NEMETSCHEK Vectorworks

Vectorworks Architect

FROM SKETCH TO BIM

VECTORWORKS ARCHITECT: FROM SKETCH TO BIM

FIND YOUR BALANCE

Building Information Modeling (BIM) brings together design, analysis, collaboration, and documentation for the benefit of all parties involved in a building project. And there's no better way to do it than with Vectorworks® Architect software. While many programs force creative constraints upon the design, the Vectorworks program allows you to find your balance—to maintain creative freedom while making it easy for everyone involved in the project to efficiently work together. So whether you're looking to streamline construction costs, analyze quantities of materials, increase energy efficiency, or just create world-class designs, you can enjoy the robust and flexible capabilities of BIM with the ease of design, great documentation, and intelligent tools that Vectorworks is known for—right from the start.

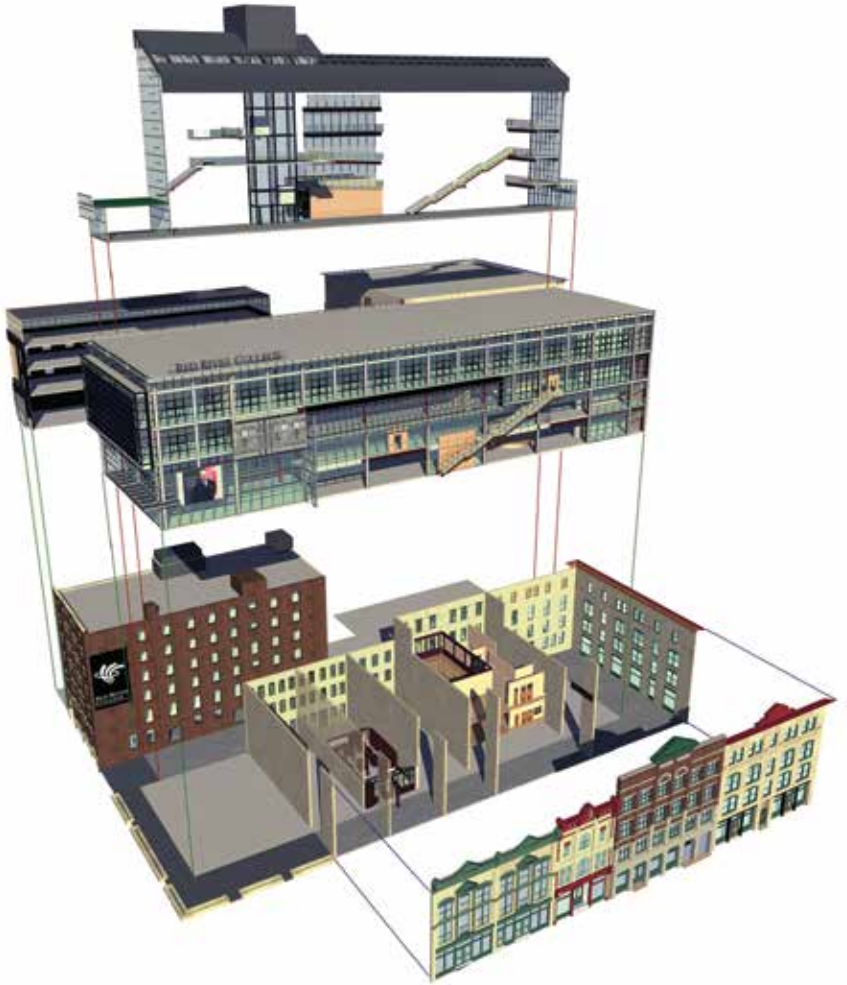
What is BIM?

There are two commonly accepted definitions of BIM:

- BIM as a process (Building Information Modeling): In this case, BIM is a business/process model for the design, analysis, execution, delivery, and management of buildings by a highly collaborative, well-integrated project team, including designers, builders, and owners. The process builds upon early design-phase contributions of team members' expertise, guided by principles of trust, transparency, effective communication, open information sharing, team success tied to project success, shared risk and reward, value-based decision making, and the utilization of full technological capabilities and support. The outcome is the opportunity for better, faster, and cheaper execution by reducing errors, waste, and cost during the entire process.
- BIM as data (Building Information Model): Here, BIM means the 3D geometry and extensive associated data that represents the necessary design, construction, and facility management information. This data is generated by a wide variety of digital tools that address the different needs, abilities, and responsibilities of the many stakeholders in the process. All of the project data may be represented by one model or a federation of multiple domain models, with data that can be exchanged, in whole or in part, with other participants at any time in the BIM process.

