Training catalog
2024

Company presentation:

OKTAL-SE is a French company specialized in electro-optical and radio frequency sensor rendering simulation software. Our experts have been working for more than 25 years in the sensor simulation field and each year we offer a large number of training courses in France and abroad.

This document presents the range of training courses we provide to satisfy the learning requirements of engineers in these fields of high technology.

The standard training we offer cover the following fields:

- Rendering of 3D EO/IR scenes (SE-Workbench-EO)
- Rendering of 3D electromagnetic scenes (SE-Workbench-RF)
- GNSS performance evaluation in urban environments (SE-Workbench-GNSS)

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Rendering of 3D EO/IR scenes (SE-Workbench-EO)

The SE-Workbench-EO software package can be used to create a complete Electro-Optics (EO) simulation.

Training objectives

The aims of this course are to enable trainee engineers to:

- Identify the theoretical methods and simulation tools used ;

- Describe the preparation and calculation steps for rendering a 3D synthetic environment in Visible and Infrared ;

- Define the electro-optical properties of materials ;

- Build a synthetic environment ;

- Compose a simulation scenario ;

- Plan the modeling of sensor effects.

This course can be supplemented by a specific session to learn how to apply special effects.

Target audience:
Engineers, users or future users of OKTAL-SE EO and/or IR products

Prerequisite:
- Physical optics
- Terrain modeling
- Knowledge of programming (C++, Python,…)

Program

The typical program is as follows:

- Definition of physical properties

- Introduction to taking atmospheric conditions into account and thermal calculations

- Creation of a scenario

- High-fidelity EO/IR scene generation

- Real-time generation of EO/IR scenes

- Modeling of sensor effects

Price: please contact us

Speakers:
Experts OKTAL-SE

Duration: 5 days (7 hours per day)

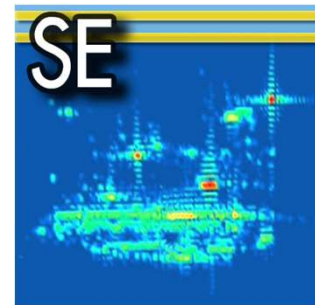**Teaching methods and resources:**
The training alternates theoretical input with practical exercises.

Validation:
At the end of the training, trainees receive a diploma on request.

Rendering of 3D electromagnetic scenes (SE-Workbench-RF)

The SE-Workbench-RF software package can be used to create a complete Radio Frequency (RF) simulation.

Training objectives

The aims of this course are to enable trainee engineers to:

- Identify the concepts involved in modeling the interaction of an electromagnetic signal with a 3D synthetic environment ;

- Calculate RF signal propagation, the radar cross-section of a target and Synthetic Aperture Radar (SAR) images.

This training could be completed by a specific session to learn Real Beam Ground Mapping (BRGM) and SAR applications.

Target audience:
Engineers, users or future users of OKTAL-SE RF

Prerequisite:
- Physical principles of radar
- 3D terrain generation
- Knowledge of 3D simulation
- Programming skills (C, C++, python…)

Program

The typical program is as follows:

- Presentation of EM physical models

- Creating, editing and assigning physical properties to objects in EM

- Explanation of EM specificities for databases

- Presentation of SAR-type image calculation

Price: please contact us

Speakers:
Experts OKTAL-SE

Duration: 4 days (7 hours per day)

Teaching methods and resources:
The training alternates theoretical input with practical exercises.

Validation:
At the end of the training, trainees receive a diploma on request.

GNSS performance evaluation in urban environments (SE-Workbench-GNSS)

The SE-Workbench-GNSS software package can be used to simulate satellite navigation.

Training objectives

The aims of this training are to enable trainee engineers to:

- Explain the principles of satellite navigation, the problems of masking and multipath when propagating GNSS signals in constrained environments ;

- Explain the value of the ray-tracing technique for simulating the influence of multipath on system performance ;

- List all the features and their functionalities of the SE-NAV product.

Target audience:
Engineers, users or future users of OKTAL-SE: SE-NAV

Prerequisite:
- Physical princples of EM.
- 3D terrain generation.
- Knowledge of simulation.
- Knowledge of programming (C, C++,…)

Program

The typical program is as follows:

- Theoretical presentation on satellite navigation

- Construction of synthetic environments suitable for simulation

- Construction of a SE-NAV "trajectory" scenario

- Development of a client to include SE-NAV in a simulation loop

Price: please contact us

Speakers:
Experts OKTAL-SE

Duration: 2 days (7 hours per day)

Teaching methods and resources: The training alternates theoretical input with practical exercises.

Validation: At the end of the training, trainees receive a diploma on request.

General Terms and Conditions

These training sessions, unless otherwise stated, take place either on the customer's site (in which case, training staff travel expenses are additional) or on the OKTAL-SE premises (Vigoulet-Auzil, 31, France). Dates are arranged in accordance with the customer.

When a training course takes place on the OKTAL-SE premises, local travel expenses (hotel ↔ OKTAL-SE) and lunch are included in the fee. These training sessions are reserved for companies whose requirements can be dealt with individually in case of specific applications. These cases of specific applications may be discussed with the training team up to one month before the scheduled date of the training course.

Upon customer request, these training sessions may be carried out in either French or English.

Adapted Training

Upon request and after consultation with the customer, OKTAL-SE is able to customize its training sessions so as to cover particular products and applications. OKTAL-SE has developed specific tools to fit the evolving requirements in the simulation world (for example plume modeling, state of the sea's surface, countermeasures…).

A training program and quotation can be provided for approval. These are In Company courses. Please do not hesitate to contact the Training Department for a tailor made solution (training@oktal-se.fr)

OKTAL-SE is a training organisation declared under the N° 73.31.04159.31 at the préfet de la région Midi-Pyrénées.