

## COMPANY

**WSP**

## LOCATION

**Stockholm, Sweden**

## PRODUCT

**Autodesk® InfraWorks 360™**

# A better view of the options

## WSP puts 3D visualization into the hands of designers on infrastructure projects

The ease of generating the model in Autodesk InfraWorks 360 makes it practical to use throughout projects, not just for formal presentations.

— **Monica Ek**  
Project manager  
WSP



Image courtesy of WSP

### Introduction

With approximately 15,000 employees and 300 offices worldwide, WSP delivers professional services, including engineering and planning, to public and private sector clients on every continent. WSP's Stockholm-based office handles an array of projects and offers services ranging from initial surveys to design, planning, and management.

The Swedish office's visualization group supports projects with detailed 3D models, especially on large and complex assignments. Although it has effective procedures and software for visualization, the Swedish office tried Autodesk® InfraWorks 360™ cloud-based software on a recent water distribution and wastewater collection project. That's because WSP was interested in exploring whether tools that can be used directly by designers could help increase the use of 3D visualization at WSP.

According to Monica Ek, a project manager with WSP's visualization team, InfraWorks 360 makes more effective visualization available to broader infrastructure project teams. She says, "We have found that high-quality 3D models can improve decision making. Autodesk InfraWorks 360 provides us with a 3D modeling and planning tool that just about any designer on an infrastructure project can use. It could bring the benefits of visually rich models to more infrastructure projects."

### The challenge

The water distribution and wastewater collection project will deliver improved public services across a semi-rural area of Sweden with a rapidly growing population. The new water and wastewater system will cross the lands of numerous landowners—many of whom would prefer that the project not affect their properties. The engineers and client wanted to select routes for pipes that the landowners would agree to and that would avoid, to the extent possible, steep or rocky terrain.

# WSP takes visualization into the field

The need to evaluate multiple routes simultaneously made it an ideal candidate for 3D visualization technology, especially one that could generate models from multiple data sources quickly. "The project involved doing conceptual designs of multiple routes over a large area," explains Ek. "Many visualization tools are not really fast enough to do that efficiently. We saw this as a project that could benefit from a relatively quick way to generate models of multiple options."

## The solution

Though they had never used InfraWorks 360 on a project, it had attracted the attention of the visualization team at WSP. "We heard that designers could use InfraWorks 360 to create 3D models without much involvement from visualization specialists, so we decided to try it on this project," says Ek.

Ek got started by securing the client's agreement to let WSP use the water and wastewater project as a pilot. "The project was already well under way, and I used the data the team had already assembled to generate the model," says Ek. "We included a terrain model, aerial photos, hydrology data about local wells, and Autodesk® AutoCAD® Civil 3D® design models. InfraWorks 360 worked with the files in their different formats."

WSP has since set up a link within InfraWorks 360 to more automatically update the model with design changes. "We started using the direct

connection to Civil 3D, and it works well," says Ek. "The models are linked, and I just update the link in InfraWorks 360 to include the changes made in Civil 3D. A designer could do everything I've done in InfraWorks 360. You just gather the data you're already using on a project in InfraWorks 360; it's not a difficult or time-consuming process."

## Enhancing meetings

After generating InfraWorks 360 models that showed the routing options for the project, WSP began using them in design and client meetings. The alternative would have meant looking at just small portions of the design while referencing spreadsheets that weighed various factors in the terrain.

"The InfraWorks 360 model gives us a good way to show a project to someone who is not used to reading a drawing," says Ek. "In meetings, it's helpful for everyone, especially when you're looking at four or five alternatives. You can more easily see and explain why an issue with the terrain could cause problems. It makes the facts you want to convey from the spreadsheet clearer."

## Mobile visualizations

WSP used the InfraWorks Apple® iPad® app to take the project model into the field during discussions with the client. As they walked along a proposed route, they could see the project model on their iPad mobile devices. Pointing the iPad at different areas causes the model to update dynamically with the relevant model data.

"Having the Autodesk InfraWorks 360 model available on the iPad helps to make you more informed about what you're seeing on a site visit," says Ek. "It's useful for evaluating options in context, and better understanding where the route travels in relation to property boundaries. When it's time to involve contractors, we'll use the app again. It should help facilitate better discussions in the field."

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## The result

Looking ahead, WSP expects to continue using InfraWorks 360 to help design teams, clients, and other stakeholders better understand projects in context. "Our first Autodesk InfraWorks 360 project is not complete, and we're already planning to use it again," says Ek. "Having visualizations from the early stages of projects helps everyone make better choices sooner. You can see where you might have issues with boundaries or the terrain. The ease of generating the model in InfraWorks 360 makes it practical to use throughout projects, not just for formal presentations."

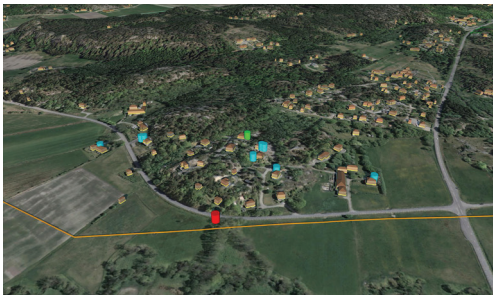


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