ALLPLAN ENGINEERING
NEW FEATURES IN VERSION 2020

Highlights

In the field of modeling, Allplan Engineering 2020 presents a new tool for modeling simple steel structures.

Visual Scripting offers a wide range of applications: from modeling complex shapes to creating frequently used objects and automated workflows.

As the only solution on the market, Allplan Bridge 2020 now offers bridge engineers a fully integrated solution for modeling and structural analysis from a single source.

Numerous enhancements and improvements have been made for a convenient handling of attributes. Among other things, attributes can now also be exported as formatted Excel files and a filter function in the object palette allows better project control.

With Allplan Engineering 2020, we offer you a future-oriented BIM solution for engineers. The software is characterized by high performance, especially in the area of cross-team collaboration, and thus contributes to greater efficiency and productivity in day-to-day work. The openBIM approach supports smooth, interdisciplinary cooperation with project partners. There are various improvements for engineers, including views and sections, reinforcement and country-specific adaptations. There are also new features in the area of steel construction and structural analysis for bridge construction.

NEW MODELER FOR STEEL STRUCTURES

You no longer need a separate steel solution to model simple steel structures without connections (LOD 300). Supports and beams can be created and modified using a modern user interface based on property palettes and handles.

CREATION OF COLUMNS OPTIMIZED

With the optimized column tool, you can now create fillets and chamfers directly without having to define your own cross-section beforehand. In addition to saving time and ease of use, the subsequent adjustment of the columns has now also been simplified.

GREAT TIME SAVINGS DUE TO OFFSET PLANES

An offset plane is linked to another plane. When the reference plane is changed, the offset plane automatically adjusts itself and with all elements linked to it. This even works for several floors simultaneously.

MORE FLEXIBILITY WHEN LABELING GRIDS

You can now label the grids in Allplan 2020 exactly as you need them. Labeling is done using a palette or directly in the model.

NEW: COPY ALONG ANY PATH

With the function "Copy along any path" you can quickly and easily copy and place objects along any path. There are various options for defining the distance or number of objects and controlling the rotation of the individual elements.

VISUAL SCRIPTING — THE ALTERNATIVE TO PROGRAMMING

Visual Scripting is ideal for parametric modeling of complex shapes, creating frequently used custom objects, and automating workflows. Instead of learning a programming language, you simply visually arrange nodes and link them together. Compared to the Technical Preview, Allplan 2020 improves the user interface, introduces additional nodes, and adds more edited examples.
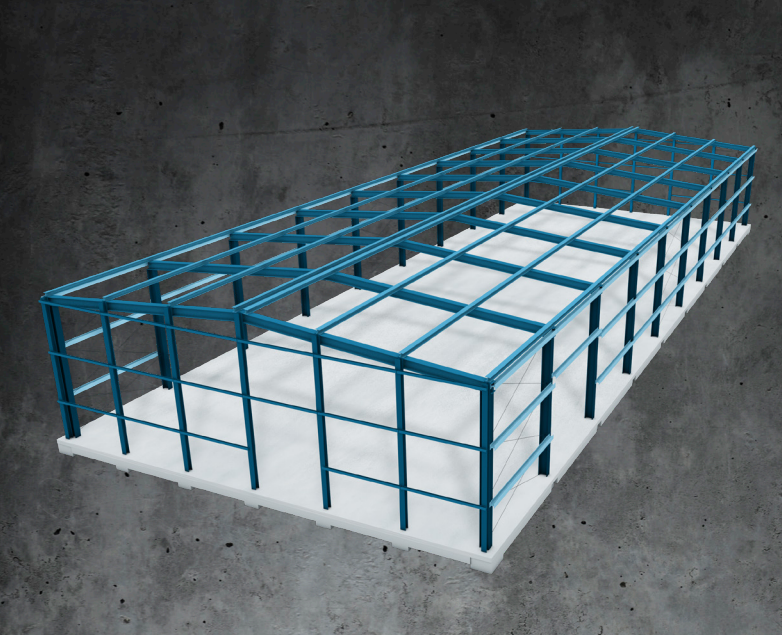
New Modeler for Steel structures
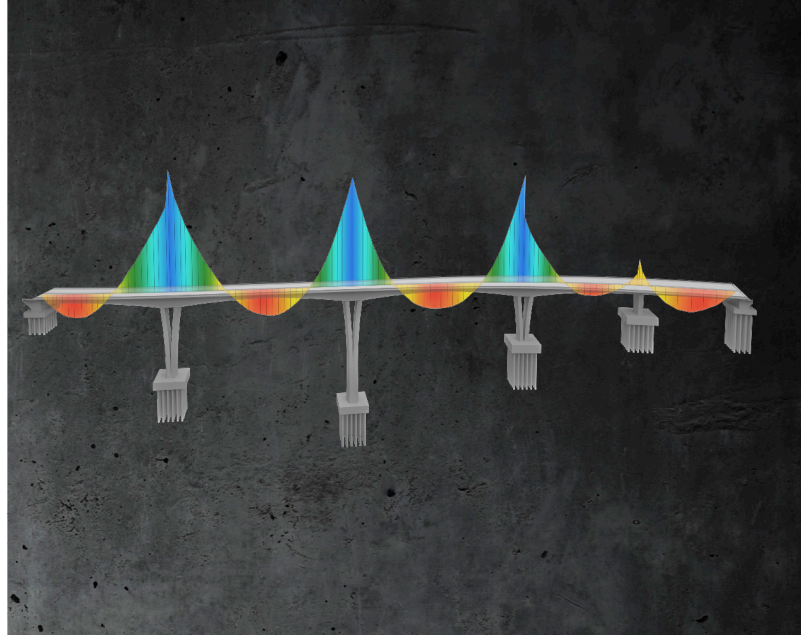
Structural Analysis of Bridges

