

The gateway to the info dimension: ViCon.

COMPLEX



It's high time to make the management of complex projects easier — with ViCon.

The trend is clear: virtual project development has proven its value worldwide for building everything from automobiles to aircraft. HOCHTIEF ViCon is offering you the chance to be the first to use this solution in the construction industry. Your project exists in the form of a virtual model providing the optimal work platform for all project participants. The virtual model includes everything from photorealistic 3D imagery to the most minute details of all aspects of your project. In addition to the vivid 3D model, ViCon opens up a fourth dimension for you—the info dimension, which comprises time planning, costs, technology, and space utilization. ViCon stands for Virtual Design and Construction in 4D.

Models of individual aspects are nothing new, but there's only one model that contains all the relevant information.

ViCon processes and technologies were specially developed by HOCHTIEF for the real estate industry. They reflect the company's integrated approach. The entire life cycle of a building, from the first design to the construction phase to its operation, is depicted in a digital building model. All the information from all phases of a project is stored. And this data becomes increasingly valuable when it is continually used. HOCHTIEF ViCon offers an unprecedented advantage: all project participants can work with synchronized know-how and the very latest information—all in one model. In the virtual version of the building they can test various options and observe their effects. That means only the very best solution is realized.

SIMPLE TO USE

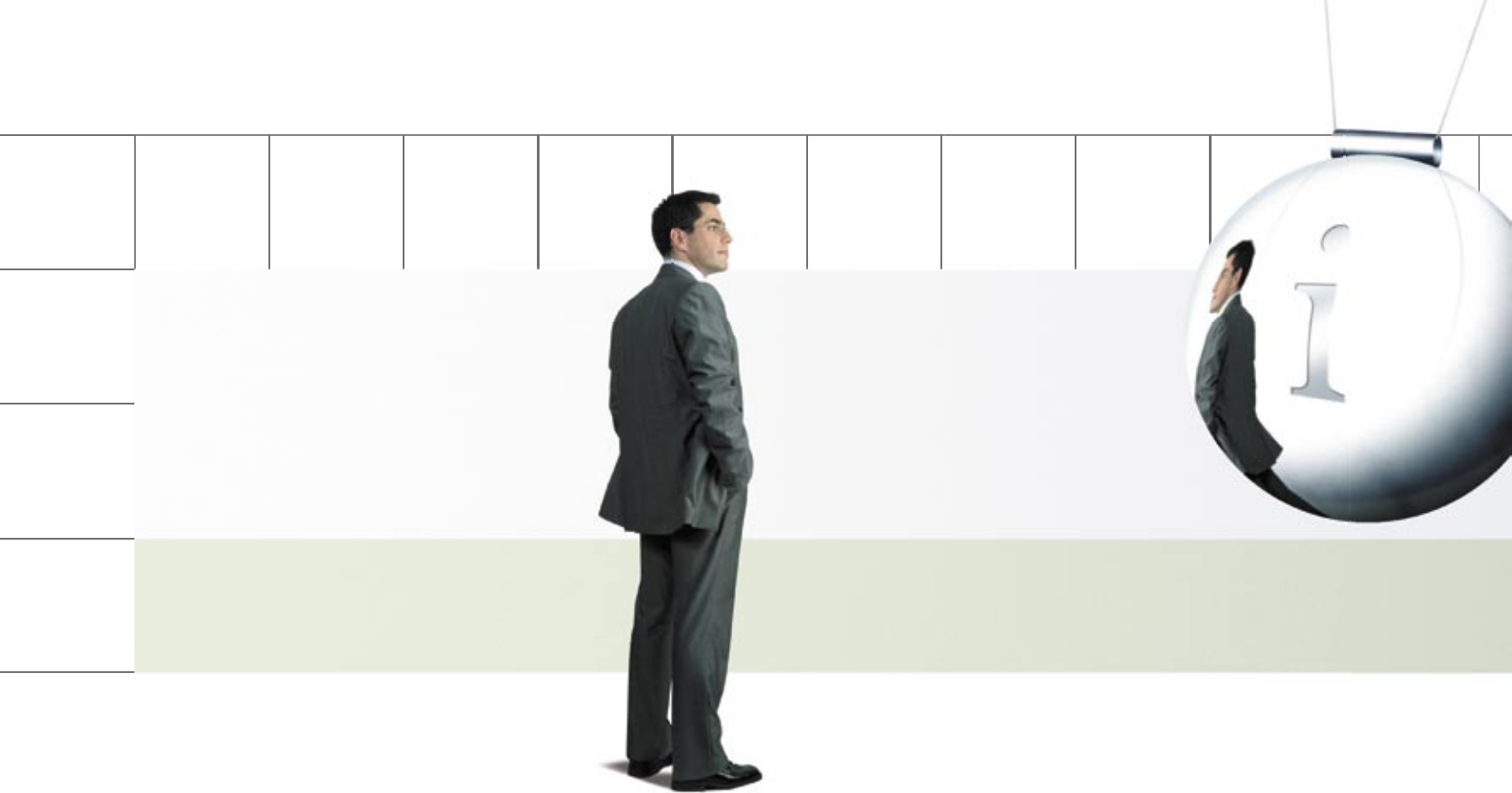


Simply amazing.

