

Case Study: Brandt – Southland Expands Business by Embracing New Construction Technology



[Brandt](#) is the largest mechanical, electrical, and plumbing (MEP) contractor in Texas with capabilities covering design, construction, commissioning, and service. Their success is a result of their dedication to serving their customers with highly collaborative delivery approaches. These attributes are what attracted [Southland Industries](#) to acquire Brandt in 2022, opening the door to the expansion of their services nationwide.

With a business legacy spanning over 70 years, Brandt has remained agile by continually embracing new technologies, and their expansion to a nationwide business raises the importance of their goals to shorten design timelines and increase productivity. As part of their proactive approach, Brandt is using CupixWorks, Cupix's 3D spatial digital twin platform, for all stages of their operations.

This case study delves into the specifics of Brandt's approach, which revolves around accurate estimation, seamless visualization, superior project execution, and innovative services.

Business Development

Brandt's unique value proposition lies in the effective use of cutting-edge technology to optimize workflows, accelerate processes, and create a competitive edge.

- **Accurate Estimation**

Brandt's business development strategy relies heavily on refurbishing existing facilities or implementing new installations. Central to this strategy is the role of the estimators, who work meticulously to provide accurate quotes for projects. This team interacts closely with the business development personnel to ascertain the specifics of each project.

In this digital age, Brandt does not limit its estimators to viewing architectural or engineering plans. Instead, they leverage 3D measurable documentation and visualization technology, shared with the entire estimating team, to provide more accurate and detailed insights. This advanced tech allows the team to estimate the project costs with a higher degree of confidence.

- **Seamless Visualization**

Brandt employs CupixWorks 3D spatial digital twins to document the sites, which are then viewed by the estimators. This not only saves time for the estimators, who no longer have to physically visit the site, but also allows the company to take on more projects simultaneously.

The utilization of 3D technology also helps identify potential safety hazards or issues which may cause project delays. The estimators, using the scans, can highlight these problems well in advance, preventing underestimation of the project scope and resources.

The scans further allow Brandt to make a detailed record of every feature of the project, facilitating an in-depth retrospective analysis if something is missed during the initial inspection. These records can include detailed notes that are attached to certain areas, like electrical panels, which makes it easier to determine the scope of work for each contractor.

- **Sales and Marketing Differentiator**

While the use of Cupix significantly streamlines internal processes, it also provides a crucial selling point to potential customers. The company's ability to offer clear, visual progress updates sets it apart from its competitors and provides a tangible value-add for customers. This unique offering not only justifies Brandt's price point but also serves to win over new business — a key objective for the company.



“[CupixWorks] allows me to do a scan in 15 minutes, send it to estimating and they don't have to leave their office. I can just send them a view of what the project is, and they can do their takeoffs and estimates.”

Hunter Malatek

Business Development Manager, The Brandt Companies

Engineering and Design

Brandt is noted for its in-house design-build capabilities, and the company's project focus varies by location from service-based projects involving existing buildings to new construction.

One of the primary benefits of Cupix lies in its facilitation of preconstruction activities. The technology reduces site visits, which helps streamline field investigations that are crucial to site visibility. This increased site visibility, in turn, enables more efficient data gathering and collaboration among team members.

Furthermore, Cupix has provided the capability to adapt to changing client requirements quickly. By having a comprehensive set of site data, the Brandt team can adjust to variations in client demands without necessitating additional site visits – an operation that previously took additional pre-construction labor and time.

- **Engineering Project Oversight**

On-site conditions are captured with 360 video walks weekly to track the progress of the project early, and then responsibilities are transferred to the operation team. The engineering and operations teams look for different things during progress capture. The engineering side focuses on the size and quality of pipes, ducts, connections, and air and fluid flows, while the operations team concentrates on the schedule.

- **Accuracy of Data**

Engineers consider the Cupix 360 video generated point cloud sufficient for most of their work, providing about 98% accuracy over the space. For more detailed and accurate measurements, they use a laser scanner, which is labor-intensive and requires more training but gives a higher degree of accuracy.

- **Use of Multiple Technologies**

The team uses a combination of technologies for different needs. The photo point cloud is used for daily or weekly status updates, while the laser scanner is used at the beginning and end of the project for more accurate quality control. CupixWorks' ability to manage all of the data makes sharing data with all stakeholders easier.



