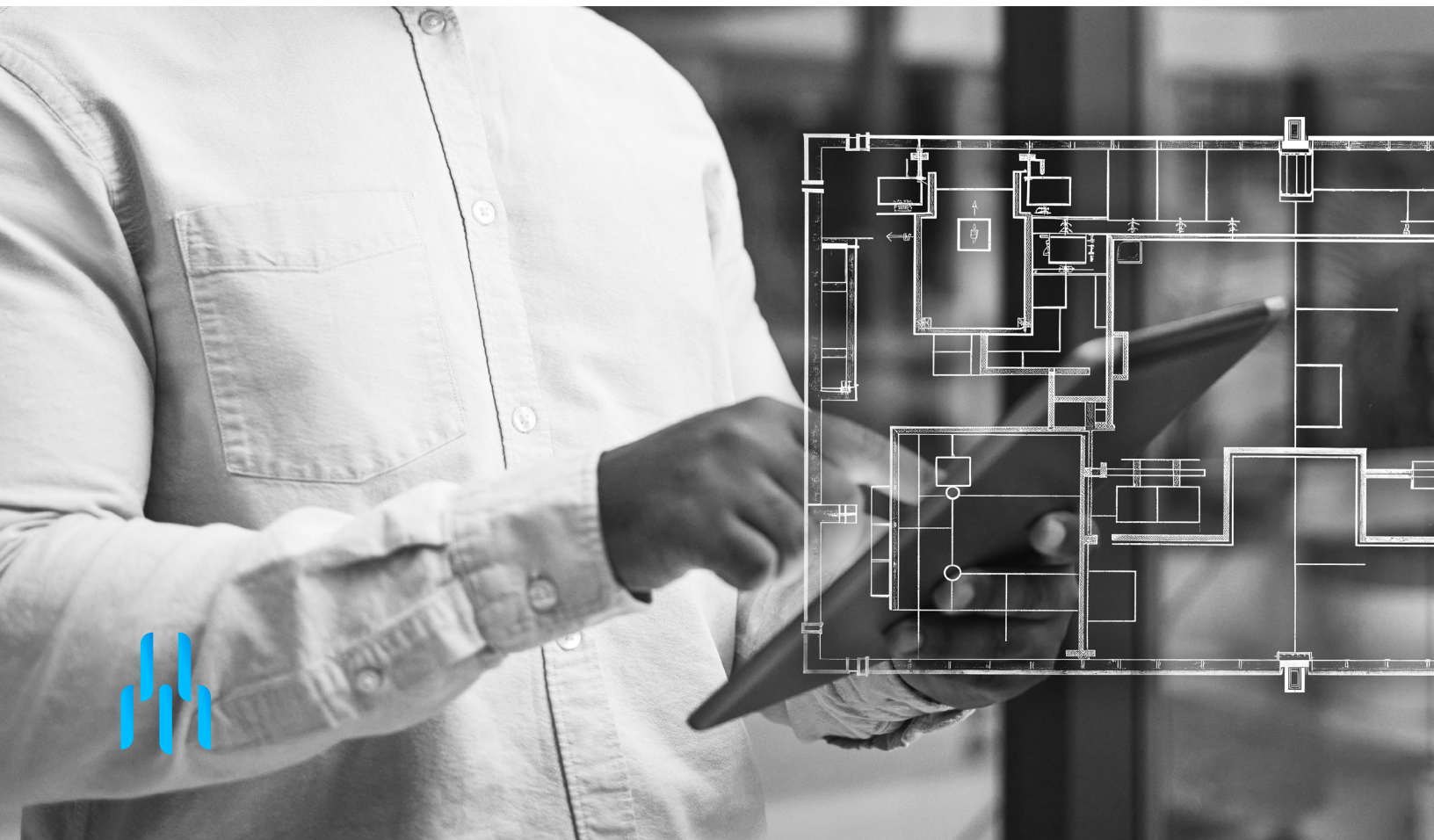

Digital Twins: Harnessing the Power of Spatial Visualization & Data



How Yardi Floorplan Manager provides new insights for projects, operations and leasing

Real estate investors, asset managers and others who have deployed proptech have achieved monumental efficiencies by automating what were once laborious manual data entry and reporting processes. Among other benefits, proptech tools help optimize energy consumption and improve communication between owners and tenants. Yet for all this progress, one solution has remained elusive: a digital twin, an accurate three-dimensional model of a building's measurements and equipment, from its exterior to its wiring schematics and everything in between.