Every innovation must be easier to use than its predecessor. As a provider of processes and technologies, HOCHTIEF ViCon makes sure that you, the customer, can quickly learn to work with its solutions on your own, without the need for external support. In addition to ensuring that the building model is updated, the model manager serves as your advisor when working with ViCon.



The model manager quickly and clearly teaches you how to work with Virtual Design and Construction in 4D.



With ViCon the flow of information is the project's power source.

MARKETING/SALES

With ViCon you can present visions to your customers much more clearly than before. Photorealistic exterior and interior views, interactive virtual reality models, and 3D video animations make approval easy for decision-makers.

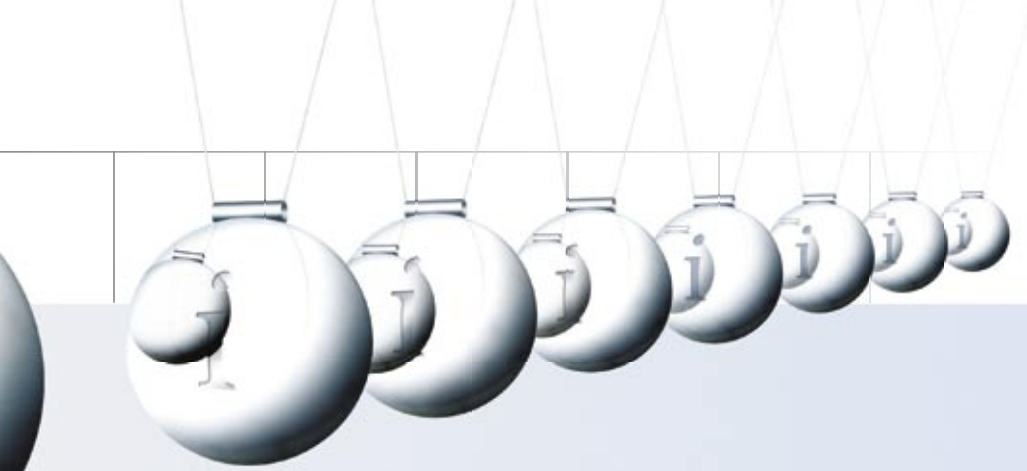
OPERATIONAL SIMULATION

At an early stage, the operational simulation shows you possibilities for optimizing operation at a later date. Simulations of the flow of patients in hospitals, for example, show how you can optimize everyday operation later on. The building configurator offers you a unique tool for real estate marketing.

Compared to the actual sampling of components, virtual sampling saves you time and money and allows you to explore more variants.

Knowledge and accurate information are the pacesetters for a project's progress. The rapid and seamless exchange of data makes close cooperation possible between specialists and service providers. For all project participants, grasping the depiction of the 4D model is much faster than the old approach of understanding two-dimensional design or other project documents.





ViCon integrates different software systems.

Everyone has faced compatibility problems when using different software applications. ViCon provides unique interpreter services thanks to the integration of processes in a 4D model. ViCon creates the info dimension, where all parties can communicate effectively.

Optimized communication for faster decision-making phases.

Improved communication begins with conveying planning and design, including the possible alternatives. The proven result is shorter decision-making phases in project development as well.

Preventing errors before they occur.

Yet another advantage is operational simulation, which anticipates the effects that planning alternatives will have on the subsequent operation of a property. Problems are identified and eliminated before they have a chance to become costly reality.

PROJECT MEETING

Using "iRoom" technology in project meetings makes it possible to work with a model's spatial views and other project information interactively on a projection screen. This ensures more dynamic presentations and more efficient project meetings. You'll save time during meetings and reduce misunderstandings when trying to reach agreements with participants.

COLLABORATION

Efficient contract management and proven Internet-based project management systems support you in the administration of tasks and the sharing of important project documents with partner companies.



ViCon reduces tomorrow's costs today.

