

3D models for planning, design, and management

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In the infrastructure domain it is important to ensure that stakeholders have visibility of new proposals early on and throughout the design process. The process of finding the best solution should come quickly without investing too much time in preparing and explaining ideas. Estimated costs and simulations in a virtual 3D model can help to understand the new proposal beyond the pure design.

Many of us have seen 3D city models in various versions and all of them have been created over years.

So where do city models come from and what are they good for?

There are various source data that can be used to build up a 3D city model. Mostly the data is coming from GIS, CAD, BIM and else. The drawback in using these data is that users need to know them and is able to handle possible clean ups and configurations to bring them together to show up in a nicely arranged 3D model. Second to that it consumes time also for searching and finding relevant data.

The key element here is the ability to quickly design new proposals in the context of the real world (spatially accurate) and to manipulate design in the real world canvas. This will result in better designs that have less issues and are easier to communicate in less time.

In this session we will have a look at some techniques were Autodesk provides approaches for a) capturing contextual data to be used in 3D models; and b) automated 3D model creation out of GIS, CAD, and BIM data.

Once the users have created these models, how will they use them? What are they good for?

Using 3D models for planning new developments will greatly increase stakeholder understanding. This saves a lot of time and the focus can be set around design work, analysis & simulation, communication and management workflows.

The Efficiency of this process is a result of easily creating designs, present them in the real world context of what people now, iterate on them quickly based on simulation results and communicate the idea how people expect and understand it. This reduces costs and time in the beginning and results in bringing up the possibly best solution based on collaboration and decision-making around the 3D city model.

This lesson will outline some techniques to the question of where the models come from and will talk about the domains of 3D city models along with examples.