



“Our FC Center Housing Complex project would have taken at least four months if we had used the old system. Despite unfamiliarity with AutoCAD Civil 3D, we completed the project in three months, so I think we can expect to reduce our time expenditure by at least 20–30 percent.”

Seung-chul Chung
Section Head,
Urban Development Department
Hyundai Engineering

Pioneers in urban planning.

Hyundai Engineering increases productivity, minimizes repetitive tasks, and produces more creative designs with AutoCAD® Civil 3D® software, the comprehensive solution for civil engineering design, drafting, and project management.

Project Summary

Established more than 30 years ago in South Korea, Hyundai Engineering has grown to become one of the world’s leading engineering, procurement, construction, and management firms. In fact, *Engineering News-Record* magazine recently ranked Hyundai as 79th in its list of Top 200 International Design Firms. Much of that success can be attributed to the talent and dedication of the firm’s highly skilled engineers and business professionals. Since 1974, they have completed an impressive array of civil engineering projects—including chemical plants, energy generators, and general industrial plants—and provided extensive urban planning and national land development services. To ensure continued growth and profitability Hyundai recently sought innovative new ways to improve productivity and speed project completion. That’s why the firm adopted AutoCAD Civil 3D software, a comprehensive product for the design, drafting, and management of a wide range of civil engineering project types, including site development, subdivision design, local road rehabilitation, and highway design.

The Challenge

For its pilot Civil 3D project, Hyundai chose the FC Center Housing Complex project. “Even though the project’s scale is relatively small, the dimension calculations for land acquisition must be made for each parcel because there are various landowners in the planned area,” says Seung-chul Chung, Section Head of the Urban Planning Department at Hyundai Engineering.

Rugged Landscapes

The mountainous landscape posed additional challenges. “For example, much of the land in our country is composed of mountains, and the geographic features are very steep,” says Seung-chul Chung. Therefore, it is essential to perform various topographic analyses prior to any urban development planning, including taking disasters such as floods into consideration.

Time-Consuming, Repetitive Tasks

“It can take a long time—even longer when there are requests for adjustment,” says Seung-chul Chung. “Our existing 2D solution was simply not effective enough at handling things like slope analysis, altitude analysis, and site arrangement. It required a lot of repetitive work.”



Easily Exchange Data

Through its work on the FC Center Housing Complex and other projects, Hyundai Engineering was able to take advantage of the integrated project management environment of AutoCAD Civil 3D software for smart, protected sharing of data throughout the project lifecycle. As a result, Hyundai engineers were better able to cooperate and communicate with local and remote team members in such areas as planning, estimation, designing, and landscaping. Civil 3D was instrumental to providing parallel, controlled access to the most up-to-date project data and helping keep projects on schedule.

The Solution

AutoCAD Civil 3D software's industry-proven, dynamic engineering model intelligently links design and production drafting, greatly reducing the time it takes to implement design changes. Plus, because it is based on the familiar AutoCAD® interface, Civil 3D enables firms to make the most of their existing AutoCAD knowledge base, get started quickly, and complete even the most complicated road, site, and pipe design challenges much more efficiently, using existing resources.

Be Productive Right Away

To get started, Hyundai put together a team with Korea CIM, a collaborative enterprise of Autodesk Korea. With Civil 3D, the Hyundai engineers immediately performed a thorough slope and altitude analysis using topographical and measurement data. After linking this information to exterior land-book data, they were able to calculate acreage and produce blueprints that accurately represented land category and ownership.

Minimize Repetitive Work

"I was inspired by how Civil 3D was able to use the land-book and land usage blueprints in the dimension calculations by quantity and by parcel," says Seung-chul Chung. "Before, we used separate, high-priced software or repetitive manual work for table calculations. Now it's automatic. We were able to greatly reduce design time and complete those manual tasks with just a few clicks."

Minimize Errors

Because the software's dynamic engineering model intelligently links design data with production drafting, blueprint data, and exterior programs, a change made in one place is automatically updated everywhere, making a wide range of planning possible. In particular, Civil 3D makes it easy for engineers to instantly extract various data using the 3D model and find errors that could not be easily found using 2D tools.

The Result

After this first step with the FC Center Housing Complex project, Hyundai Engineering is planning to proceed with the second and third steps—applying the site and facilities arrangements and connecting to other departments and cooperating enterprises. Seung-chul Chung also plans to apply the knowledge gained from the project to train additional employees.

High Marks

"I would give it high marks for its effectiveness in reducing repetitive work, building guidelines, communicating with outside sources, and helping us produce design work that has more variety and creativity," says Seung-chul Chung.

To learn more about AutoCAD Civil 3D, visit www.autodesk.com/civil3d.