[SQUADSIM]

LAW ENFORCEMENT SOLUTION FOR POLICE DRIVING ACADEMIES

TRAINING SYLLABUS FOR EMERGENCY VEHICLE OPERATIONS

UP TO 16 SIMULATORS CONNECTED ONTO A SUPERVISION PLATFORM

COMPREHENSIVE GRAPHIC VIRTUAL WORLD ENVIRONMENT

eca FAROS
SIMULATION FOR SAFETY

www.ecafaros.com

More police officers lost life in vehicle related incidents than in a violent confrontation with a firearm.

Improper attitudes can cause poor judgment and poor judgment lead to poor decision.
Purpose of the Law enforcement driving training is to change attitude and made it aware to trainees.

Liability suits involving driving are similar to liabilities involving firearms. Court judgments revolve around three points:

- Violation of law
- Poor judgement
- Violation of agency policy

ECA FAROS Solution

SQUADSIM contributes at making People and Officers Safer
SQUADSIM aims at establishing Law Enforcement driving standards

SQUADSIM Description

SQUADSIM is a comprehensive Driving Law Enforcement Software that teach basic skills, develop new or higher driving skills levels, develop attitudes not normally possessed by recruits. Squadsim Software running on ECA Faros Simulator will be used to train vehicle operators in the driving skills, decision-makings and radio communications (multi-tasking) skills essential to their jobs. Specifically, the training simulator provides detailed driver behaviors to the operation of Law Enforcement vehicles, teaches vehicle manoeuvring and presents a variety of decision-making challenges to the driver. Dispatch communications and other significant radio communications to the student driver can be "role played" by the instructor from the IOS (Interactive Operator System).

Training Curriculum

Traffic Safety
Includes general principles of the followings:
- Vehicle manoeuvring tasks and exercises;
- Advanced training in an urban city/expressway environment;
- Night driving in rural areas;
- Safe space cushion and braking distances;
- Hazard perception and risky scenarios.

Traffic Stop / Interception
- Addresses the procedures involved in entering traffic;
- Pulling a vehicle over during a traffic stop.

Emergency Response
- Involve the issues involved in responding to an emergency call and the process of driving to the site as quickly and safely as possible…
- Clearing intersections, maneuvering in traffic, etc... with interoperability between different police vehicles.

High Speed Pursuit
- Involves high speed pursuit of a chase vehicle and interoperability between different squad cars, and other police vehicles.

Training Objectives & Applications

Assessment & grading

- Define evaluation driving tests;
- Driving evaluation gradings;
- Nationwide consistent and independent driving test protocol;
- Evaluate young recruits;
- Monitore and record performances;
- Train Instructors.

Individual Training & supervision

- How to master the vehicule in different environments and conditions;
- Traffic Stop / Interceptions;
- How to address the law enforcement procedures;
- Emergency Response;
- How to drive safely under stress driving conditions.

Team Training & supervision

- Emergency response;
- High Speed Pursuit;
- Pursuit Intervention Techniques;
- Interoperability with other officers;
- Termination of Pursuit.

Since 1936, ECA group culture is based on innovation in the service of **Defence** and **Civil applications.** ECA group (www.ecagroup.com) has become a large **multi-national company** with a broad range of technology and resources spanning such diverse fields such as sub sea robotics, aviation and automotive instrumentation, land, sea and air simulation and defence and military robotics and electronics.
ECA group has over **600 talented employees** worldwide.
ECA Faros (France) & ECA SSI (USA) are subsidiaries of ECA.

Pioneer in PC based Terrestrial and Aviation Simulators
- Presence on 5 continents;
- A focal worldwide points in terms of trends of training contents;
- Expertise in Networking Simulators for Missions.

- Industrialized product Range;
- Products customization;
- Worldwide after sales services.

EF-X Driving Simulator Cab

- An innovative and full-equipped driving car;
- Genuine parts and dashboard coming from the car manufacturer;
- Left hand drive or right hand drive;
- Adjustable seat, steering wheel, seat belt, rugged shifter and pedal assembly with force feedback;
- Steering wheel with motorised force feedback;
- Small-size driving cab.

