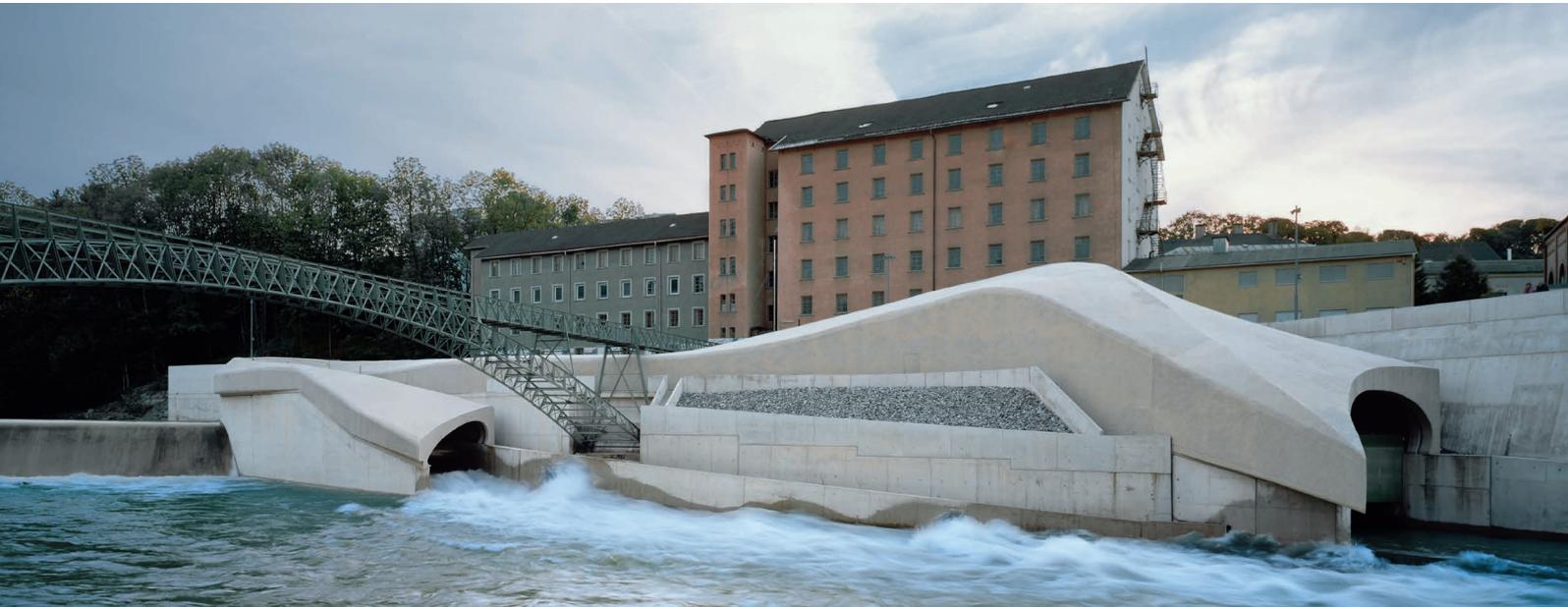


THE MOST IMPORTANT INNOVATIONS



Keselstraße hydroelectric power station, Kempten, Konstruktionsgruppe Bauen AG, Kempten, Photo: Brigida González

Interdisciplinary cooperation is becoming more significant in the context of the BIM working method. Civil engineers therefore need software solutions that support their interdisciplinary work. Allplan Engineering 2017 offers you unique possibilities in the field of modeling coordination, in conjunction with the cloud-based, open BIM platform, bim+. An extremely efficient method for saving time and minimizing sources of errors is the automation of recurring work steps, e.g. via the new Python API programming interface. And finally, there have been many innovations in 3D modeling and reinforcement which mean that you can now generate designs even more conveniently. Allplan is the best tool for your everyday work – both today and in the future.

ALLPLAN SETS NEW STANDARDS IN THE AREA OF COOPERATION

One central challenge involved in working with the BIM method is to allocate the various tasks clearly to all the project participants and then to track them. The task management should be as quick and as convenient as possible for both you and your design partners. For this purpose, the **Task Board** was introduced in Allplan 2017. The Task Board is directly connected to the open BIM platform, bim+. With bim+, you can collate, view, analyze, and share model data from Allplan and other OpenBIM solutions. The BIM Coordinator may, for example, detect unclear situations or design errors thanks to a visual check or using the **bim+ Collision Manager** and then allocate each problem to a specific editor. During the interaction

between bim+ and Allplan, any new to-dos are immediately displayed on both sides. When the task is complete, the status is set to “Done” and the modified model is uploaded to bim+ again. All the project participants then immediately have access to the new design status.

bim+ and the Allplan Task Board make it possible for interdisciplinary teams to communicate in real time. Linking specific tasks to objects makes it easier to exchange information and accelerates the coordination process. All the users have an overview of their open tasks at all times. Moreover, the fact that all identified problems and their solutions are documented provides even greater transparency.

