



**“Actions on Structures – Application of the Eurocodes 1990 and 1991-1 as daily practice”
Abstract of the lecture for CPD (Continuous Professional Development) program of the
ECEC**

Lecture according to the action plan on Continual Professional Development (CPD) organized by the European Council of Engineers Chambers (ECEC).

Today the EN Eurocodes family is regarded as the most comprehensive and technically advanced suite of standards for structural design in engineering practice. The European committee for Standardization CEN estimates that the EN Eurocodes affect the work of around 500.000 professional engineers across Europe.

As substantial parts, the Eurocodes EN 1990 and EN 1991-1 form the basis for the structural design of conventional buildings and civil engineering works in the framework of a first order reliability concept and enable engineers to formulate characteristic as well as nominal load assumptions for the dominant sector of building types.

In many European countries the application of EN Eurocodes and the respective National Application Documents have been made obligatory by official decrees during the last years. Prior and in parallel to this, the principal market of the building sector has raised demands of elevated technical qualities already since 2010 which are in the first place achievable by the adoption of Eurocode rules into the design. Hence, the engineer’s community has gained wide experiences of the application of Eurocodes and the National Application Documents. However, engineer’s daily practice is full of problem solutions which open demands for a sound interpretation of detailed rules and gives space for optimizations. This refers especially to the determination and the application of the actions on structures which are variable in space and time-variant such as wind and snow loads, which can be optimized via reduction factors, or which consider and cover resonant or non-linear structural effects. Another special complex of demands emerges for the design of constructions which interfere with the building stock in different manners.

The webinar offers the possibility to receive selected information about important background features of the European Standards EN 1990 and EN 1991, and to learn about how to optimize the practical application.

Concerning the explained matters the following Eurocodes and parts of the Eurocodes are discussed during the lecture:

- EN 1990 Basis of Structural design
- EN 1991 Part 1-1: General actions - Densities, self-weight, imposed loads for buildings
- Part 1-3: General actions - Snow loads
- Part 1-4: General actions - Wind loads
- Part 1-7: General actions – Accidental loads

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