Photo BOLLES+WILSON, ©Markus Hauschild, www.hauschild.com

To read more about this and other projects, visit: **www.vectorworks.net/success-stories**



Vectorworks Architect software is a premier BIM provider in the realm of architecture. It offers a full range of design and documentation capabilities from start to finish with a user-friendly interface. While some competitors bundle incompatible applications to give you all the tools you need to do your job, Vectorworks Architect gives you one application, with one interface, that delivers your entire workflow, from concept sketches to construction documents.

And forget about BIM's reputation for being daunting, frustrating, time-consuming, and expensive. The Vectorworks program aptly serves the needs of those upstream and downstream from you, and it allows you to enter a BIM workflow from any point in the design process. This means you won't turn your firm upside down by incorporating BIM; rather, you'll propel your firm forward.

BIM is a Win-Win
With Vectorworks software as your BIM tool of choice, you'll discover:

- The freedom to design with no restrictions
- A flexible workflow
- An open and interoperable exchange of information with various stakeholders
- An optimized approach with virtual modeling and analysis

Courtesy of Simon Mögel

Courtesy of Empreinte Architecture; Image: Atypik-Studio

WHERE BIM COMES IN

Renew Your Creative License
Here's where Vectorworks Architect really shines. If you can dream a shape, you can make it. Model free-form, organic building forms at the conceptual and detailed design stages. Whether you're creating building shells, components, or fixtures and furnishings, you can model them at any stage, at any time, and at any level of detail. With the power of the Parasolid® modeling engine, you'll have easy-to-use tools for extrusions, surfaces of rotation, sweeps, and NURBS curves and surfaces, as well as for creating variable edge radii, protrusion, shape projections, shelling, drape surfaces, manifold solids from surfaces, and constructive solid geometries.

Energize Your Designs With Intelligent Objects
With the software's open intelligence functionality, complex forms can be identified as building components, including semantic data and attributes, so they can be identified and communicated in the correct context. With Vectorworks Architect software's certified IFC2x3 support, the IFC-based data structure can be applied to any geometry in the model. So, if you create a free-form object and assign it IFC data, it can intelligently be shared downstream.

Be Responsive to Change
You're in control of your design. With this parametric program, changes made to one element will automatically produce changes to associated elements to reduce human errors and save you time and money. For instance, walls and wall components can be dynamically linked to the height of any level. Walls detect the other walls they're joined to and thus maintain a network of walls that can be drag-edited and reshaped. Additionally, objects inserted into walls know the height, thickness, material layers, and other information about that wall. They accommodate changes when the wall is reset. With all of these automatic accuracy checks, you make the change, and the software makes it work.

Work Well with Others
With the Vectorworks Architect application's certified IFC2x3 support, you can easily import and export IFC files and share BIM data with a wide range of applications for the design, simulation, analysis, construction, and management of a project. With our intuitive modeling tools, you can create any architectural element, export it to an IFC file, and share such important information with full data fidelity.

Your Vectorworks Architect BIM model can also be used for construction. If you create millwork with InteriorCAD, you'll have direct fabrication control of CNC cutting machines. Any 3D solid created in the product may be rapid-prototyped on 3D printing devices for manufacturers using STL or SAT files. The application can export 3D solids to all other Parasolid kernel-based applications (e.g., SolidWorks) using the X_T file format. In other words, our models seamlessly move into manufacturing and advanced mechanical design systems.

Courtesy of Adam Hodge, Stephenjohn Design Ltd.