“We used to have to spend 3 hours getting a full field report out the door weekly to communicate progress, but now we are able to rely on a 20 minute walk that can be done by a less experienced partner. So that's tangible savings!”

Breanne Hanson
Senior Engineer,
The Brandt Companies



BIM VDC

Brandt has shifted its strategy to a direct engagement model with owners, thereby saving time and resources. This approach has proven to be highly beneficial, enabling Brandt to focus more on the design-build aspect of the business. The firm aims to work directly with owners whenever possible, believing this strategy facilitates more efficient project execution.

Brandt's journey towards technological advancements took a significant leap when it embraced the Cupix platform for project management. This shift was driven by Cupix's attention to product development and openness to input from Brandt. This enabled Brandt to leverage technology in existing building projects, an untapped market the firm was eager to explore.

While Brandt had already made considerable investments in engineering and Virtual Design and Construction (VDC) technology, these were primarily used in new construction projects. Cupix's solutions provided an opportunity to expand their technology use to existing building projects, providing more value to their clients and increasing their competitive edge.

By embracing a more direct engagement model with project owners and adopting advanced technological tools like Cupix, Brandt Construction has managed to stay at the forefront of the construction industry.



- **BIM Project Challenges**

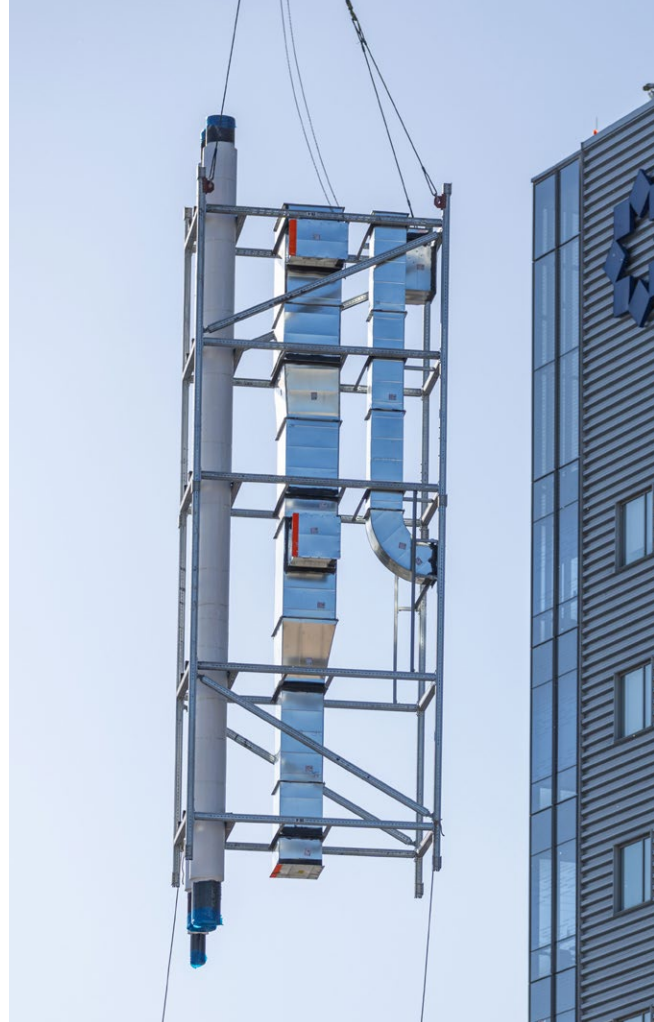
Brandt's regional operations differ with a mix of as-built and new construction, primarily because of the unique work opportunities available in each region. They adopted the use of a 360 video capture walk to create a 3D dollhouse model. With this new workflow, they were able to streamline their operations by creating schematic floor plans and BIM from the 3D dollhouse, which provided significant cost and time savings.

- **Benefits of Integrating Laser Scanning with Cupix**

The integration of laser scans with 360 video capture scans in Cupix provides a reliable starting point for data collection, which can be further refined and contribute to higher accuracy levels from all project data.