ATMOSPHERIC RENDERINGS

With the Real Time Renderer in Allplan 2020, you can now define different light temperatures. You can use tone mapping to achieve a warmer, neutral or cold appearance. White balance corrects the color temperature of natural light sources such as sky and sun. And thanks to the two-point perspective, distortions can be eliminated in no time at all.

NEW: STRUCTURAL ANALYSIS OF BRIDGES

After parametric modeling, prestressing and construction sequence, the Allplan Bridge 2020 bridge construction solution now also enables structural analysis. This includes the definition of loads as well as the calculation of internal forces, deflections, stresses and the effects of creep and shrinkage in consideration of the construction progress. The static model is automatically derived from the parametric bridge model. This makes Allplan Bridge 2020 the world's first fully integrated solution that uses a common parametric model for both static calculation and design. This approach greatly accelerates bridge design processes. Due to the minimal time required for changes or variant comparisons, an almost optimal design can be developed with iterative improvements.

IMPROVEMENTS IN HANDLING ATTRIBUTES

In order to make the handling of attributes even more comfortable and consistent, numerous extensions and improvements have been made to attribute management. Among other things, the attributes can now also be exported as formatted Excel files. In addition, the object palette has been extended so that objects can now be filtered by attribute. The filtered objects can be highlighted in color for better visual control. The model itself can be displayed transparently. In this way, incorrectly assigned attributes can be identified more quickly.

WORKFLOWS ADAPTED FOR VIEWS AND SECTIONS

Numerous detail improvements were made to the views and sections. For example, the properties of multiple views or sections can now be adjusted simultaneously. This serves to optimize workflows.

ALWAYS CORRECT VALUES WITH ASSOCIATIVE DIMENSIONING

With Allplan Engineering 2020 you always keep your dimensioning up to date. Linear and curved dimension lines remain connected to the objects. When you make a change, the dimensioning automatically adjusts itself.

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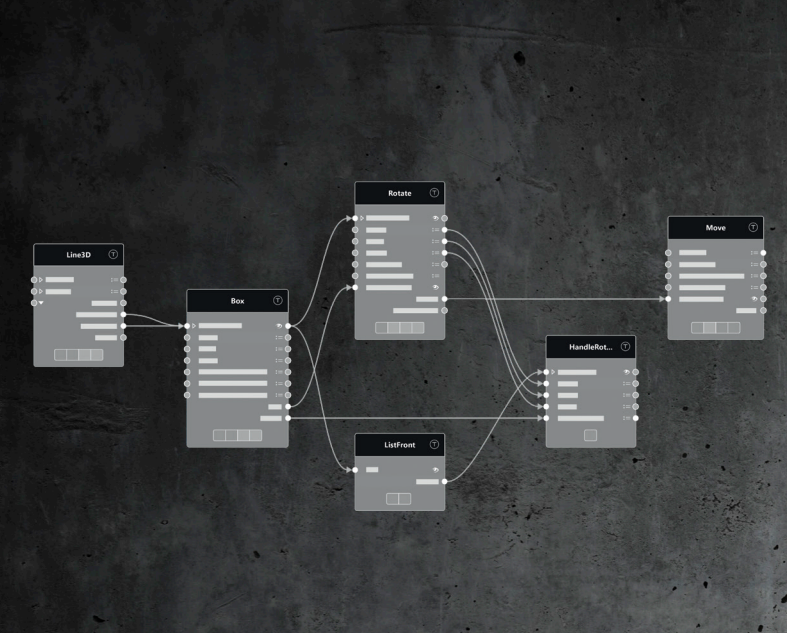
Visual Scripting – the alternative to programming

Views and sections adapted

COUNTRY–SPECIFIC ADJUSTMENTS

In order to better support US standard projects, Allplan Engineering 2020 has made extensive additions specifically in the area of reinforce– ment: There are now standardized and user–de– fined bar shapes, the reinforcement legends have been adapted and interfaces created for the reinforcement manufacturers aSa and Soulé. In addition, thread bar couplers of the manufacturer HRC are supported.