Courtesy of Baker Kavanagh Architects

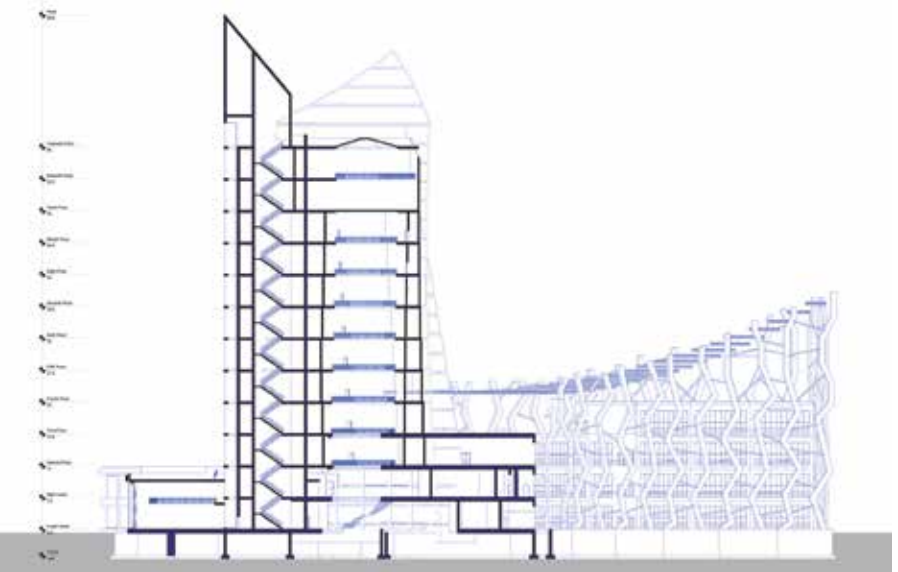
Vectorworks Architect BIM models can be exchanged with many other IFC 2x3 compatible applications, including the following:

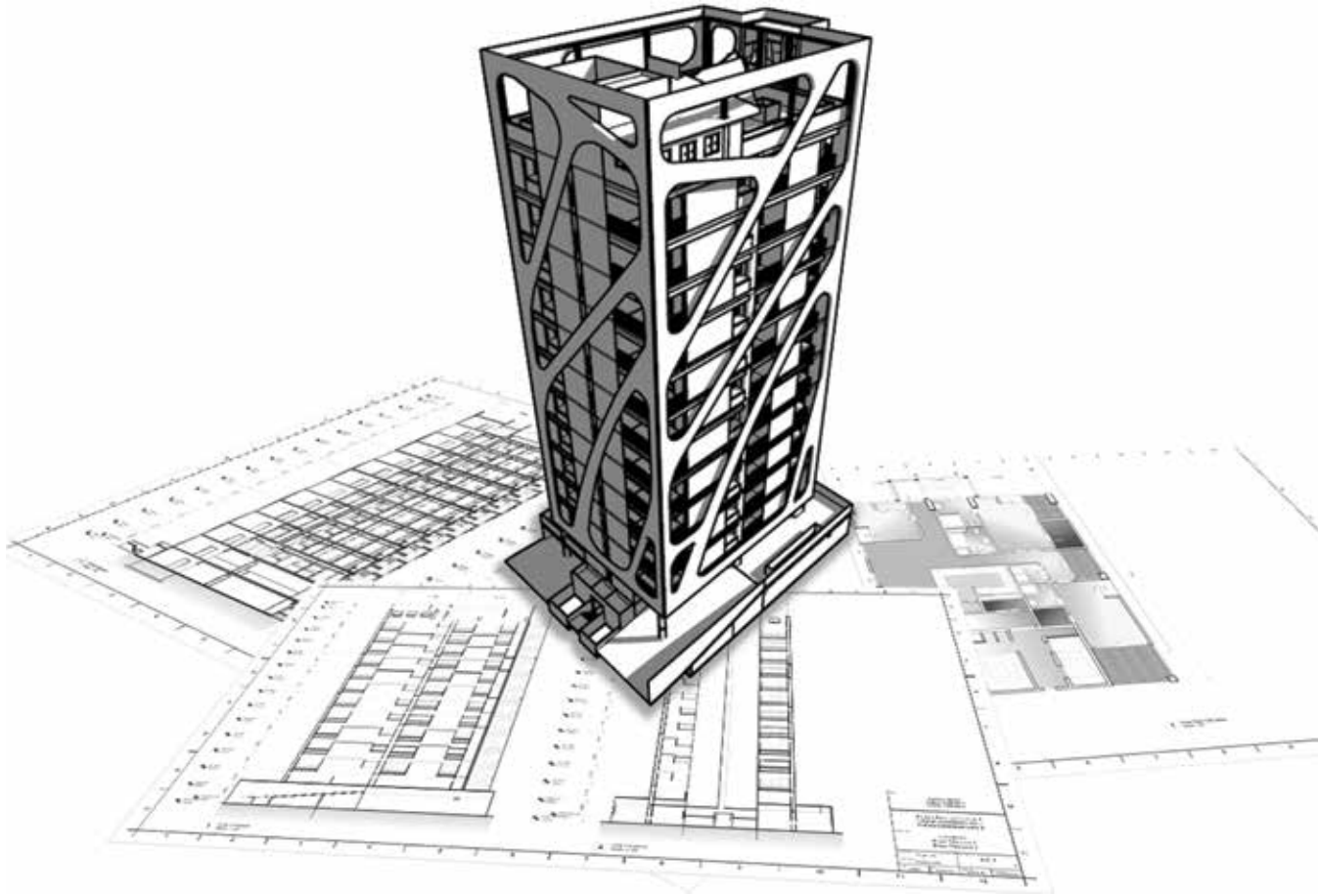
Building Services (MEP)
Data Design System® DDS-CAD MEP
Autodesk Revit
Autodesk AutoCAD MEP
Bentley AECOsim Building Designer
Progman MagiCAD®