- **Applications of Cupix in Project Meetings**

In project meetings, Brandt relies on Cupix to present updates to general contractors and building owners. These status calls reassure contractors and owners that their investment is diligently managed and enables all stakeholders to understand the project status and discuss issues with complete transparency.



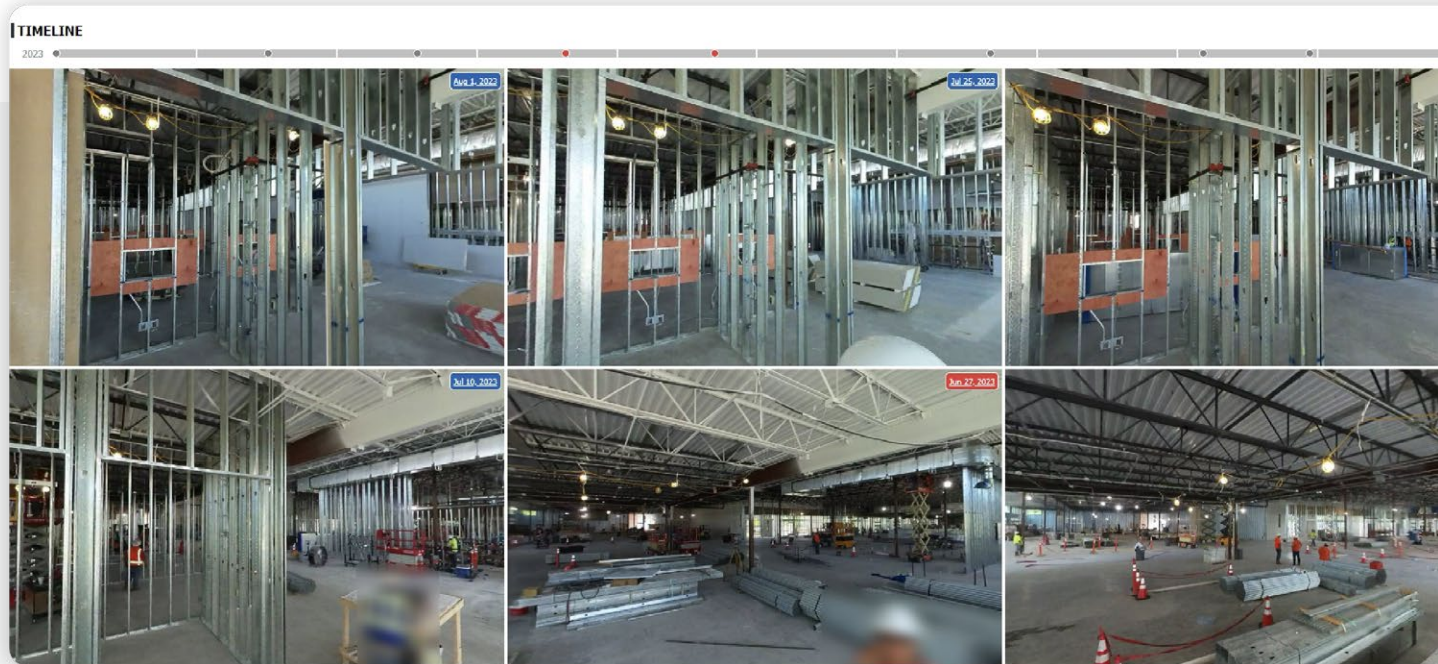
“Cupix stepped up and delivered time and time again, and we are very happy with our decision to move forward with Cupix. Being able to visually justify what's been installed for us to charge out - that's a game changer for us!”

John Trammell
Director of VDC Technologies,
The Brandt Companies

Project Management

Brandt's project management team bridges the gap between the operations and field teams, ensuring smooth project execution and maintaining high-quality standards for their customers.

In an effort to address project management challenges, Brandt employed Cupix to the construction process. Cupix allowed Brandt to create detailed virtual walkthroughs of the job site, capturing every stage of the construction process, from underground work to multiple stories above ground. By using Cupix, Brandt was able to enhance efficiency, streamline documentation, and improve quality assurance.