But that gap, too, is closing. Yardi has rolled out [Floorplan Manager](#), a visualization solution that allows commercial property owners to layer in myriad data and key performance indicators across floor plans. The visualization encompasses the locations of work orders and construction projects, occupants, rental rates, common-area maintenance charges and hundredth of an inch space measurements. The tool also allows landlords to combine and reconfigure space virtually to assess the potential for leasing, marketing and other opportunities.

In addition to providing this valuable cutting-edge functionality, Floorplan Manager establishes a critical foundation for the development of a bona fide digital twin solution for entire buildings, noted Rob Teel, who oversees direction and development of Yardi's commercial product lines as president of global solutions. "There has been a lot of talk in the commercial real estate industry about digital twins and all the advantages that they would bring to a property owner," he said. "But having the ability to completely understand the KPIs of a floor plan is the first and most important step toward embarking on creating a full 3D digital twin."

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— Rob Teel, Global Solutions, Yardi

Roadblocks to efficiency

For years, the inability to visualize floor plans with a robust integration of data has curtailed the ability of owners, asset managers and others to analyze how potential space configurations impact NOI and the distribution of CAM charges. It also prevents those stakeholders from easily tailoring space design and leasing scenarios for potential tenants. In many cases, these processes depend on the manipulation of computer-aided design and AutoCAD files or similar programs, which requires a high level of expertise.

“CAD files provide a significant number of use-case scenarios for commercial real estate companies, but they are cluttered and difficult to work with,” said David Franklin, an industry principal with Yardi who focuses on next-generation tools. “At its core, Floorplan Manager is about seamlessly organizing, managing, editing, updating and maintaining CAD files.”

Floorplan Manager brings efficiencies to other areas, as well. Today, constructing a picture of how rental rates or lease expirations are distributed across a property or portfolio requires generating reports and then transferring that information to what are often paper-based floor plans. Simply running those reports is itself time-consuming. Producing a lease expiration report for a 20 million-square-foot shopping center portfolio generally takes a person one full week of work each month, noted Sebastian Drake, a senior manager at Yardi.

“Anyone can generate property data by running reports in Excel, but it doesn’t put the information in the context of your actual property,” Drake stated. “Floorplan Manager automates those reports and allows people to efficiently and easily drill down into their assets to see every piece of relevant information in real time.”

Similarly, Floorplan Manager can identify sales per square foot across shopping centers. Owners can then leverage that information for design or planning to improve footfall in certain areas. As with lease expirations, spreadsheets don’t provide that type of visualization, Drake added.



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Rebuilt for integration

The seeds of Floorplan Manager were planted in late 2022, when Yardi acquired Planimetron, a three-decade-old software company focused on visual decision solutions for the commercial real estate industry. Yardi rebuilt Propidex, the company's proprietary space management platform, and rebranded it as Floorplan Manager. Officially released in 2024, Floorplan Manager joins a set of asset management solutions that includes [Deal Manager](#), [Facility Manager](#) and [Construction Manager](#).

"One of the consistent themes we've heard from Planimetron customers — which are some of the largest office and retail property owners in the world — was how important visualization was to asset management teams," said company Vice President Kevin Yardi. "They also helped us discover how we could use the software to solve critical business functions. The use cases have just exploded."

