

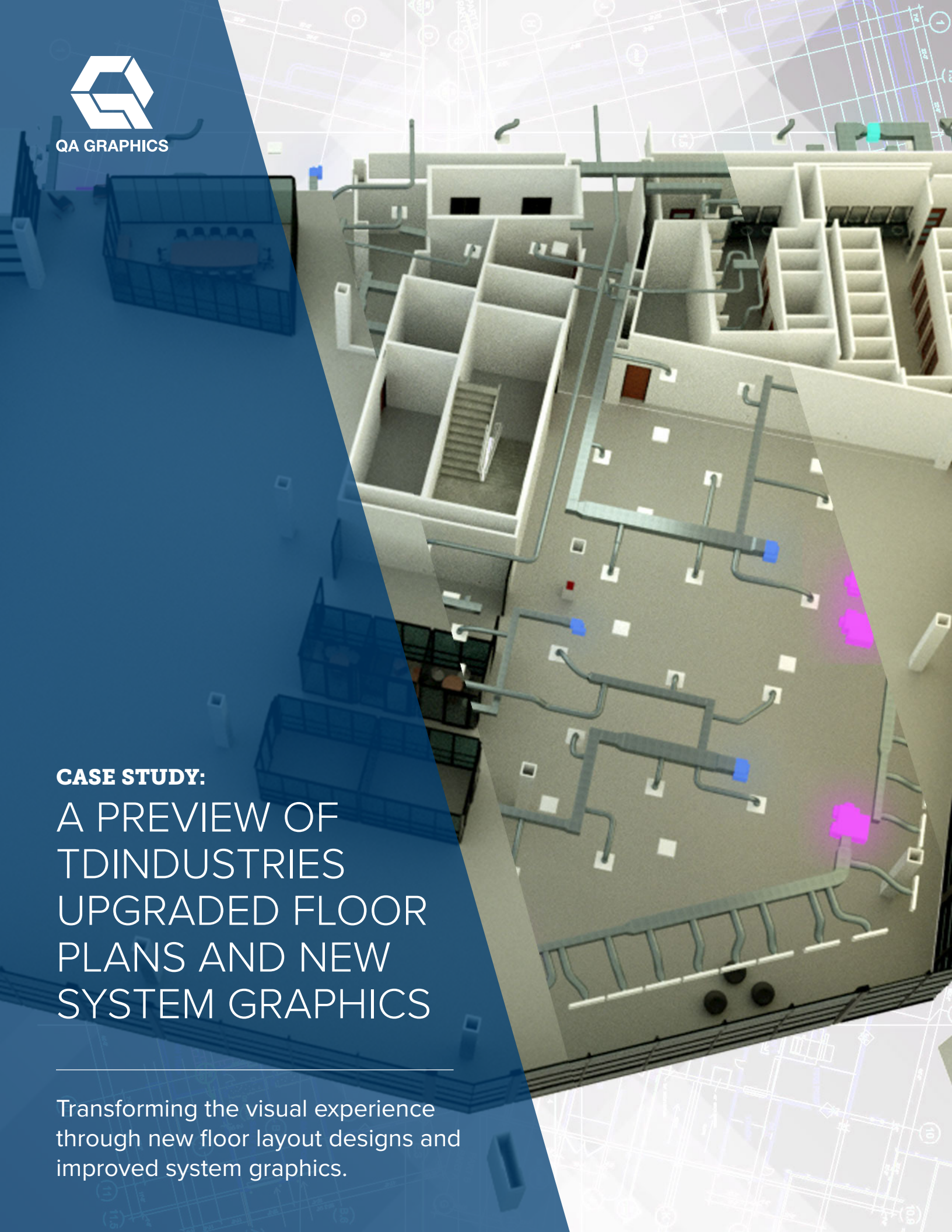


QA GRAPHICS

CASE STUDY:

A PREVIEW OF
TDINDUSTRIES
UPGRADED FLOOR
PLANS AND NEW
SYSTEM GRAPHICS

Transforming the visual experience
through new floor layout designs and
improved system graphics.



Executive Summary

This report was commissioned to study how QA Graphics worked with TDIndustries to boost the look and feel of their graphics for floor plans.

TD worked with QA Graphics to upgrade their floor plans and system graphics to a higher level that the industry demanded.