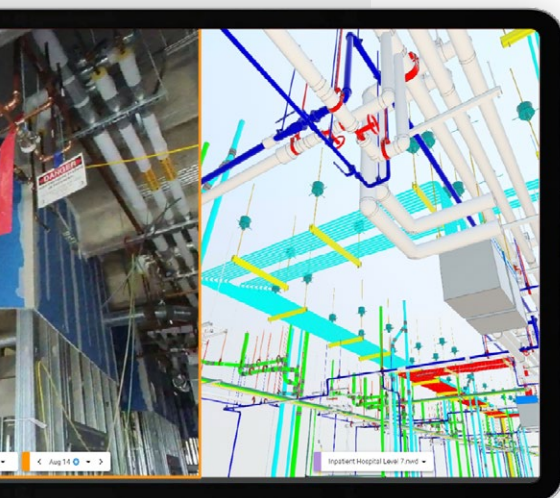


● Enhanced Quality Assurance

The ability to capture, share, and reference detailed 3D virtual tours allowed Brandt to maintain high standards in their projects and efficiently collaborate with stakeholders.

Brandt conducts regular site walks with an off-the-shelf 360 camera. Depending on the project's phase and activity level, they perform these walks once or twice a week. During site walks, they focus on capturing all the work completed, including underground installations, which are later covered with concrete. The ability to document these hidden installations was particularly crucial for Brandt's quality assurance and future reference in case any issues arose.

By capturing each installation stage, Brandt could protect themselves from potential blame for future problems. Cupix provided a detailed visual record of the installations, ensuring that they were carried out correctly and to the required specifications.



- **Improved Issue Management**

CupixWorks was used to document potential challenges on-site. By capturing and storing this information, Brandt could effectively address issues that might arise during or after construction.

- **Efficient Communication**

Sharing Cupix virtual tours with various stakeholders, including the field team, operations, and Southland's management, facilitated better communication and understanding of the project's progress and challenges.

- **Time and Cost Savings**

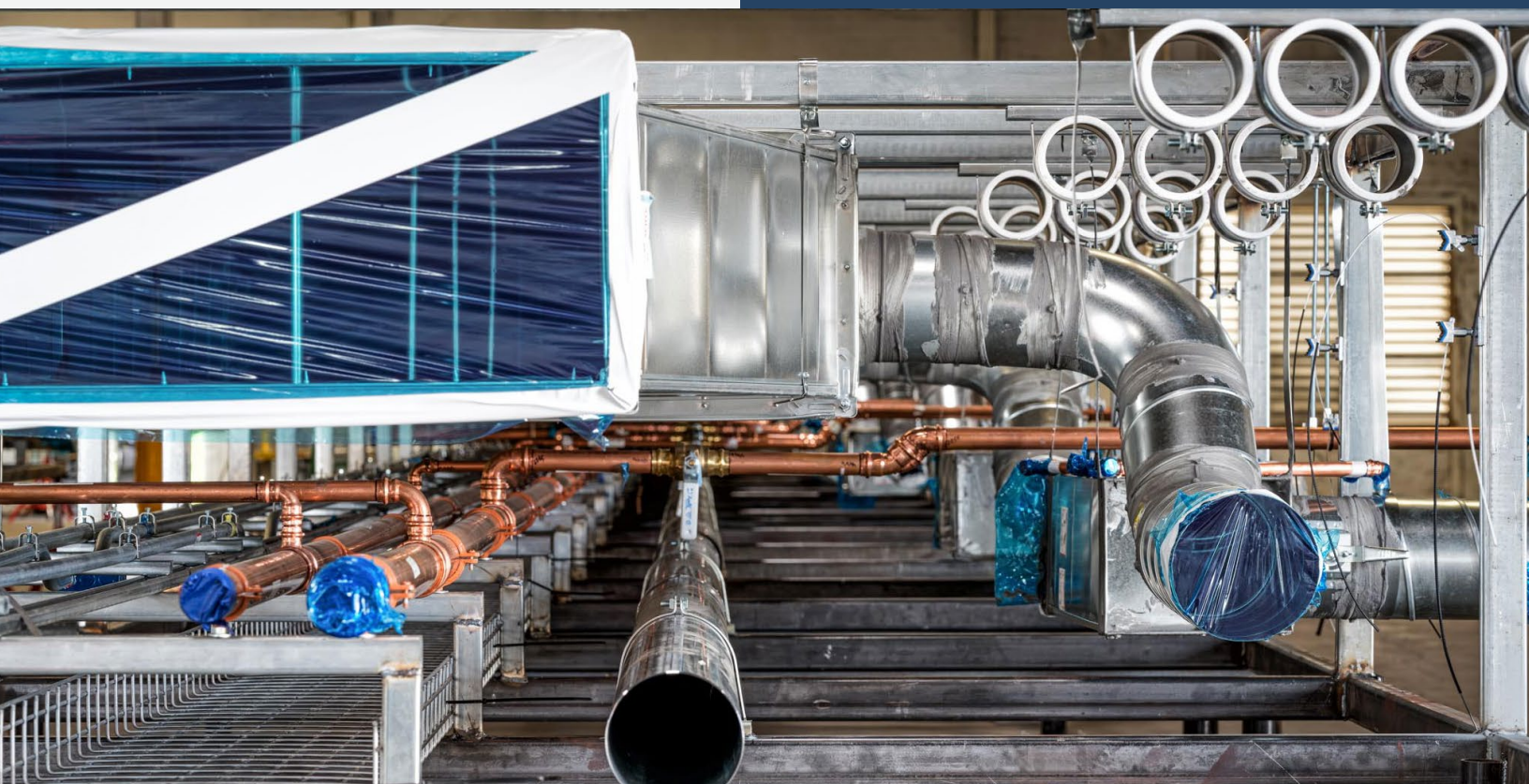
Cupix helped reduce the need for physical site visits, saving time and travel expenses. Moreover, it contributed to quicker decision-making and issue resolution, leading to potential cost savings.

