Case Study

“Thanks to the high efficiency and agility of Vantiq, after we completed the planning and design of the entire system, we were able to rapidly implement and deploy in stages.”

Frank Ran | CIO/Co-founder

Quick Facts

- Reduced facility management and operations costs
- Increased safety and security of building and occupants
- 3D digital twin modeling capabilities
- Flexible solution for any building based on customer needs
- Increased situational awareness

bimernet

With Vantiq, Bimernet was able to quickly adapt their tool to allow for the creation of smart building solutions with fully animated 3D BIMs depicting the real-time behavior of the building, its occupants, environmental conditions, and more.

THE CHALLENGE

In recent years, with the rapid development of cloud computing, big data, artificial intelligence, and the Internet of Things, smart buildings are becoming an important driving force for the transformation of the construction and building management industries. Whether it is a new building or a renovation, the market noise and need for smart building technology is massive.

Although the development potential of smart buildings is virtually unlimited, the penetration rate of smart building technology is still relatively low. Some experts think this may be due to the complex orchestration required between the various systems of a smart building, the huge amount of streaming data generated, insufficient developer experience, and having to take many different systems into consideration, such as plumbing, electromechanical, heating, etc. All of

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this combined makes implementing a functioning, real-time smart building extremely complicated and time-consuming.

Bimernet, a high-tech Company in Shenzhen, China, provides professional BIM consulting services in the AEC (Architecture, Engineering, and Construction) industry realized the enormous potential and pain points for the smart building industry, and began looking for a way to easily orchestrate all smart building systems.

THE SOLUTION

With Vantiq’s real-time event-driven application development platform, Bimernet is able to bring their BIM solution to life by combining real-time applications and digital twin technology, to better plan, design, construct, operate, and maintain buildings. The Vantiq Platform is uniquely qualified for this project because it enabled Bimernet to develop its system in record time with the following attributes:

True 3D Modeling Brings Buildings to Life

In the past, Bimernet created static models to design and develop buildings. But now, by integrating Vantiq into their BIM solution, Bimernet can create next-generation fully explorable 3D models of any building. This new, more powerful model can track objects that are moving in space and time within the building, such as people, building assets, energy flow, etc, and combine that with digital twin technologies to provide the most complete picture possible of building operations.

Real-Time Technology to Assist Building Management

Building management teams are often plagued by having to use too many different systems in order to ensure the safety and security of occupants and the building itself. By using Vantiq to incorporate real-time technology into their BIMs, Bimernet is now able to offer one complete solution to design, develop, deploy, and maintain smart buildings. Operators and occupants are now able to more efficiently interact with building systems and move throughout the space.

Easy App Integration Solves Industry Pain Point

One of the hardest things for pioneers in the smart building industry has been realizing that the work doesn’t stop once you implement the initial system, when in fact, it has only just begun. As if it wasn’t hard enough to integrate all of the disparate systems (security, heating/HVAC, maintenance, etc.) in a smart building when a new technology comes out or additions have to be made it often means going back to the drawing board. By incorporating Vantiq’s low-code development tools and readily available enterprise connectors into their BIM product, Bimernet is now able to provide its customers peace of mind.
"Vantiq enabled us to easily integrate different devices and systems while monitoring the data in a holistic view."

Frank Ran | CIO/Co-founder

THE RESULT

**Reduced Building Management and Operation Costs**
By collecting streaming data from traffic flow, temperature, humidity, lighting, etc., and performing real-time analysis on it, many optimizations in processes can be found. Being able to then easily implement these optimizations to the different building systems drastically reduces costs associated with both running the building and the amount of staff needed to carry out various functions.

**Enhanced Building Security and User Experience**
Bimernet is now able to provide its customers with the tools necessary to easily monitor all building assets and occupants taking advantage of the benefits edge computing provides. Quality of life upgrades for occupants are also able to be quickly added such as integrated reservation systems, touchless access control, QR code registration, and more.

**Increased Situational Awareness**
Probably the most impactful result of incorporating real-time technology into their BIM solution is the massive increase in situational awareness now available to Bimernet's clients. Instead of building static 3D models of buildings, clients are now able to incorporate live streaming data directly into the BIM, allowing construction companies and building managers to better design, develop, and deploy smart buildings.