By working on their application with QA Graphics, TD gained:

- Floor plans with an updated feel and layers of detail that was needed
- Highly detailed system graphics that depicts the equipment needed
- Savings in time and money

About TDIndustries

Established in 1946 in downtown Dallas, TDIndustries delivers a comprehensive approach to Facility Services and Mechanical Construction.

For 70 years, TDIndustries has delivered innovative design and high performance of world-class engineered systems which serve healthcare facilities, hotels, schools, mission critical, and industrial complexes.

Developing into one of America's premier mechanical

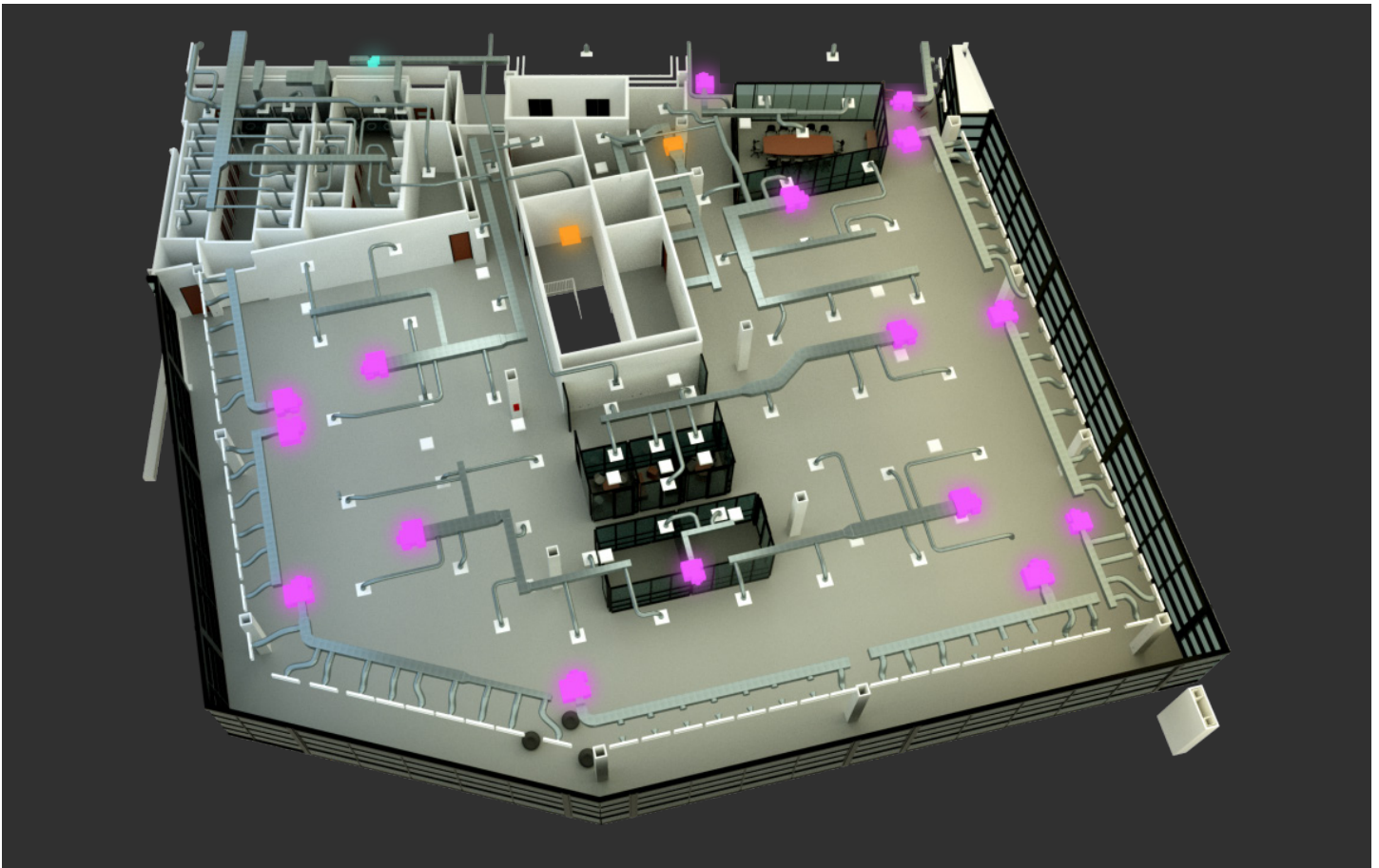
construction and facility service companies, TD is changing the face of the industry through sustainable, state-of-the-art innovations that are a result of first class customer service.