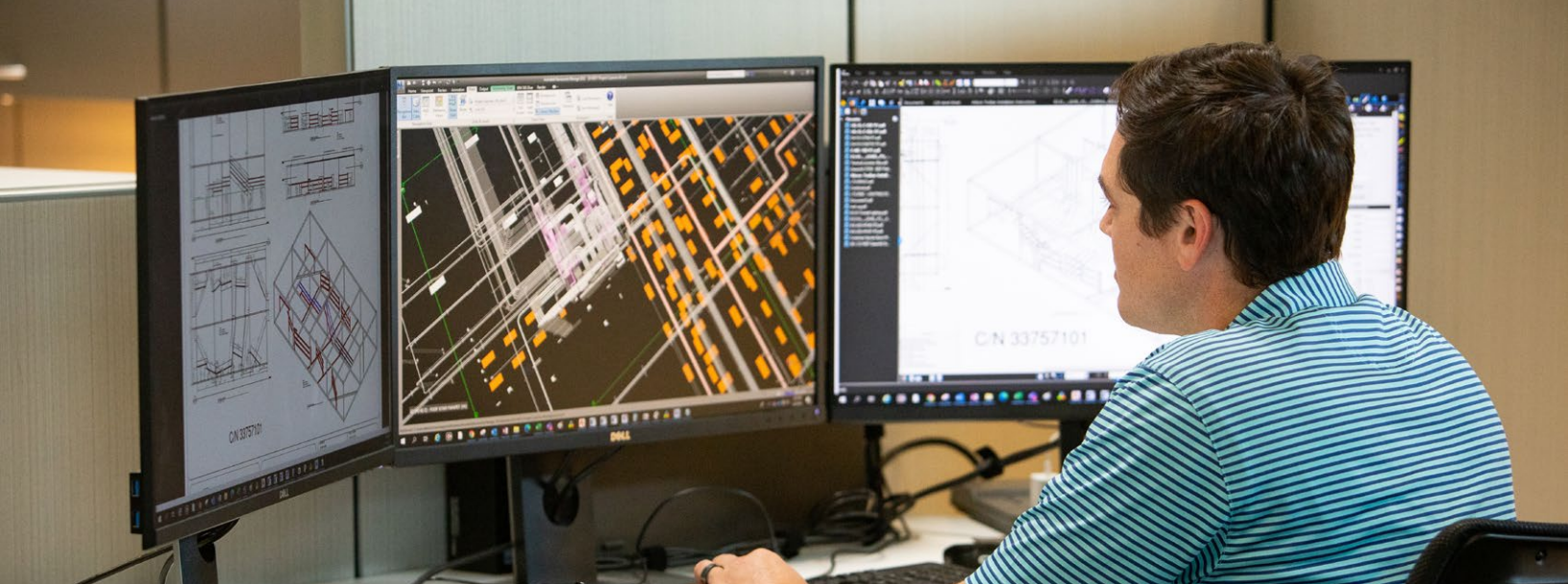
With Cupix's support, Brandt can confidently execute their commercial construction projects with greater efficiency and accuracy.