Specific car on motion platform

- Any cabin mockup on demand;
- Customized dynamic model;
- Steering wheel with force feedback;
- 2 to 6 DOF motion plateforme;
- Visual system from 180° to 360° visual field.

EF-Truck Driving Cab

- A full-equipped driving cab;
- Genuine parts and dashboard coming from the car manufacturer;
- 18-speed transmission;
- Electrical and exhaust retarder;
- Adjustable seat;
- Steering wheel with force feedback;
- 180° visual field;
- Motion plateform as an option.

EF-BIKE

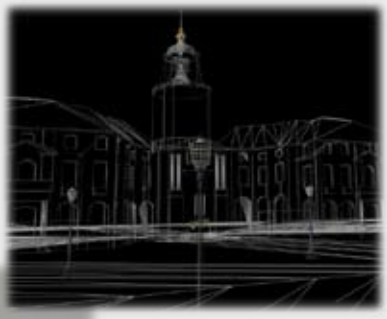
- Real motorbike chassis with genuine parts and dashboard from manufacturer;
- 2 axes motion platform: Pitch, roll +/- 10°,40°/s;
- Force feedback instrumented;
- Handle bars and torque sensor;
- Manual shift six gears;
- Separated front and back breaks;
- ABS simulation.

Instructor Station (IOS)

ECA Faros has developped an instructor operating station (IOS) able to connect up to 16 simulators. The IOS operates in either two modes:
Autonomous Mode: Each simulator is connected to the IOS operating under a supervision mode. The instructor can interact with any Police Officer trainee in real time mode through a three screens operating station, check the exercices, issue the grading reports.
Collaborative Mode: It operates under a HLA protocol. Simulators are networked and share the same field of operations (Virtual world). The Instructor supervises and manages the squad during Team Training Emergency responses scenarii.

Dynamic model

ECA Faros has an dynamic model advanced Software module that simulates vehicles trucks or bikes physical behavior and performances under a wide variety of conditions. Dynamic models can be picked up among a library of vehicules. Each model software have accurate and realistic predictions that enable sophisticated driving scenarii using ABS, ESP, worn tyres , High/Low tyre pressure, payload.



ECA FAROS Solution

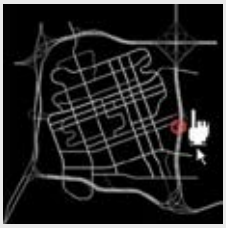
Provides the most comprehensive Generic Virtual world environment (city, downtown, expressway, mountain, residential areas).

Has developed an unic optimized process to develop specific field operation Virtual world environments

Graphic Virtual world environment is meant to immerse the Police Officers trainees in a virtual training environment. ECA Faros provides two types of Virtual worlds.

1. The generic Urban Virtual world

This generic Urban Virtual world has been developed to carry out driving scenarii in complex Urban and expressway driving environment, with heavy traffic situations and complex downtown and expressway intersections. Roads are designed using realistic curves and hills, based on road engineering rules. The different kinds of road types, intersections, junctions and interchanges cover the execution of many different scenarii, covering a large variety of situations. The Urban area currently covers a surface of 3km by 3km, and contains more than 200km of driving lanes. The landscape is composed of many different buildings, vegetation types, detail objects and fences, road constructions and bridges...
This Virtual world currently contains up to 1.5 million polygons, and implements advanced graphic effects and optimizations to provide the best trade off in terms of simulation quality available with Components On The Shelves (COTS) hardware.
The generic Urban Virtual world is used all individual scenarii where **grading assessement** is required.


2. Specific Virtual world

Some Police Academies prefers to train Emergency Vehicles Operations Police Officers in a accurate Urban environment.
ECA Faros has developed a unic process with Siradel (www.siradel.com) to meet this requirement in a cost effective way.
It combines Geographical Information System data (GIS), infrastructure data, elevation data, trafic flow data.
It provides a realistic field of operations that includes buildings with replicated mapping, parking exits, trafic signaling, exact road flows.
An existing library of cities is available and specific Virtual world required can be designed on demand.
The specific Urban Virtual world is used for single or team training scenarii where the Instructor (trough the **Instructor Operating System** (IOS)) conducts the exercice.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