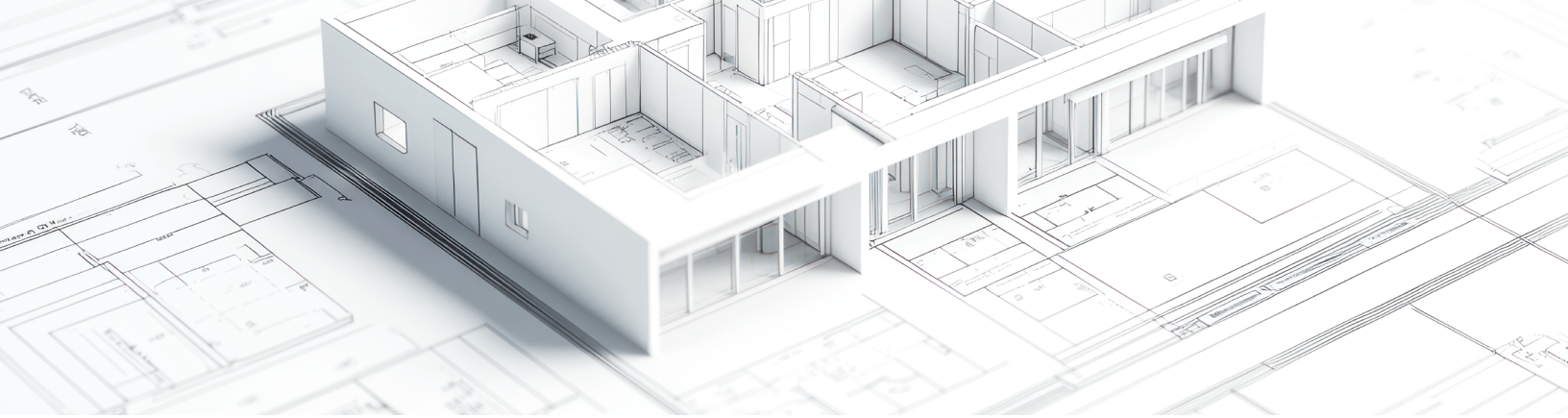
Those use cases emerged in discussions with legacy Propidex clients who expressed a desire to combine information from their Yardi solutions into the Propidex platform. As a result of that feedback, Yardi began developing ways it could integrate Floorplan Manager with its other tools.



That integration is likely to reduce an owner or asset manager's workload by as much as 50 percent, added Drake, who is also Planimetron's former general manager. Floorplan Manager is seeing steady interest from owners of office, retail and industrial assets

and Yardi plans to roll out a version for multifamily properties.

Floorplan Manager offers a wide assortment of potential use cases in conjunction with other Yardi solutions. Some examples follow.



Marketing and deal enhancement

Syncing the automated communication, marketing and listing capabilities of Yardi's [CommercialEdge Marketing](#) product with Floorplan Manager will enable leasing teams to more quickly prepare speculative configurations for publication on [CommercialSearch](#), [CommercialCafe](#), [PropertyShark](#) and other listing services in the CommercialEdge network. The process now typically requires leasing agents to seek an architect's help in creating a new PDF drawing each time they want to update potential space changes.

"There is a lot of friction in the process of creating a digestible CAD file to give potential tenants a detailed visual of a space," Yardi pointed out. Expanding a trend that began in the apartment sector, prospective retail and office lessees are showing a preference for 3D virtual tours to help narrow candidates. That helps them better visualize configurations, furniture and fixture layouts, paint colors and other interior elements.

As listings and virtual tours generate interest from tenants, Deal Manager allows leasing teams and other professionals to centralize communication and track space availability, proposals, deal terms and other information. The integration of Deal Manager with Floorplan Manager will allow leasing teams to plot deal pipelines across available units in real time, as well as the details of each proposal and negotiation.

In cases where deals include the possibility of changing the size of a space, owners' representatives can use Floorplan Manager to adjust square footage and recalculate terms without enlisting an architect or designer. And because different scenarios are saved and stored in digital formats, referring to the most up-to-date version — or even a past configuration that is receiving renewed interest — is a simple matter of identifying the right file, as opposed to rifling through a confusing collection of paper copies. What's more, all relevant team members and departments have access to the latest real-time information throughout the marketing and leasing process.