"[CupixWorks allows us to go] up into the ceiling area [and look] through some high sleeves that were located high in the walls that were knocked out of place or were damaged when the concrete was poured. Some of the install was a few feet underground, so we had to stick the camera there as well. [It's been very useful to be able to look] where they're laying the cables [and see] where our sleeves and inserts are."

Erin Easley

Assistant Project Manager,
The Brandt Companies





Maintenance, Retrofit, Repairs

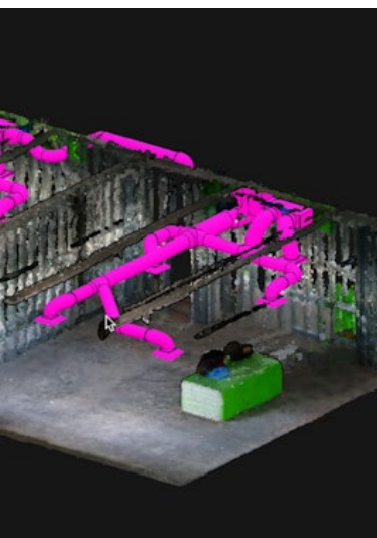
Brandt is revolutionizing the way maintenance is done using Cupix technology, and one example of this is in their steam application services. By integrating Cupix into their processes, Brandt yielded more efficient operations, more accurate estimates, and cost savings through reduced travel.

One of Brandt's main objectives was to efficiently understand the infrastructure of old steam systems that they often have to deal with, given that most of these systems lack modern drawings or models. Traditional methods would require an engineer to visit the site multiple times, which could be time-consuming and costly. Their adoption of Cupix technology reflects a commitment to innovation, efficiency, and customer value.

● Implementation

For these challenging projects, Brandt uses Cupix, allowing them to create and share 3D models from photos taken by 360-degree cameras. Additionally, Brandt uses Cupix technology to create 3D dollhouse models of project sites, which provides a detailed and accurate representation of site conditions.

Brandt's Austin office uses Cupix to document various parts of their steam application projects, starting from capturing the initial conditions and documenting construction progress to finally capturing its finished state. This comprehensive approach of using 3D technology helps to ensure that everyone involved in the project has an accurate understanding of the site and project progress.



“With the dollhouse scans, I wouldn't have to go to Houston or San Antonio or Dallas. We could have somebody go and scan it, and then I could just review the scans and come up with recommendations or designs.”

Robert Crone
Steam Applications Specialist, The Brandt Companies

The Results

The ability to create a 3D model of a site gives Brandt's estimating team a reliable reference for job walks, which helps them create more accurate estimates. Cupix's solutions have also been a useful sales tool, as the 3D scans provide added value to customers, showing them a detailed overview of their property and how Brandt intends to work on it.

Cupix's 3D models have also proven to be an effective solution for handling old and outdated records. Instead of spending time searching for old drawings, the team at Brandt found it more efficient to use Cupix to create new, accurate 3D models.

In addition, Brandt leverages the remote capabilities of the technology, using 3D scans to allow experts to analyze and provide recommendations for sites without needing to visit in person. This approach saves significant time and travel costs.

Brandt's use of Cupix technology has brought significant improvements in their construction processes, from the accuracy of estimates to the efficiency of site visits, and has the potential to bring further benefits in the future.

Payoff

By adopting CupixWorks, Brandt has benefited from:

- More Accurate Estimations
- Engineering Project Oversight
- Efficient Preconstruction
- Reduced Travel Costs
- Improved Project Management
- Optimization of Workflow
- Efficient Visualization
- Integration of Multiple Technologies
- BIM VDC on Existing Building Projects
- Marketing Differentiation