



# TRAINING

# SCIAENGINEER

## SCIA ENGINEER – ADVANCED TRAINING COLD-FORMED STEEL: EFFECTIVE SHAPE, STEEL STRESS AND STABILITY (1 DAY)

### Description

This course will focus on the advanced principles of **calculations of cold-formed steel according to Eurocode 3** (EN1993-1-3). The applications for frame structures will be examined by means of **practical examples**. This training is geared to **advanced users**.

The users will gain understanding into:

- interpretation and usage of different materials and cross-section classifications
- the importance of the effective cross-section
- a summary of the executed code checks
- backgrounds and applications of 2<sup>nd</sup> order calculations

### What knowledge will you obtain?

Our Customer Service Engineer will explain the applications step by step, so that the participants can perform and verify a steel design that conforms to the code in a fast and accurate way. Specific results of the acquired knowledge include:

- insight how to link the theoretical requirements of the Eurocode with the practical use of the steel modules in SCIA Engineer
- know when and how to perform advanced calculations (general buckling and 2<sup>nd</sup> order)
- correctly and efficiently create (own) cold formed sections taking into account the reduced shape

### Program

#### Materials

- explanation of the material properties of Eurocode 3

#### Cross-section types and classifications

- explanation of the different types of cross-section in SCIA Engineer
- principles of the section classification according to Eurocode 3

#### Initial shape

- explanation of the thin-walled representation of the cross-section
- calculation of the effective cross-section



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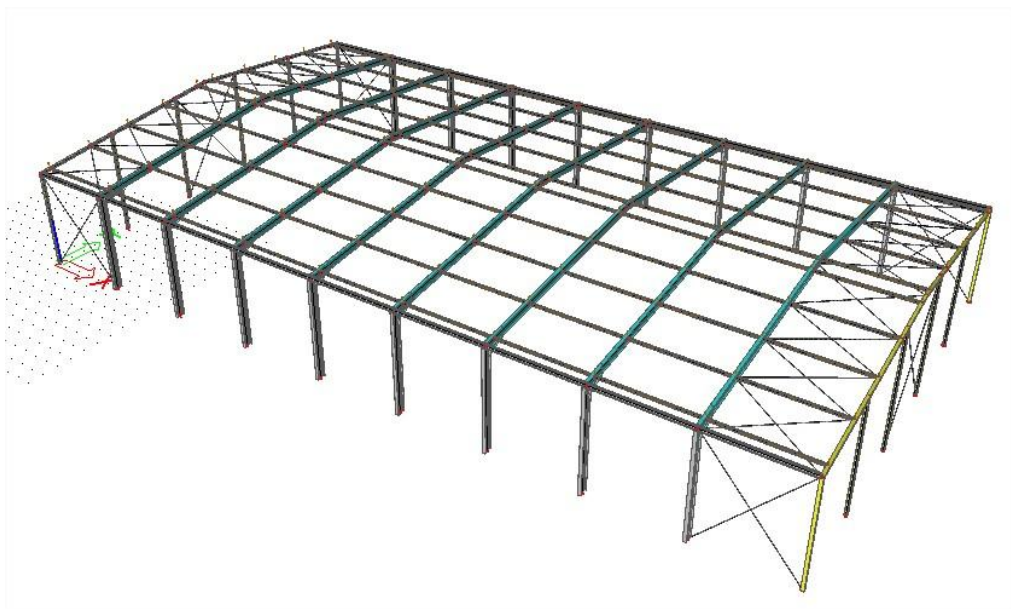
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## Steel stress check

- overview of the section checks (compression, flexion, torsion, shear ...)
- overview of the stability checks (flexural buckling, lateral torsional buckling, torsion, shear buckling ...)

## 2nd order calculation

- general principles of a 2<sup>nd</sup> order calculation in SCIA Engineer
- explanation of the introduction of global and local imperfections
- view and interpret the results



## Working method

The training is provided by an experienced engineer from the Customer Service Department of SCIA. To guarantee the interaction between the participants and the trainer, the course is given for a small group of up to 8 people.

Each **participant will use the software** and will put the different topics of the course immediately into practice, under the supervision of the trainer. At the end of the training you will have the necessary knowledge to **use the parts discussed in an autonomous and efficient way**.

At the beginning of the training, each participant will receive a **syllabus**. This includes a detailed explanation of the different functionalities and treated examples.

After the training, the companies who do not have the ability to use all the features discussed in the license of the software, will have the opportunity to request a free try-out license which is valid for 30 days.



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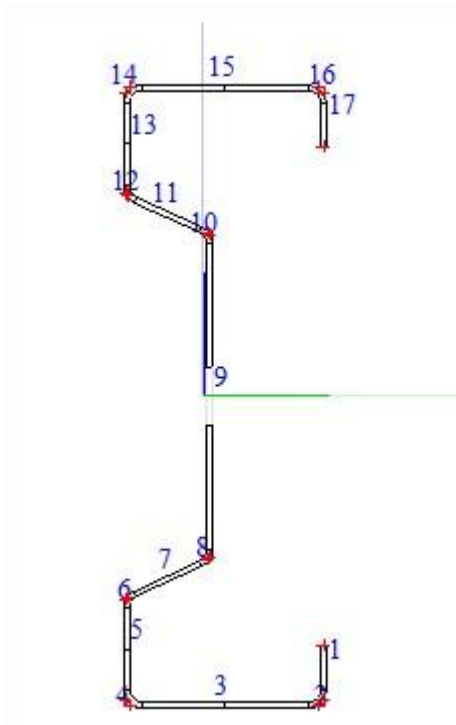
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## Prerequisites

This course is adapted to more experienced users with the necessary general knowledge of structural design.

## Certificate

Each participant will receive an official SCIA Engineer “Advanced Cold-Formed Steel” certificate at the end of the training, signed by the trainer.



**Disclaimer:** The content of the training may be modified without notification (11/2015).