TD has a tremendous core competency in project management of any size due to the unmatched, powerful company resources including: employees, processes, technology and manufacturing expertise. Emphasis on employees and culture, TD partners with clients across the entire life-cycle of a facility from engineering and construction to operations and maintenance. Our corporate culture is based upon the Servant Leader philosophy, which means we do everything alongside our customer.

Challenges

When creating floor plans, TDIndustries previously utilized graphics symbols that came standard with the purchase of Tridium products. Such use of these graphics worked well in its target market.



Above shows an example of the floor plans created by QA Graphics for TDIndustries. Displayed is the HVAC of the floor which highlights a different color per terminal unit type.

The product's functionality received passing grades from end users, but outdated aesthetics in regard to look and feel did not meet or exceed the expectations of TD and their customers.

Missing a more rich and dynamic feel for the renders of the building space, TD knew that they needed something more engaging but lacked the in-house capabilities to make their desires a reality. Images often presented themselves as mediocre in quality; while lacking the

exact graphical representation TD desired to portray. Customer expectations were on the rise due to a rapidly growing market; while demand for advanced 3D images was becoming front and center.

“Once we searched for 3D HVAC images and saw what QA Graphics had to offer, we knew our graphics were basic and becoming outdated,” said Mike Ohlenburger.

How QA Graphics Helped

TDIndustries utilized QA Graphics' website to assess how QA Graphics expertise and product offerings could enhance their floor plan graphics. The company chose to work with QA Graphics in efforts to bring their HVAC and floor plan graphics up to speed while competing against the industries best.

Floor Plan

QA Graphics' CAD Drafters bring a building to life by creating professional, premium floor plan and site plan designs that meet your building specifications, budget, and timeline. Once project specs were set for TD's vision in what way they requested, QA Graphics drafters went to work on creating detailed floor plans depicting the higher level of detail that TD wanted to portray with their graphics.

QA Graphics created several layers of floor plans to accommodate the varying needs of TD. Varying layers for HVAC , piping, lighting, elevator graphics, animation for security doors, and domestic and hydronic water systems were created. This gave TD Industries the professional look and feel

that they were missing out on before to provide to their client. Allowing the team to easily view locations of the varying systems with ease.

TDIndustries provided QA Graphics with Revit files which allowed them to create dynamic renderings of the building's interior by showcasing material textures, HVAC systems. Combined together this provided TDIndustries with a higher end photo realistic option to bring the project to the next level.

System Graphics

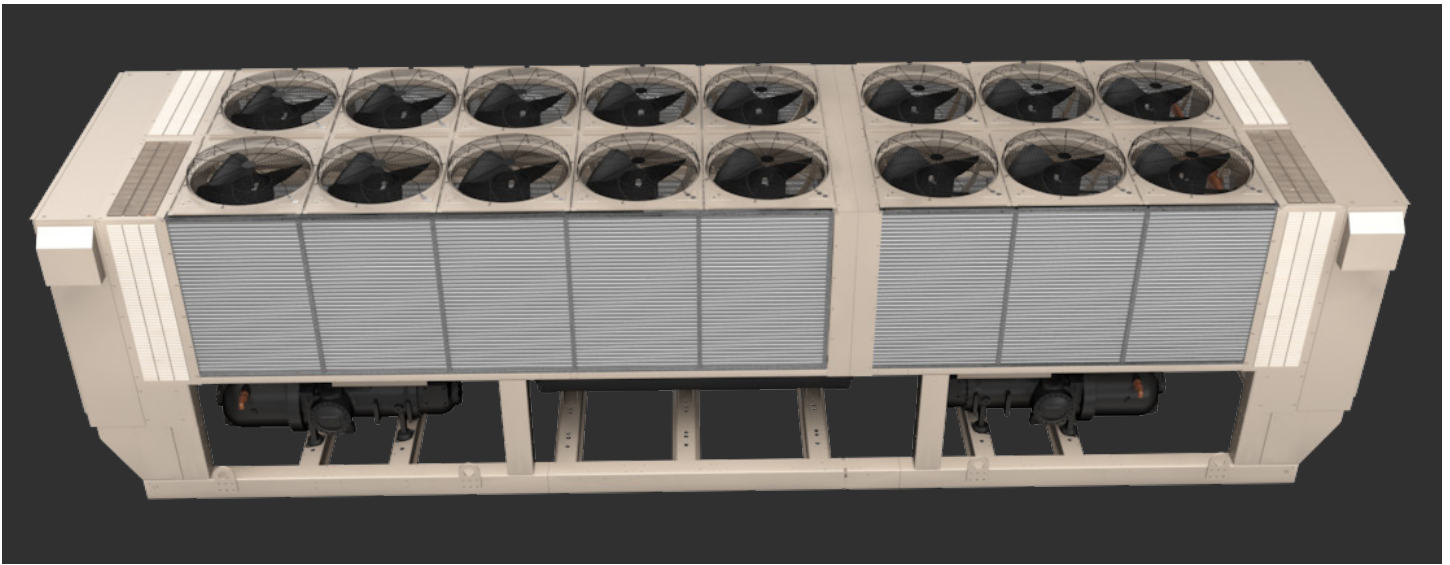
TD also worked with QA Graphics' 3D designers and Building Automation System (BAS) specialists to update a majority of their symbol library and mechanical equipment graphics. QA Graphics' symbol library offers static and animated graphics, including unit ventilators, under floor units, tanks, rooftop units, and more.