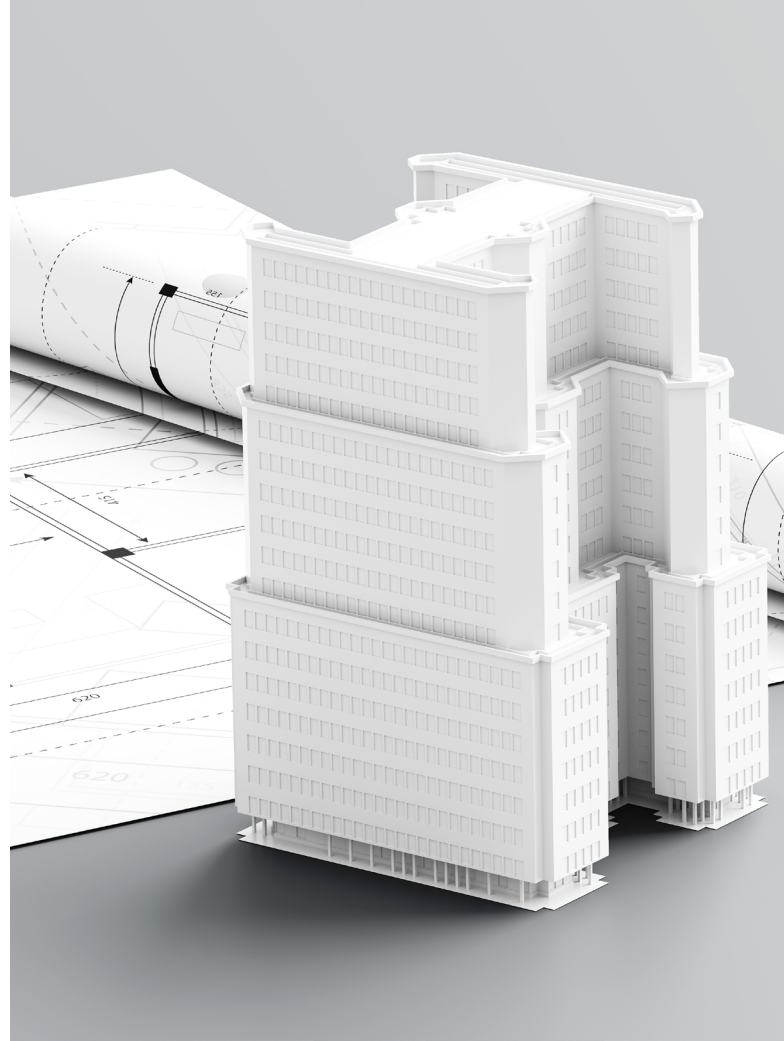
Maintenance efficiencies

The ability to share current, accurate drawings that provide consistent information to property management and facility management teams is also important. Facility Manager allows property managers to assign and schedule repairs, inspections and routine maintenance, calculate purchase orders and other charges and track the progress of assignments. Integrating Facility Manager's functions with Floorplan Manager can help streamline maintenance operations and reduce uncertainty.

Floorplan Manager enables owners to map the placement of every piece of equipment found in a building: HVAC units, electrical boxes, water meters, sprinkler heads, lights and more. Those items are typically laid out in different layers of CAD or blueprint drawings, which can be difficult to decipher. It's not unusual for facility managers to keep that information in their heads or on years-old paper maps cluttered with notations. When a facility manager leaves, locating a piece of equipment to complete a work order can be difficult for the next manager.

Floorplan Manager can also provide maintenance technicians with more precise directions, Franklin said. Finding a water leak in a unit quickly can depend on the detail included in the work order, but being able to drop a pin on its exact location can eliminate uncertainty. The same holds true for light bulbs, HVAC equipment or other fixtures that are hidden in ceilings or behind walls.

Other benefits to integrating the two solutions include the creation of heat maps that can identify an unusual amount of maintenance activity that points to a deeper issue, such as an electrical surge causing frequent lighting outages, Teel said. Additionally, property managers can use Floorplan Manager to enhance visualization of scheduled maintenance, equipment age and repair history.



