary gun operation
• Joint training of all the turret crew members

Turret and vehicle operations training

HLA and interoperability
• Simulators at different training locations can be connected through HLA
• Tank platoons can be trained on a single joint tactical scenario against computer generated forces or against each other
• Joint training with other HLA equipped simulators, such as helicopter simulators or portable missile launchers simulators

Computer Based Training (CBT)
• Learning Management System (LMS) specially designed for military training
• Interactive training courses for crew members
• Interactive training courses for maintenance personnel
• Turnkey full multimedia classrooms delivery
• Leopard 2E tank CBT: 700 training hours, 20 multimedia classrooms
• Pizarro armoured vehicle CBT: 500 training hours, 3 multimedia classrooms

Platoon tactical and gunnery simulator
• Four complete tank simulators
• Replicas of the crew stations (commander, gunner, loader and driver)
• Can be operated to train any single crew member, a complete tank crew or a full platoon
• Tactical briefing/debriefing units
• Deployable (installed in containers)
• Visual display system through optics

Simulators at different training locations can be connected through HLA
• Tank platoons can be trained on a single joint tactical scenario against computer generated forces or against each other
• Joint training with other HLA equipped simulators, such as helicopter simulators or portable missile launchers simulators

Complete and reliable multi-level training
TANK AND ARMoured VEHICLES SIMULATION

Simulation systems delivered in twelve countries