

COMPANY

COWI AS

LOCATION

Oslo, Norway

SOFTWARE

Autodesk® InfraWorks® 360

Autodesk® AutoCAD® Civil 3D®

Autodesk® ReCap 360™

Making it easy

InfraWorks helps COWI AS complete a feasibility study for a fitness park in just 26 hours

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— Marius Sekse
Landscape Architect
and BIM Strategist
COWI AS



Image courtesy of COWI AS

The organization and project

COWI is an international consulting group specializing in engineering, environmental science, economics, planning, and management. COWI AS is the group's division in Norway, and with over 1,200 employees it is one of the country's largest consultancy firms. The firm has relied on Autodesk Building Information Modeling (BIM) solutions for many years, including Autodesk® InfraWorks® 360 preliminary design software. The firm recently used InfraWorks 360 on a project for the City of Oslo: a new, 2,300-square-meter outdoor fitness park in the city's Bogerud neighborhood.

The City plans to build an environmentally sustainable park that will appeal to the neighborhood's multi-generational and multi-cultural residents, providing a pleasant, open-air setting for public activity. Oslo planners want the park to be integrated with and complement the natural landscape, positioning planting beds and permeable surfaces so water runoff feeds the surrounding grass areas. Instead of just ordering equipment and plans from a manufacturer, the City hired COWI to conduct a feasibility study and provide preliminary costs for the park.

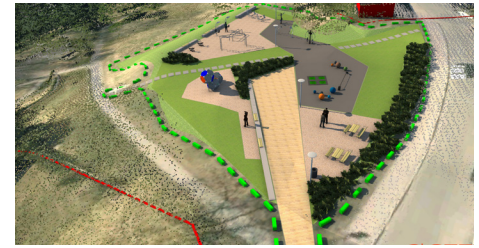
The challenge

"This project was very small, as was the customer's budget," explains Marius Sekse, a landscape architect and BIM strategist at COWI AS. "With such a small budget, the manpower for this project was limited to just me. So my challenge was to simplify the design process, while also producing deliverables that effectively communicate the project to the customer and the community."

The solution

Sekse used InfraWorks 360 software to create a 3D model of the proposed park in the context of the existing terrain and surrounding environment. From that model, he calculated earthworks and generated illustrations and panoramic photographs of the site and the proposed park for the client.

In less than a week, Sekse was able to deliver the project—including cost estimates, earthwork calculations, and high-quality project visualizations. "Even with limited money and manpower, I was able to provide the client with everything they wanted—and more—because I chose the right tool for preliminary design: InfraWorks 360," says Sekse.



When the city approached us for this project, we knew from experience that with limited municipal budgets we had to minimize our consultant hours, but at the same time maximize the impact of our deliverables. Using InfraWorks 360 and a model-based approach to this project, we were able to do that.

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Model development

Sekse began the project by using Autodesk® ReCap 360™ software to quickly generate an accurate 3D point cloud of the park area from the client's existing laser scans of the city. He used AutoCAD® Civil 3D® software to define a detailed existing terrain surface and prepare new 3D exercise equipment objects. This data, along with local geospatial data and aerial imagery, was then combined in InfraWorks 360 to create a model of the area's existing conditions. It took only a few hours for Sekse to develop this model.

Next, Sekse and the City's project stakeholders met for an interactive workshop to define the park's different activity zones, their location on the site, and the height and size of the activity equipment—using the live InfraWorks 360 model as the basis for their collaboration. “We worked directly in InfraWorks for the whole meeting because it's such a visual platform for design collaboration and communication,” says Sekse. “Regardless of their technical background, everyone at the workshop could understand the developing design and contribute their ideas.”

In the days following the workshop, Sekse finished the feasibility study of the proposed park by using InfraWorks to calculate earthworks and generate preliminary cost estimates for the park (which will be used by the client

to apply for governmental funding) and produce a series of visualizations for the client. He also published the model to the cloud, enabling the client and community members (and even the children of local residents) to independently review and interact with the model of the park, and provide feedback to the City.

The results

In just 26 hours, COWI used InfraWorks 360 to provide the City of Oslo with preliminary cost estimates, site design, and presentation materials for its proposed fitness park. “When the city approached us for this project, we knew from experience that with limited municipal budgets we had to minimize our consultant hours, but at the same time maximize the impact of our deliverables,” says Sekse. “Using InfraWorks 360 and a model-based approach to this project, we were able to do that.” In fact, Sekse estimates that by delivering illustrations and models instead of drawings, COWI reduced their project consultancy costs by about 60 percent.

“Working with model-based tools like InfraWorks makes everything easier,” says Sekse. “Even though this was a small project, I could not have delivered what I did without it.”

For more information, visit
www.autodesk.com/infracworks.



Images courtesy of COWI AS