MODEL-BASED QUANTITY TAKE-OFF

An important instrument for your calculations and controlling. The model generated by ViCon contains all the information needed for detailed quantity take-off and cost estimation. This ensures a more flexible tender preparation when there are changes to the design of a building. Greater precision can be achieved, which means less risk. And the model can be used again when awarding contracts and settling accounts for the services of subcontractors.

WORK PACKAGE COORDINATION

With the help of the 3D MEP conflict check, in the consolidated 3D model you can identify at an early stage any unresolved issues regarding planning coordination for skilled trade assignments. Design errors found with the computer can be corrected at far less expense than those discovered at the building site. Improved planning makes it possible to expand the scope of prefabrication.

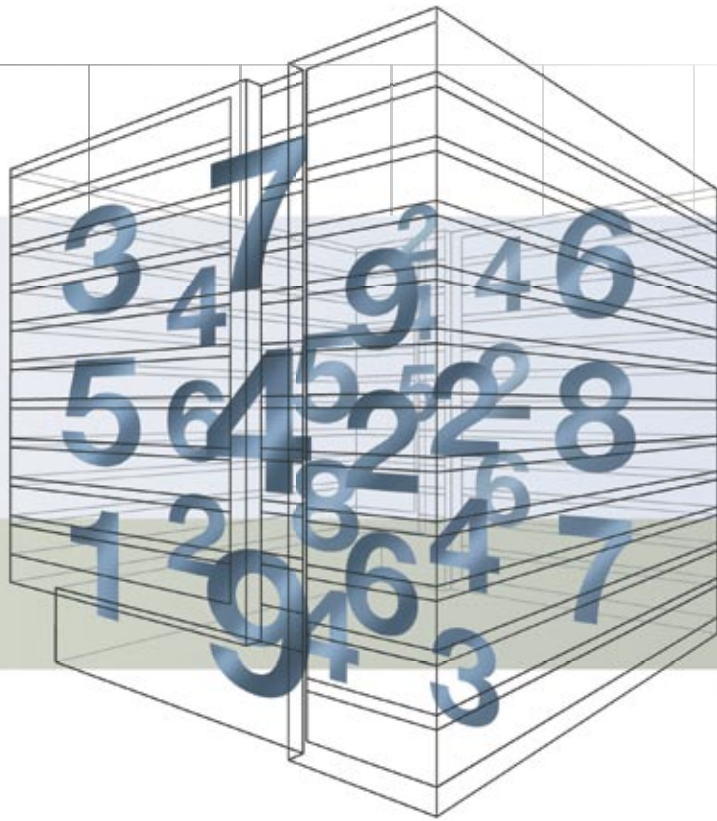
There's a simple, well-known formula for achieving cost and time savings when realizing a project.

- The right material in the right quantity, at the right time and the right place.
- Precise coordination to ensure that skilled trades do not get in one another's way but work in perfect synchronization and without delays.
- Constantly updated information and assessments of a project's status.

HOCHTIEF ViCon's modules turn the ideal scenario into reality. The 3D model provides the latest detailed data for the quantity take-off. The 3D MEP conflict check minimizes the risk of planning clashes, which reduces costs during the construction phase.



The 3D MEP conflict check detects any clashes between skilled trade assignments and presents its findings in a report.



The model knows all—and never forgets.

What is true of a project's development, design and construction phases also applies, in modified form, to a much longer phase—the operation of a property. Experience shows that construction costs represent about 20 per cent of the total costs of a project. Operating costs over a 30-year life cycle, however, account for 80 per cent of the total.

HOCHTIEF ViCon's innovative building information system combines data from the various phases in the life cycle of a building and makes this information available on the Internet in a simple and transparent manner. Specific information can be quickly and reliably collected, filtered and presented—the ideal basis for facility management. Nothing is misplaced, there's never any need for costly recalculations at a later stage, and all information is continually used and updated throughout a building's life cycle. The result is reduced risks and costs over the long term.

Finally—an easy decision with a positive impact over the long term.

You also can use individual ViCon modules for the intelligent management of specific tasks and project phases. Your decision will still be the right one in the future, because the ViCon 4D model as a whole is also the best choice for the life cycle of your property. In every phase of your project, you'll reap the benefits of the expertise and experience of HOCHTIEF.