Financial insights

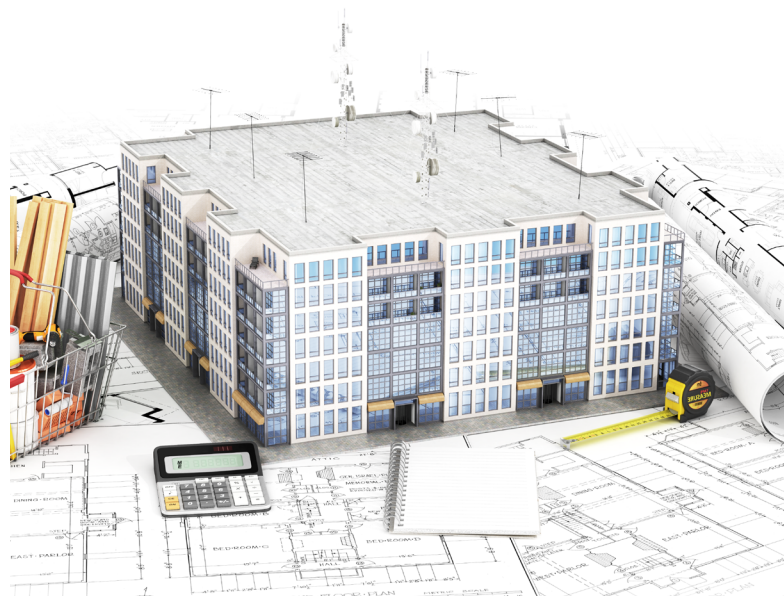
When paired with information from [Forecast Manager](#), Yardi's budgeting solution, Floorplan Manager can assist decision-making by helping owners and asset managers better visualize revenue sources, capital expenditures and operating expenses. It can more accurately parcel out CAM charges in complex assets, such as multi-tenant office buildings that have mechanical rooms, bike rooms, amenity areas and gyms. Calculating CAM charges in these assets can be expensive and become stale as floor plans change, Drake said. But Floorplan Manager simplifies the process because the Building Owners and Managers Association (BOMA) International's CAM measurement and calculation standards are embedded in its design.

Additional use cases include visualizing how a property has changed physically over time and the effect on NOI and budgets. "Floorplan Manager allows commercial real estate professionals to calculate and speculate," Teel said. "The ability to calculate accurate square footage when dividing space is very important." When a tenant with a large space, such as a big-box store, decides not to renew its lease, landlords can forecast how reconfiguring the space into two, three or four separate units would affect future revenues.

Smarter planning

Those calculations and speculations can be used to provide architects with design specs before they start their blueprints, then can be tapped for easy reference. Those are some benefits of integrating Floorplan Manager with Construction Manager, Yardi's solution for contract and risk management in capital and tenant improvement projects.

Another advantage is the ability to easily turn different layers of information on and off in Floorplan Manager when tracking the construction process. Integrating Construction Manager and Floorplan Manager is also useful for identifying opportunities to coordinate a tenant improvement project with an upgrade to plumbing, wiring or other infrastructure that has been inconvenient to execute, Drake said.



SCRATCHING THE SURFACE

The features highlighted here represent only a sampling of the use cases that are possible with Floorplan Manager. In addition to a version tailored to multifamily properties, future enhancements will include integrating mobile location data to improve analysis of footfall and revenue in retail properties. Incorporating AI to supercharge query responses and provide how-to advice on using the tool is also planned, as is the continued development of a true digital twin solution.

While Floorplan Manager and its potential to advance 3D visualization of properties is an example of how proptech is advancing operational efficiency, some owners have yet to recognize the value of cutting-edge technology. But those who embrace such solutions, and the potential offered by integration with other tools, will provide a strong competitive edge in the years to come.

If you're ready to see Floorplan Manager in action,
reach out to request a personalized demo.

yardi.com/floorplanmanager | sales@yardi.com or (800) 866-1144