Model Viewers
Solibri® Model Checker™
Autodesk Navisworks®
Tekla® BIMsight

Building Design
Autodesk® Revit®
Bentley® AECOsim Building Designer
Gehry Technologies Digital Project
Graphisoft® ArchiCAD
Autodesk® AutoCAD® Architecture

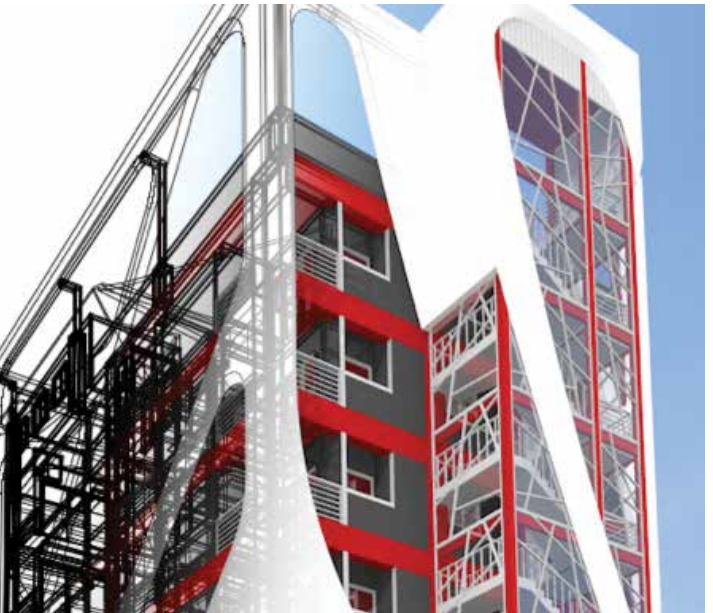
Structural
Nemetschek Scia Engineer
Tekla® Structures
Autodesk Revit
Bentley AECOsim Building Designer





Vectorworks Architect also integrates smoothly with other disciplinary applications, including Geographic Information Systems (GIS), civil engineering, and building performance simulation and analysis. Here are a few examples:

- Urban planning, landscape architecture, and GIS: Import and export SHP files or use the Vectorworks Landmark product with a VWX file exchange.
- Civil engineering for building sites: Import and export DXF/DWG or DWF files.
- Building performance simulation and analysis: Use IFC 2x3 or gbXML file export to Integrated Environmental Solutions' (IES) IESVE for Architects or IESVE for Engineers.



