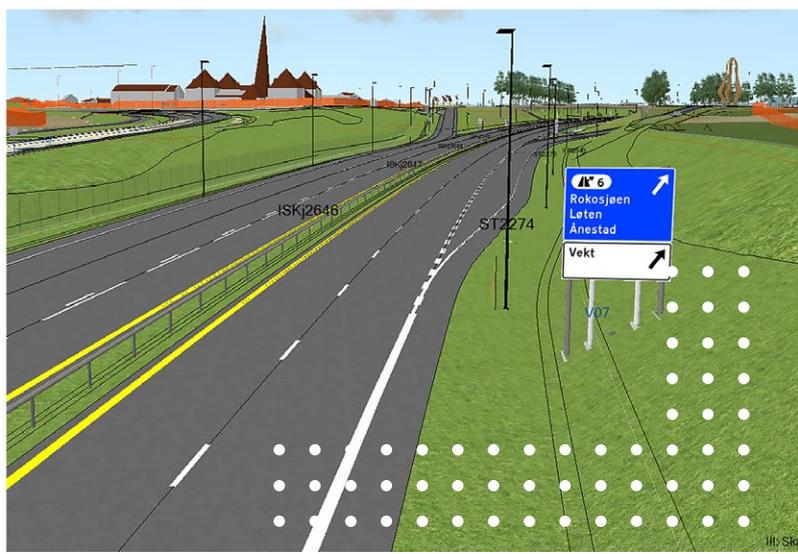
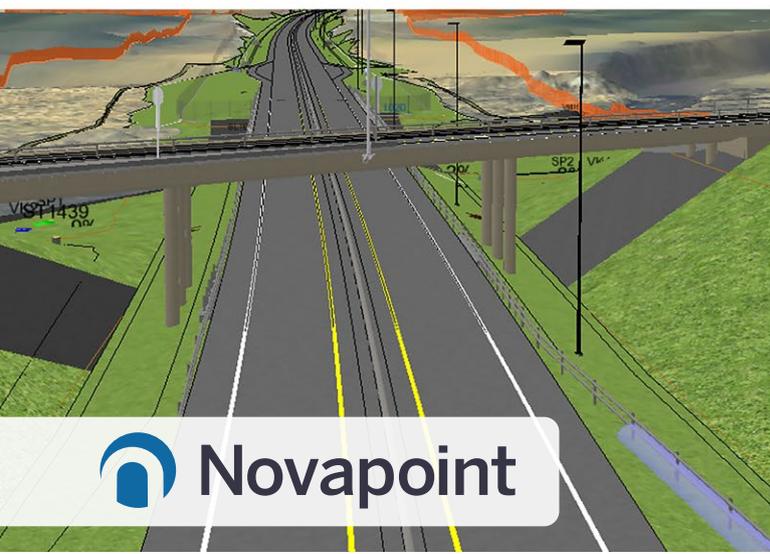




Civil Engineering Design



Create detailed designs for advanced roads and railways

Experiences from BIM mature regions, show that a successful construction of infrastructure projects, require a detailed, coherent infrastructure model for all domains. With Novapoint, civil engineers can optimise the design process. Trimble's advanced technology solutions makes it easy to collaborate with both owners and contractors, delivering a construction-ready design, built with confidence.



3D Design Software for Civil Engineers

Trimble's easy to use 3D civil engineering design tools helps you design all disciplines for infrastructure. Novapoint helps you no matter what type of civil project you are working on.

Sustainable construction projects

- ❖ Design the road surfaces, road structural layers, interchanges, road signs, 3D manholes, bridges and other structures to establish a BIM model
- ❖ The ability to relate drainage, tunnel and bridge design to the road and rail, makes it very efficient to update the other domains, when the design changes
- ❖ Import 3D survey/scan of ground surfaces, and sub surface layers as a calculation basis for your road and rail design
- ❖ Modelling tools to create existing situation based on GIS data
- ❖ Scanned surfaces of as-built can easily be imported and compared with the design
- ❖ View selection from the model in 3D and 2D
- ❖ Export detailed quantity takeoff and cost estimates for bidding

View your model in 3D

Your valuable construction data can be presented in a variety of ways for multiple views to harness the power of construction technology to increase your productivity. Extract accurate stake out data on open formats and quantity takeoff across the complete project model.

Produce drawings from the model

Designers using Novapoint can easily create DWG drawings from the model using AutoCAD.



Novapoint modules:

- ❖ ROAD
- ❖ ROAD SIGN
- ❖ ROAD MARKING
- ❖ TUNNEL
- ❖ TERRAIN
- ❖ CAD TOOLS
- ❖ NOISE
- ❖ WATER, SEWER, CABLE
- ❖ LANDCAPE
- ❖ GEOTECHNICS
- ❖ BRIDGE
- ❖ RAILWAY



Real-world visualisation

With Novapoint's complete integration with Quadri civil bim collaboration software, your design is continuously visualised in a virtual real-world environment. Using one design and one model, creates more scale and efficiencies to save time and increase your construction productivity. There's no need for an additional visualisation tool when you choose Novapoint for your 3D design modelling software with any construction project.

Civil BIM Collaboration

Share and update the designs to the common data environment and connect the workflows between all stakeholders from engineers, project managers to project owners with the integration to Quadri. Quadri brings all domain-specific designs from Novapoint in one single BIM model. All changes to the design are stored automatically and the BIM model in the cloud is updated.

You can even combine designs from different software solutions using the Quadri Connectors, supporting bi-directional workflows between design solutions from other vendors.

Quadri your common data environment

- ❖ Multi-user collaboration
- ❖ Build models of the existing situation
- ❖ Import from product libraries
- ❖ Organize design tasks and processes
- ❖ Supports file systems like IFC, GML, LandXML, DWG, SHAPE ++



Quadri Connectors

- | | | | |
|-------------|---------|---------------------------|----------------------------|
| ❖ NOVAPOINT | ❖ TILOS | ❖ TRIMBLE BUSINESS CENTER | ❖ PROJECT WISE |
| ❖ SKETCHUP | ❖ QUEST | ❖ RHINO GRASHOPPER | ❖ OPEN ROADS DESIGNER |
| ❖ QUANTM | ❖ TEKLA | ❖ TRIMBLE CONNECT | ❖ AUTOCAD REVIT , CIVIL 3D |



If one of our engineers encounters a problem or design issue, they can easily share the model around the rest of the team and work closely together to resolve it. As well as enabling effective problem solving, this more coordinated and collaborative way of working has also resulted in potential errors or mistakes being caught early

- Sean Breathnach, Senior Executive Engineer, Galway County Council



The use of a BIM collaboration model ensured that we had practically zero downtime caused by design errors. We could produce continuously

- Bård Olav Aune, BIM Manager, Skanska Survey



TRIMBLE CONNECTED CONSTRUCTION

Novapoint is part of the Trimble Connected Construction portfolio that represents an unmatched set of professional software- and hardware solutions leading the industry’s continuous quest to increase efficiency – digital solutions for optimizing concept and detailed design, scheduling and project management, as well as solutions for operating and maintaining the infrastructure. Together, these solutions constitute an ecosystem that optimizes work-processes in all phases of a construction project.

With a focus on facilitating the continuous flow of BIM between the office and the field, and a forward-thinking portfolio of solutions and services, Trimble empowers the industry to plan, design and construct with digital confidence, giving owners, engineers and contractors more control over their investment.



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