NEW SHORTCUT DIALOG FOR MORE FLEXIBILITY

A new shortcut dialog has been developed for faster access to frequently used functions. This makes it easier to assign customer–specific functions. The dialog includes the following functions: Search, sort, filter, save, import and reset shortcuts.

IMPROVED TEAMWORK

More stability, more performance, more usabili– ty. These are the results of the comprehensively optimized Allplan tools for cross–team collab– oration, the Allplan Workgroup Manager and
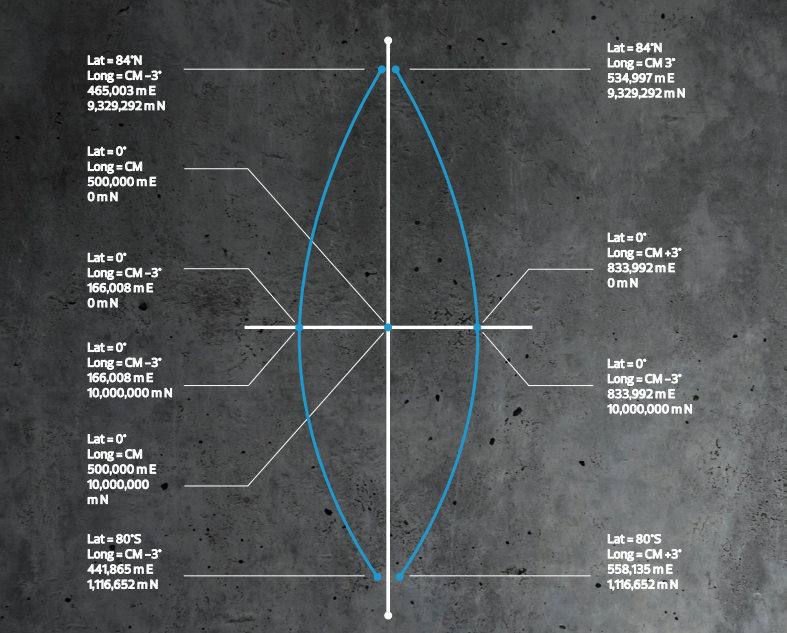
Allplan Share. In addition to a project backup, the amount of data to be transferred over the network was reduced, which has a noticeable effect on response times.

FURTHER DEVELOPMENT OF INTERFACES

The IFC interface is continuously being further developed. The full support of NURBS bod– ies during import has improved the exchange of free–form geometry. In addition, different attributes can be assigned correctly during import and export. The SketchUp interface now supports the 2018 format, the CPIXML export has been updated to version 1.7.

IMPORT OF UTM COORDINATES

Surveying offices, authorities and construction companies are increasingly working with UTM coordinates. Due to different scaling these are incompatible with AEC software. Until now, planners had to rely on external service pro– viders for data exchange. With the new import functions in Allplan 2020, you can now perform this coordinate transformation yourself.

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Lat = 84°N
Long = CM −3°
465,003 m E
9,329,292 m N

Lat = 84°N
Long = CM 3°
534,997 m E
9,329,292 m N

Lat = 0°
Long = CM
500,000 m E
0 m N

Lat = 0°
Long = CM +3°
833,992 m E
0 m N

Lat = 0°
Long = CM −3°
166,008 m E
0 m N

Lat = 0°
Long = CM −3°
166,008 m E
10,000,000 m N

Lat = 0°
Long = CM −3°
833,992 m E
10,000,000 m N

Lat = 0°
Long = CM
500,000 m E
10,000,000 m N

Lat = 80°S
Long = CM −3°
441,865 m E
1,116,652 m N

Lat = 80°S
Long = CM +3°
558,135 m E
1,116,652 m N

Import of UTM coordinates

Efficient working with point clouds

EFFICIENT WORKING WITH POINT CLOUDS

In cooperation with Scalypso, a plug-in was developed for processing point clouds in Allplan. With the converter included in the plug-in, you can import scan data in various formats, both from the manufacturer-neutral ASTM E57 format and from the manufacturer-specific formats of Faro, Leica, Riegl, Topcon, Trimble and Zoller+Fröhlich as well as from ASCII formats. You can then transfer selected 3D points to your Allplan project. For more intensive use, there is an extended version tailored to individual requirements. This makes it possible, for example, to automatically calculate horizontal sections from which precise floor plans or building models can be generated in a time-saving manner.

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

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