

# Eurocode Starter Edition

## Scia Engineer Edition, tailored for the Eurocodes

Scia Engineer is a versatile CAE system that provides users with enormous functionality. It stands to reason that not everyone needs everything. Therefore, Scia Engineer is offered in three Editions tailored for the needs of specific groups of users: Concept, Professional and Expert.

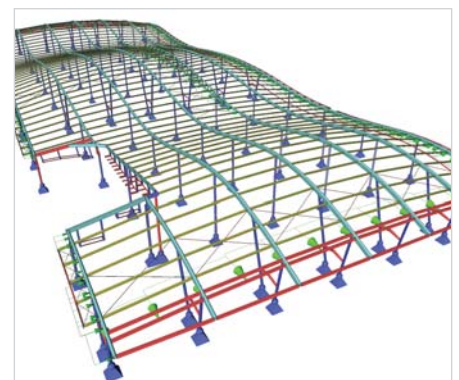
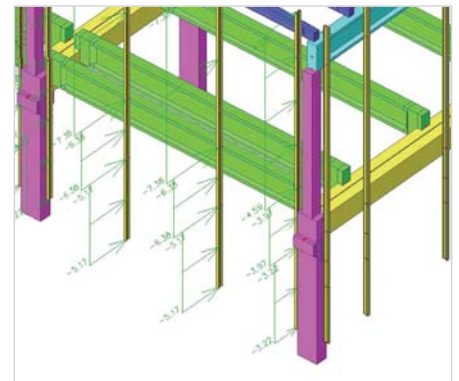
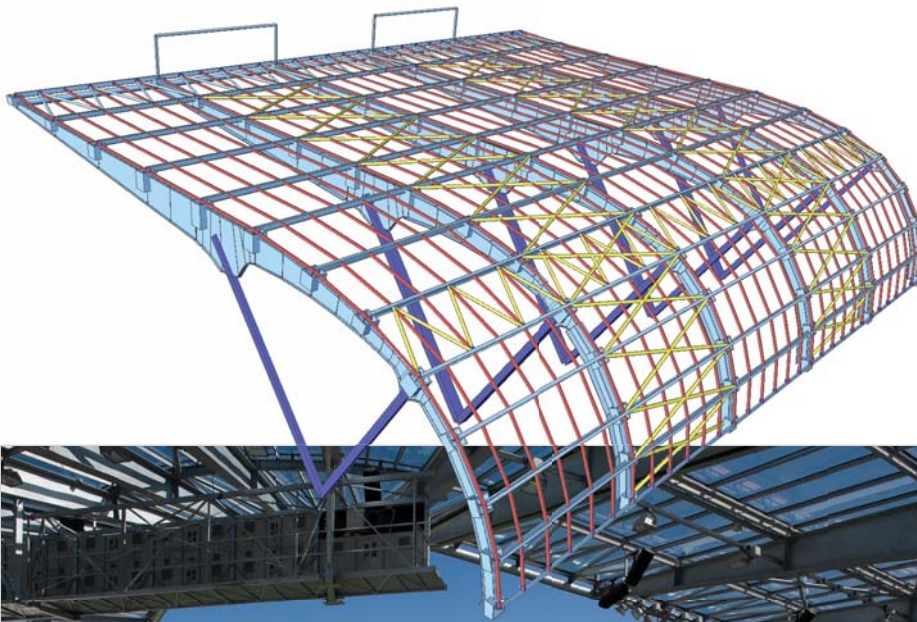
Beside those three standard Editions, the Eurocode Starter Edition is offered to cover the needs of civil engineers who want to model, analyse and design typical frame, truss, grid and similar structures made of steel and concrete according to the Eurocodes.

The package supports all kinds of 1D members (beam, column, strut, tie, etc.) and offers both basic and advanced calculations including e.g. stability and geometric nonlinearity. Load generators and code checks for steel and reinforced concrete work in accordance with the Eurocodes and all implemented National Application documents.

