ALLPLAN
A NEMETSCHEK COMPANY

PERFORMANCE HIGHLIGHTS
ALLPLAN ENGINEERING CIVIL

Allplan Engineering Civil is a powerful BIM planning tool for Civil Engineering supporting the complete planning process in engineering and planning offices throughout engineering and construction companies. The particular strength of the software lies in the modeling of engineering structures with complex geometry, including pretensioning tendons and reinforcement as required. The construction execution is thus interrogated in advance so that errors and conflicts can be detected and rectified during the planning stage. Common interfaces exist for collaboration with planning partners. Together with SCIA Engineer, an integrated structural design solution is offered.

DIGITAL BUILDING MODEL

A digital building model unlocks endless possibilities. In addition to building plans, you can also generate isometric and exploded drawings to illustrate complex details, resulting in fewer queries and detail drawings. A combination of shell entities, openings, reinforcement, fixtures, and tendons, allows you to visualise the construction process of intelligent structural models, enabling early detection of conflicts and collisions. The BIM method offers considerable benefits with respect to changes and adjustments to the original planning. Plans update automatically when changes are made to the model which reduces errors and saving you time.

TERRAIN MODEL

Using **Allplan Engineering Civil**, you can easily create realistic digital terrain models. A digital terrain model forms the basis for drafts, layout views, earthwork calculations and their visualization. Reference point coordinates can be imported and read in a variety of formats (e.g., REB, ASCII, LandXML) in addition to UTM and Gauss-Krüger coordinates. The digital terrain model also considers exterior boundaries, breaklines, and recesses. Slopes can be created with constant or variable inclinations. Meshing points to form triangles or contour lines can be selected for views, where elevation line and contour lines are labeled automatically. Longitudinal and transverse profiles can be created along any path. Controllable fill and cut calculations, including relatively to horizons, are possible as well.

ROUTE PLANNING

Clothoids and functions for efficient stationing and labeling are available for route planning in traffic and transportation. Contour plans (contour maps) with gradients, in addition to curve and transverse slope traces can also be derived from the digital terrain model.

FLEXIBLE GENERAL ARRANGEMENT DRAWINGS

Allplan Engineering Civil is based on the worldwide leading Parasolid® modeling kernel from Siemens PLM software. Quantities are virtually prepared as a side product of the general arrangement drawing. A special component for civil structures supports the design of tunnels, support structures, dams and channels. First, a three-dimensional curve is created based on the site and contour plan. Considering the transverse slope, cross-sections are assigned to this curve. The result is a complex, three-dimensional object that can be used as the reliable basis for general arrangement drawings and reinforcement planning.

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TOP-LEVEL REINFORCEMENT PLANNING

Allplan Engineering Civil provides a comprehensive portfolio for reinforcement planning: from steel bars (with screwed coupler systems from Ancon TT, Ancotech Baron C, Armaturis Hérison and Firsty, Dextra Bartec and Rolltec, Erico Lenton, ReidBar and SAH SAS 500/550 and 670/800) to schemas labeled conforming to standards, and clear bending schedules. This functionality is completed with catalogs and fixtures in addition to parametric objects (PythonParts). Construction projects with complex geometry (e.g., double curvatures and variable cross-sections) show in particular, that **Allplan Engineering Civil** was designed for intuitive, interactive general arrangement drawings and reinforcement planning. The interaction of three-dimensional general arrangement drawings, automatic edge detections, predefined reinforcement groups, and the comprehensive control possibilities via handles ensure high practicality. Depending on the purpose, you work in plan, isometric view, views or sections as appropriate and create a three-dimensional model. Changes to shell entities or reinforcement are updated in all layouts automatically and free from conflicts.

ROUND-TRIP ENGINEERING: COMBINATION OF CAD AND STRUCTURAL ANALYSIS

Many offices still use CAD and structural analysis software, but when integrating with one another, accuracy of data is compromised. The data has to be re-entered in the structural analysis software to reflect the structural CAD model. With **Allplan Engineering Civil**, you can transfer a full design model to SCIA Engineer.

SMOOTH DATA EXCHANGE

Seamless exchange of data is critical to day-to-day planning. **Allplan Engineering Civil** supports the common CAD formats, such as DWG, DXF, and DGN. Furthermore, drawings can be easily imported and exported as two-dimensional PDF documents to other CAD systems. Regardless of the CAD system used, correct layout view, scale. and layer are maintained. Full design models or details can be provided to planning partners, construction managers, or clients in a very clear form as a three-dimensional PDF file. Free Adobe Reader is required only for interactive viewing. Using the IFC2x3 and IFC4 interface, you can also exchange intelligent design models and reinforcements with planning partners not working with Allplan solutions. Interfaces to 3D modeling tools, such as Rhinoceros 3D and SketchUp, and the visualization software CINEMA 4D are available to complement the offering.

LANGUAGES

English

Product offerings differ andare dependent upon region.

Current system requirements can be found at allplan.com/info/sysinfo

ALLPLAN GmbH › Konrad-Zuse-Platz 1 › 81829 Munich, Germany
info@allplan.com › allplan.com