

ALIGNMENT PLANNING

Design or optimization of track alignment and turnout geometries

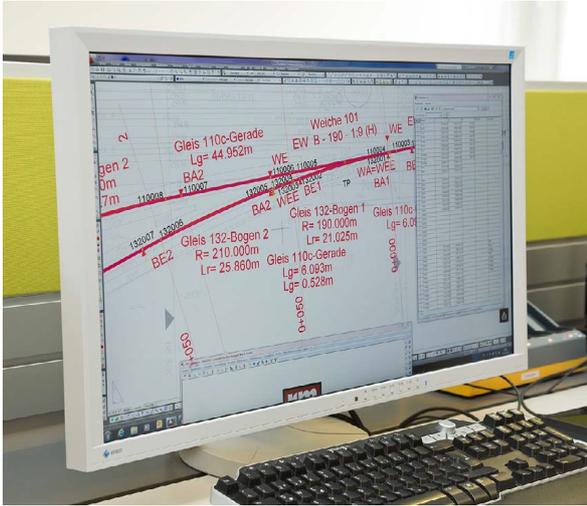
Description

Alignment planning carried out by track and turnout experts provides the optimum target geometry for the horizontal and vertical alignment of tracks and turnouts in accordance with the standards and specifications of the customers.

This leads to major improvements in railtrack and turnout driving dynamics, a significant reduction in costs, and a prolongation of track and turnout lifetime.

Benefits to the customer

- » Alignment planning is carried out by track and turnout experts
- » Optimization of the track layout, cants, track and turnout radii, with regard to regulations, speed, travelling experience and other conditions relevant to planning
- » Installation of new turnout geometries
- » Replacement of existing turnouts
- » Prevention of non standard turnout geometries and extensive substitution with standard turnouts



SERVICE DESCRIPTION

Data preparation

The survey data of the complete railtrack and the adjacent topography, and the available topographical plans are imported from survey jobs and external sources into the alignment planning software.

Technical standards and regulations, which have to be applied according to the customer's decisions and the legal regulations, need to be assigned and prepared for the design process.

Benefits to the customer

- » Digital interface to tamping machines (track positioning)
- » Surveying, alignment planning and production from a single source
- » Elimination of interface problems in communication and data transmission
- » Shortening of the production cycle by reducing waiting and delivery times
- » Cost reduction

Alignment planning process

During the alignment planning process, several work steps have to be carried out:

- » Importing existing alignment data for connecting to, and for continuing the new design form
- » Determining the connecting points (marking bolts)
- » Conception of a draft alignment in the areas to be designed
- » Best-fit adaptation of the new alignment to the surveyed, actual centerline points in order to minimize track displacement work on site
- » Setting of the turnouts
- » Checking the alignment geometry and driving dynamics according to the standards and regulations to be applied
- » Optional adaptation of the new design to special customer requests

Provision of the final design

The final results of the alignment planning drawings can be delivered to the customers in several variations:

- » Alignment planning drawings
- » Cross-section drawings
- » Longitudinal section drawings
- » Track displacement tables
- » Various types of tables according to the customer requirements
- » Hardcopy (plots, tables)
- » PDF, DWG or similar drawing exchange formats
- » ASCII, Excel or similar formats for tables
- » Digital interface to about 30 alignment planning standards and software products
- » Digital interfaces for common tampering machines

Feasibility studies

If required by the customer, feasibility studies of several alignment options for a selected area can also be carried out, taking into consideration several different aspects for each option.

The process is similar to the workflow described previously, but these additional constraints or aspects can be highlighted and commented on in detail in the results.