This Eurocode Starter Edition is aimed not only at starting engineers but also at all those who, due to their newly established mandatory use, need to swap to the design according to the Eurocodes. When engineer needs exceed the functionality included in the Eurocode Starter Edition then an easy upgrade path to the standard Scia Engineer Editions can be applied. The Edition is provided in one language for the user interface and printouts.

### Modelling and analysis

- Straight or curved beam members
- Modelling in 3D or 2D
- Wind and snow generator
- Area load transferred to beams
- Static linear analysis
- Geometrical non-linear analysis
- Stability analysis



# Eurocode Starter Edition



## Modeller

The modeller offers capabilities for input and effective editing of straight or curved beam members. Also available are extensive libraries of materials and cross-sections. The geometry of the structure is stored using a unique "True Analysis" technology that stores both structural model (suitable for drawings) and analytical model (needed for calculations and checks).

Communication with third-party software is achieved through common file formats such as IFC, SDNF, DWG, DXF, VRML. Easy-to-make printouts with tables, pictures and "Active document" feature, that automatically re-generates the documentation after any modification, clearly describe the defined model and present obtained results.

## Loads

Not only geometry, but also other data of the analytical model are input effectively. Boundary conditions, loads and other types of data that are necessary for the calculation are defined using intuitive functions. Automatic generators are available for more complex loading conditions, such as plane-load distributed to load-bearing beams or wind and snow load in accordance to the Eurocode 1.

Load cases and their combinations are handled in accordance with the regulations of the Eurocodes. Scia Engineer unique features Load Groups and Result Classes make the work with loads very effective.

## Analysis

The Eurocode Starter Edition performs static linear calculations and also some advanced types of analysis: ties, geometrically non-linear analysis and stability analysis. The stability analysis is suitable to determine which design approach must be applied.

## Design

The Eurocode Starter Edition is an effective tool for design and checking of the steel and concrete structure according to the Eurocodes.

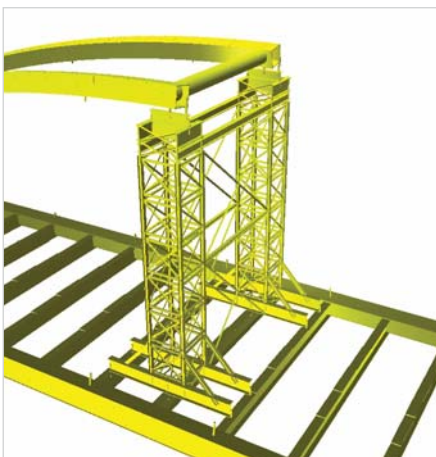
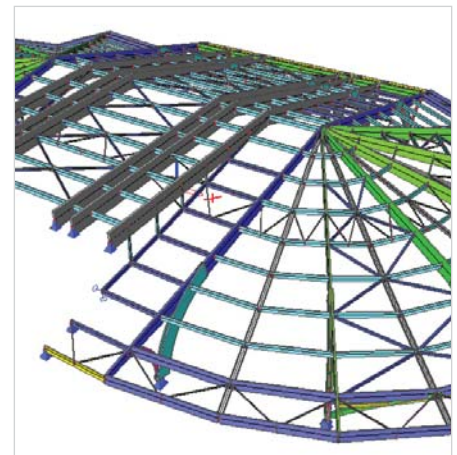
For steel structures, it offers functions for the effective design, checking and even optimisation of rolled and welded cross-sections. For concrete, the functionality covers the design of required reinforcement, input of basic reinforcement, schemes of reinforcement, interaction diagrams and design with respect to creation of cracks.

### Steel code check

- Unity check, stresses
- Buckling effect
- Optimisation of cross-sections
- Libraries of rolled cross-sections

### Concrete code check

- Design of reinforcement for beams and columns
- Unity check
- Practical reinforcement
- Crack control



\*\* The images used in this material demonstrate the types of structures that can be analysed using the Nemetschek Scia software.