The **Workgroup Online** function of the Allplan Workgroup Manager makes it possible to work together on the Allplan model regardless of your location. In the process, Allplan project data is exchanged via the Internet. A new compression process was introduced now to reduce the transfer time for large volumes of data: the data volume and so the transfer duration were reduced by 75 percent on average. In certain cases, even up to 90 percent. In this way, you can work on your projects online much quicker.

To ensure a problem-free data transfer between design partners, Allplan provides a large number of different interfaces that are constantly being upgraded and updated. In the 2017 version, the focus is on the exchange of 3D volume and

surface data (NURBS), which is important for BIM projects. You can now also exchange free-form geometries without polygonization in the following formats: **AutoCAD DWG/DXF**, **MicroStation DGN (Import)** and **Rhino**. In addition, it is also possible to export BIM models in the **IFC4** format. These optimizations support the interaction with other software products and improve the data quality involved in information transfers.

IMPROVED PRODUCTIVITY THROUGH AUTOMATED WORK PROCESSES

Complex, geometrically demanding building projects call for powerful and flexible tools that are easy to use. The differences from country to country also demand extensive adjustment possibilities. One tool that fulfills these demands is **PythonParts** – parametric objects on the basis of the Python script language. You can use the **Python API programming interface** to create new functions and objects in Allplan, including reinforcements, if required. The PythonParts have a user interface with properties palettes, handles and individual work processes, and can be adjusted with just a few clicks. In addition, you can use Python API to automate recurring work steps. In this way, you can improve productivity, avoid design errors, and support the BIM working method.

EXCELLENT DEGREE OF CONVENIENCE FOR MODELING AND CREATING DESIGNS

Due to the integrated parasolid modeling kernel, a large number of new options are now available to you. As a result, **3D solids without any previous polygonization can be modified simply and precisely**. The system allows the editing of random points, straight or curved edges and the surfaces of 3D elements. In addition,

the user-friendliness and the workflows in 3D modeling have been optimized at various points. The parasolid-based **3D solids can now be converted into user-defined free-form components (quantity solids)**. These user-defined components can be modified in flexible and simple ways with the usual modifications for 3D solids, such as Boolean operations or point modification. It is even possible to easily define and adjust the outline presentation of these components.

To allow you to position reinforcements quickly and easily, the **“Extrude reinforcement along path”** function was introduced. You position the corresponding reinforcement elements such as stirrups and longitudinal reinforcements in a cross-section, then select the desired path for their routing, and Allplan then automatically generates the reinforcement. In the process, stirrups are rotated and additional stirrup areas, splices, contours, and overhangs are taken into account. This saves an enormous amount of time, especially in the 3D reinforcement of individual components.

With the new **filter function for partial images**, the building model is now even easier to handle. You can activate the entire 3D model in an animation window and hide the partial images that you do not need in the outline. In this way, you can gain an overview of the entire structure in the animation view, without too many components being superimposed on each other during editing and so making everything unclear.

For **work on international projects**, the following new features have been added: The new “Norme Française” (NF EN) was integrated for France. For projects in Brazil, the diameter and arc length can now be labeled in the bending roller presen-

tation. Moreover, leaders can also be shown with dashed lines in accordance with DIN EN ISO 3766. Finally, the measuring units feet and inches are now available throughout the program.

To make your orientation easier and to speed up your workflow when working with steel profiles, the **Steel Profile library** was supplemented with lacking profiles according to current supplier programs, and restructured. Moreover, additional attributes were added and standardized color settings, area styles, lines, and layers were created. You can now find the 2D and 3D profiles in a single location.

YOUR BENEFITS AT A GLANCE

- ➔ Benefit from innovations that promote optimized, interdisciplinary cooperation – from the new Task Board with its connection to bim+ through the accelerated data transfer with Workgroup Online up to the new and optimized interfaces in the Volume Data Transfer area.
- ➔ Improve your productivity and avoid design errors by using automated work steps, thanks to the Python API programming interface.

Or create parametric objects in the form of PythonParts, even including reinforcements, if required.

- ➔ Experience for yourself the height of comfort in your modeling and design generation with the new possibilities of the parasolid modeling kernel, the “Extrude reinforcement along path” function or the filter function for partial images, which make it easier to handle your building model.