

The SOFiCAD-Alignment module allows the planning of highway structures according to alignments. An arbitrary number of alignments, including their axes, gradients and cross-falls, can be imported or exactly re-drawn. These alignments are then taken as the basis for the further planning process.

## Task Description

Two alignments will be defined when planning a bridge construction for an intersection of two highways. Each of these alignments, with its direction lanes, has 2 axis (without crossing lanes), which again are assigned with gradients and cross-falls. An axis is drawn via the parameters (length, radius, A) of its elements (straight line, arc and clothoid). The gradient can be generated with a polygon (horizontal line and longitudinal gradient) or by entering the coordinates station, height); the cross fall can be generated with the station and the longitudinal gradient due to longitudinal gradient changes.

## Export / Import

Any SOFiCAD-Alignment element can be exported or imported via a user-defined format. Alignment points can thus be taken over directly into the plan from the MEM of the tachymeter. The data- or map-types 001, 021 and 040 are recognized; ground points, gradients and axes can thus be imported from any other alignment applications.

Slab Height Plan Sections of an axis can be assigned with standard cross-sections. The analysis of such an axis section results in the slab height plan.

## Coordinate Systems

An arbitrary number of coordinate systems and their corresponding alignment points can be defined. It is possible to simulate any system, from the local construction site

system up to the countries coordinate system. The corresponding alignment points of these systems can also be issued. If the alignment points relate to an axis, then a point-list with height, station and offset of each point can be issued. This point-list will be stored in an ASCII-file and can be inserted into the drawing.

## More Features:

- Drawing an arbitrary number of alignments, including their axes, gradients and cross falls. Interface for data- or map-types DA001, KA021 and KA040
- Definition of standard cross-sections with analysable height levels
- Definition of an arbitrary number of coordinate systems with additional constants and corresponding alignment points
- Im- and Export of all SOFiCAD-V elements from or to ASCII files respectively
- Simple graphical determination of any design point
- Increased planning safety due to immediate graphical control

## Export into CDB

Along with an axis the cross section and if applicable the assigned enlargement and haunches can be exported into the CDB. The CDB then serves as basis for the static analysis in SOFIPLUS.

