



Value Description

Novapoint Railway

 CONNECTED CONSTRUCTION

Designing railways with Novapoint

Novapoint Railway is an advanced modelling tool for single and double track railway. The module covers advanced alignment design for track geometry including cant and speed, to a complete 3D railway model with ballast, cables and catenary system. Includes specialized tools for modelling the Catenary System and for Cable ducts along the track and in station areas. A set of geometry tools allows full control of track geometry also in station areas. Dynamic links to Novapoint Road and Novapoint Water and Sewer and to Tekla Structures.

Interacts with design data from other systems through the Quadri task connectors.

Key features

- Advanced track design in 3D
- Design tools for switches and platform edges
- Detailed Quantity calculation, solid objects
- Rehabilitating and optimizing existing tracks
- 3D Visualization
- Drawing presentation tools for plan, profile and cross-section

Designing track geometry and modelling

A dynamic tool for 3D track design with integrated cant definition. Control against reference points and platform edges. A parametric template is automatically created through a design wizard for both single and double tracks and applied to the track geometry. A 3D train can be selected from a library and added to the railway model to control the train profile against other elements like tunnel walls.

The parametric template enables full user control of the upper and lower ballast, the interaction with the terrain surfaces and subsurface layers for ditches, rock cut, deep blasting, rock shelf, soil cut and embankment slopes including terracing where needed. The resulting model includes string lines for setting out, solid objects for ballast and insulation layers, cut and fill for volumes and textured surfaces for correct appearance.

The interactive cross section viewer enables dynamic editing of the parameters instantly over-viewing and controlling the result. It is also possible to control against other design elements like structures, cable ducts, pipes and manholes.

Rehabilitate and optimize existing tracks

Reads survey data from existing tracks and produces best fit geometry. Intuitive user interface that allows easy refining of the result. Output to tamping machine for rehabilitation of existing track.

Switch and Platform design

Switch library. Switches can be dragged along a track alignment and located as required. Platform edge is calculated automatically from the track geometry.

Drawing production and exports

Plan, longitudinal profiles and cross section drawings are a natural part of Novapoint Rail and can be automatically generated and updated from the Rail model. Standard layouts are available for many national standards. User defined layouts can be created and reused.

A detailed quantity overview of an individual rail model or a selection of the design is available inside the quadri model or may be exported to Excel.

A range of other export formats are supported to open formats such as LandXML, IFC, or Open DWG/DGN.