Get Built-in BIM Content

When you receive your Vectorworks Architect software, you'll discover a vast collection of architectural BIM content. The application supports a large variety of ready-made BIM objects that feature embedded IFC data to ensure competent export to open standards-based BIM applications, and they enable quick, accurate, and detailed architectural design. Choose from equipment, appliances, furniture and fixtures, HVAC, sanitary fixtures, steel structural shapes, concrete structural shapes, as well as space, wall, slab/floor, roof/roof face, column, framing member, curtain wall, door, window, stair, ramp, electrical objects, and many more. You'll see premium manufacturers like Sub-Zero, Wolf, AGA, Herman Miller, Knoll™, Marvin® Windows and Doors, Jeld-Wen® Windows and Doors, Loewen, and Kohler®.

And, if you want to create something that you don't see in our content libraries, it's easy to do with our full array of 2D and 3D free-form, parametric tools. Simply create a coordinated 2D/3D symbol with the Create Symbol command, and add IFC data to that symbol definition. You now have a building component. The resulting object is a resource that you can share and reference among an entire office. It's that easy.

Render in the Best Light

We've integrated the CINEMA 4D render engine into our state-of-the-art rendering application, Renderworks®, which works seamlessly with Vectorworks software. You'll enjoy world-class designs that beautifully integrate artistic and photorealistic effects. You can also perform animations like walkthroughs and orbital and solar simulations. Use it for advanced sky, area, and goniometric light sources that can be rendered or updated faster than conventional ray-tracer engines.

Courtesy of Stephan Mönninghoff, extragroup GmbH

Customize Your Work

The Vectorworks application features three customization APIs to create point-defined, line-defined, or area-defined parametric architectural objects, menu commands, and other tools. The first one is VectorScript™, the native, "lightweight" scripting language that manages many programming functions for the user and excels at rapid prototyping of features and office-standard issues. We also provide an interface for the non-programming user for generating prototype VectorScripts that can be changed easily. The second option is Python™, which extends the functionality of Vectorworks further into the operating system, the Internet, and other applications with compatible libraries and APIs. Finally, there is the C++ based API, offering more flexibility for building data structures, debugging tools, and maintaining operating system infrastructure.

Get Your Team Together

Vectorworks Architect supports distributed teams and work processes. With a flexible, file-based form of data referencing, a federated workflow with any number of files may be combined into a unified project file. Simultaneous editing is enabled by users on each of the files, with automated or manual updates of the other referenced files. The user establishes the updating protocol, and changes are updated on command. With a coordinated workflow, everyone moves forward together.

Courtesy of Lennin Mireles, LM Cad Estudios de Animacion

Courtesy of h4a Gessert + Randecker Architekten BDA

Operate Cross-Platform
The software runs on Windows XP SP3, Windows Vista SP2, Windows 7 SP1, Windows 8, and Mac OS X 10.7.5 and later.

Pricing and Licensing
We offer very competitive pricing and licensing options. You may purchase professional licenses on a per-seat basis. The licenses are flexible, easy to manage in a multiple-user format, and can also be managed on networks. We honor a discounted rate and network licensing options for schools. In addition, students can access free copies of Vectorworks software at student.myvectorworks.net.

Pricing varies by country, and some distributors provide added tools and functionality to the Vectorworks software in their native languages. Visit www.vectorworks.net/international for more information.

We're Here for You
Nemetschek Vectorworks' technical support team provides responsive quality service and support. We provide free technical support over the telephone or e-mail to any user with an active license for one of the two most recent versions. And, we constantly post high-quality, free support resources online to supplement an active community board and knowledgebase system. To see some examples, visit techboard.nemetschek.net and kbase.nemetschek.net.

Support offerings vary by country.
Visit www.vectorworks.net/international for more information.

From Sketch to BIM, Vectorworks Architect is the Answer
Vectorworks Architect enables BIM workflows, meaning you can collaborate, analyze, and document while maintaining creative freedom. The program keeps its continued focus on design, and BIM provides added efficiencies, accuracy, and the ability to work fluidly with upstream or downstream colleagues. With Vectorworks Architect, you'll enjoy limitless design backed by cutting-edge technology.

Courtesy of Modo Forma

Courtesy of Modo Forma

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