

MAGNET EXPLORER MODEL MANAGEMENT, SIMULATION AND DESIGN ANALYSIS SOFTWARE





- Multi-disciplinary model management
- Collaboration
- Design analysis
- Design simulation
- Share models
- Value-based clash detection

MAGNET[®] Explorer is now part of the MAGNET suite, with connectivity and data manager interoperability to a wide offering of MAGNET products. MAGNET Explorer is a multidisciplinary model management, simulation and design analysis software perfect for construction projects where multiple design disciplines need to be handled as one.

With MAGNET Explorer, infrastructure, buildings, utilities and structural models can be combined together and analyzed in one single project model. All of the data is managed in design coordinates and units as required by professional multidisciplinary design simulation and analysis.

The software enables value-based clash detection within a BIM model, and an entire construction process can be simulated in order to ensure fluent and productive work on site.

Multi-Disciplinary Model Management

The work of each stakeholder is made easier with combined engineered model, simplified project structure (Groups) and easy navigation.

Simplified project structure (Groups)

Instead of thousands of layers MAGNET Explorer allows engineers to structure the model into a simple group hierarchy. Typically data is grouped based on whether it is existing, designed, or as-built and under those main design disciplines. This way the complex model is easier to use and manage. Also clash detection and 5D simulation can be made easier than managing constantly changing long lists of layers.

Combined engineered model

All design models can be combined into one 3D, project wide, model. Models can be imported to MAGNET Explorer from MAGNET Modeler, open data model formats like LandXML and IFC, and in generic 3D model formats. All data is combined into real world design coordinates in design units independent of source file coordinates or units.



Collaboration

Collaboration tools include topics, topics attributes, commenting, cloud synchronization and Collaboration Server.

Topics

Any issue found in model, comment, or task is easy to add into model by just adding a Topic. Topics always know their location so documentation into model can be made into XYZ space. In addition to location, topics also save a screenshot of the topic so we can follow how topic evolves over time. When synchronized to cloud, the topic history is saved.

Topics attributes

Topics can have attributes that are customizable by the user with Topics Attribute Editor. This makes Topics a powerful tool for task management inside model. You can assign Topics to people, define deadlines, priorities and status.

Commenting

You can add comments, including suggestions, decisions, or questions, to topic. Comments form a discussion thread around topic. This way all model specific discussion can be managed inside the model instead of sending lots of emails that don't reach everyone and disappear in history. Topics and comments remain as part of model so no information is lost in the communication process.

Collaboration Server

Collaboration Server is a place to store all Topics. It is also possible to access Topics via the web without opening the model. This is useful if you only want to review the status of topics or view screenshots taken from model. Using Collaboration Server, you can manage your projects and also invite other users to join projects.

Design Analysis

MAGNET Explorer gives you a set of tools for analyzing the design, such as object info, measurement, value based clash detection and sun, shadows and sky.

Object Info

All objects in MAGNET Explorer contain data in addition to geometry. All object data can be viewed using the ObjectInfo tool. For example, all IFC model object attributes are accessible this way.

Measurement

The measurement tool allows you to check coordinates and measurements from the model. All measurement is done in design coordinates and units even if the original file was done in different coordinates and units, which is typical for IFC files.

Value based clash detection

Our unique value based clash detection approach will find most valuable clashes from thousands of clashes immediately. This produces better ROI faster than traditional clash detection tools. You can define value for model groups like disciplines. Also, tolerances can be defined for groups. Based on value it is easy to find most critical and riskful clashes first and get better results faster.



Sun shadows and sky

For visualization it is possible to set lighting conditions with our location - time based sunlight and sky simulation feature. Shadow analysis over time or low sunlight traffic safety analysis is easy to do. This has been used successfully in tunnel projects when sunlight is low and shines directly into driver's eyes inside a dark tunnel and some protective structures need to be designed.

Design Simulation

With 5D simulation and Driving Simulation you can check and visualize the design.

5D Simulation

With the 5D simulation tool a schedule and cost information can be attached to model elements letting you simulate the whole construction process. Together with clash detection it will also find clashes over time (4D).

Driving Simulation

Special navigation mode "Drive" allows driving along roads just like driving a real car. Camera follows the roadway accurately so it is possible to analyze the road geometry from a driver's perspective. This can be done instantly and interactively while designing roadways without special high-end driving simulator installations or waiting times.

Share Models

The models can be used in different environments with Export package. You can export models to advanced visualization tools.

Export to advanced visualization tools

Model can be also saved in generic 3D model formats to be used in high-end visualization software or any other software that needs MAGNET model geometry data. For high-end visualization it is recommended to use MAGNET to build up the model using automatic visualization features and then finalize your presentations in visualization software.





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