4D WORK SEQUENCE PLANNING/ WORK DONE MANAGEMENT

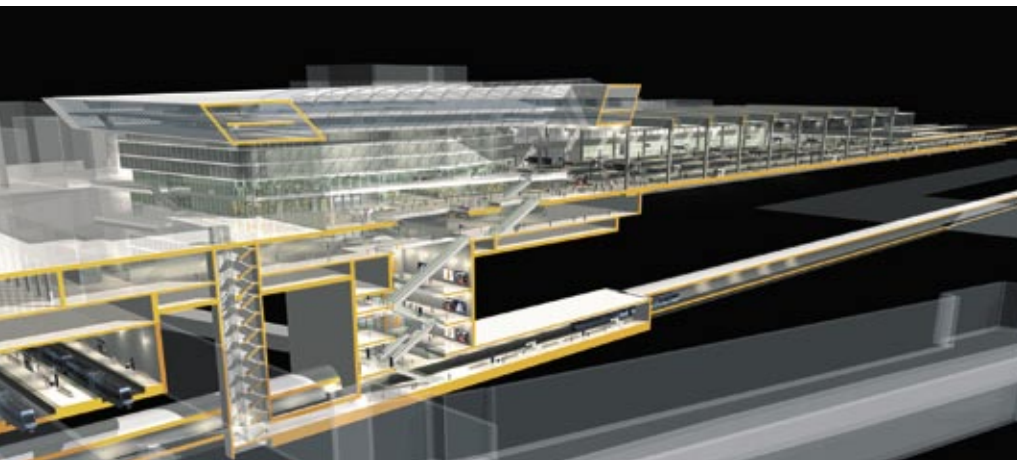
Linking the 3D model with the project schedule makes it possible to create animations of the construction process at various stages. This gives you a clear overview of scheduling and the assignments of all the skilled trades.

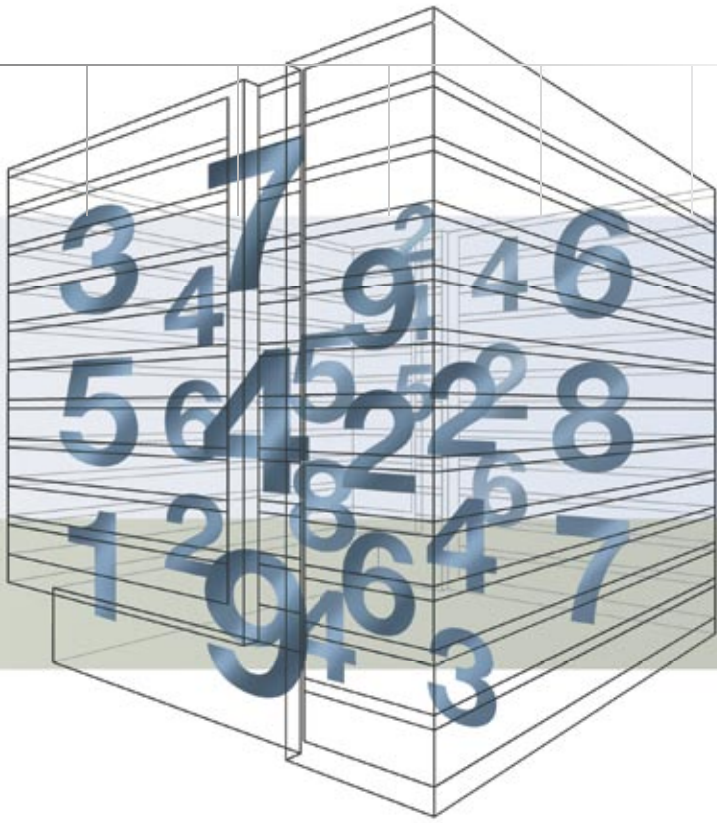
BUILDING INFORMATION SYSTEM

Particularly in the planning and construction phases, it provides you with reliable data concerning space, quantities, costs, deadlines, and a building's technical systems. Stored in the building information system, a project's master data continues to be valuable far beyond the construction phase because it forms the basic data for a building's subsequent operation.

FACILITY MANAGEMENT

The stored data from the construction phase is your best source of information for the use and maintenance of a building during its operation phase. It saves the additional costs that otherwise would be incurred for gathering this data.





ViCon at a glance:
several reference projects.



HOCHTIEF ViCon is an innovative service provider for process and technology management in virtual construction.

With our research activities and portfolio of services, we cover the entire value chain of real estate projects. The term "Virtual Design and Construction" (ViCon) refers to the computer-aided planning and simulation used in the construction and operation of buildings. A ViCon hallmark is the continual utilization of three-dimensional building models, which can be used for a wide variety of tasks throughout the entire life cycle of a building. Using these models repeatedly enables all participants in a construction project to realize cost savings, complete projects ahead of schedule, and deliver higher quality.

HOCHTIEF ViCon offers you services in the following areas:

- Marketing/Sales
- Operational simulation
- Model-based quantity take-off
- Building information system
- Work sequence planning/
work done management
- Project meeting
- Work package coordination
- Facility management
- Collaboration

Find out for yourself about the advantages of the info dimension.
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