QA Graphics' specialists are experts in the BAS graphics industry and worked with TD to build robust system graphics. QA Graphics created a majority of the 3D graphics needed for their project. Their floor plans now feature superior graphic representations of a



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Mike Ohlenburger
Building Systems
Integration at TDIndustires



Above is an example of TD's custom symbol library graphics created by QA Graphics. This graphic represents a typical small chiller with fans.

user's system, including dynamic graphics, moving fans, and pumping pumps.

Customer Experience

TD loved the ease of the process as QA Graphics worked through the layers and sent updates through their work place system. The company was able to see how the upgrade in graphics created a modern and updated design. QA Graphics' designers created TDIndustries' appealing floor plans and system graphics into a presentation piece that TD is proud to display.

When asked about the process and work of QA Graphics, Ohlenburger said, "I think that QA Graphics work space system, Mavenlink, is a great asset for keeping the client in the know of project status and

questions that may arise. The customer service of the team was also friendly, easy to work with, and offered good value."

Post Production

TDIndustries new floor plan for the construction process feature updated graphics that included mechanical component layers, colored units, piping, domestic/hydronic water systems, and more. The design process required very little work to be done on TD's part. With QA Graphics timeliness, this solved many previous challenges for TD. Allowing their experts to focus on other parts of the building process and spend less time trying to make the graphics look presentable and professional.

TD's new look for floor plans on this building project gave them something to be proud of and that they want to display to their client. Featuring up-to-date, highly detailed, and accurate representation of their client's floor plan and HVAC systems. The graphics for the floor plans featured a variety of layers for various BAS systems onsite and background images that outlined the locations for piping, lighting, security animations, and other. The updated floor plan graphics are better than what TDIndustries could have created without QA Graphics' expertise, and the design process was more efficient than their current resources.

“Working with a company that produces a nice product at a professional grade in a timely manner was worth the cost of the project. They also had excellent customer support for whenever we had questions,” said Ohlenburger.

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Mike Ohlenburger

Education Dashboards™ (EEEDs). The company also provides marketing solutions such as interactive applications, 3D design and animation, UX design, videos, and more.

Since 2006, QA Graphics has provided professional premium site plan design and space planning for commercial properties. Offering a variety of floor plan graphics options to meet your

specification, budget, and timeline. Using existing AutoCad files, PDF's, sketches or specifications sheets, QA Graphics creates customized, photo realistic, 3D and 2D floor plan graphics. From basic to complex design, QA Graphics' high quality floor plan come with quick turnaround times and technical expertise to include building details such as zoning windows, built-ins, railings, furnishings, and more.

Visit www.qagraphics.com to learn more.

About QA Graphics

QA Graphics is a leader in the building automation and green building industries. The company specializes in HVAC graphic development services, system graphics, floor plan graphics, and Energy Efficiency