

MSUITE Helps Shapiro & Duncan Save \$1.4M per Year in the Shop

AN MSUITE CASE STUDY



Delivering Accuracy.
Better Communications.
Higher Profits.
Increases Quality & Productivity.



At Shapiro & Duncan, we are pushing the envelope to increase productivity, reduce costs, and increase communications. MSUITE's FabPro allows our staff to manage prefabrication operations at a distance and build efficiently.

Chris Canter
Director of Virtual Design and Fabrication



Overview



When it comes to providing innovative mechanical engineering and construction solutions, Shapiro & Duncan is a leader in Washington D.C.'s design-build, fabrication, installation, and maintenance market, promoting sustainability at every stage of a building's life cycle.

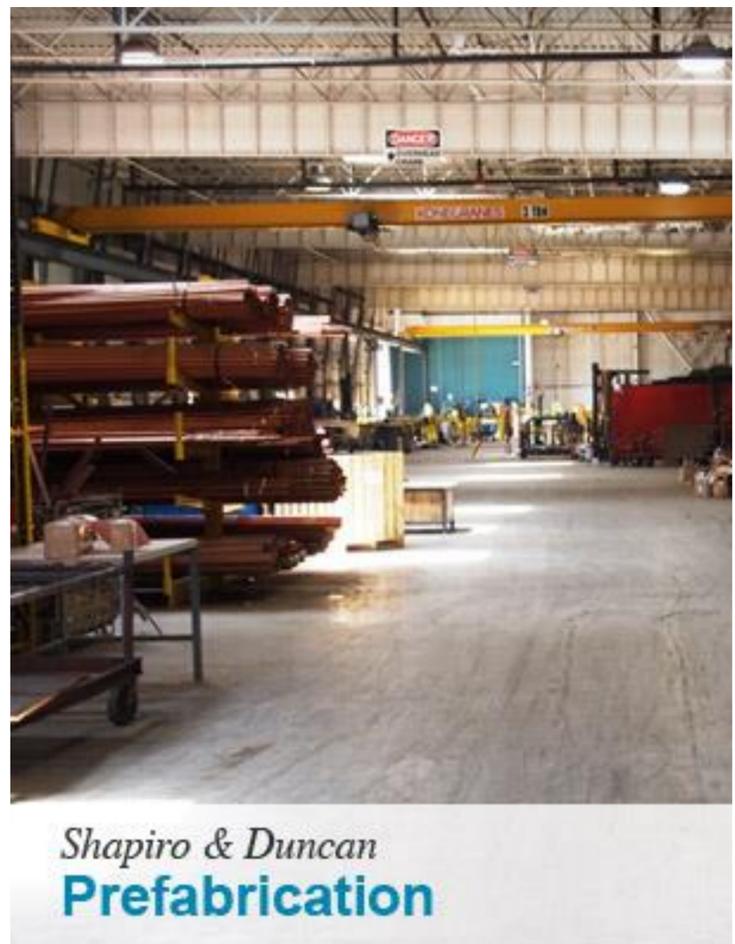
Being an early adopter of MSUITE's FabPro in 2017, the innovative software has been a workhorse for improving efficiency, productivity, and returning an investment at their 51,000 square foot state-of-the-art fabrication facility.

THE Business Challenge

Chris Canter, Director of Virtual Design and Fabrication, was faced with a high growth operational challenge as he took over VDC and Fabrication Operations at Shapiro & Duncan. The team (VDC and Fab staff) was expanding because the workload substantially increased with a strong economy coinciding with a recently renovated Fabrication Shop.

Chris worked closely with the Vice President of Construction, Production Managers, and Project Managers to better understand upcoming workload; and provide direction for VDC and Fabrication efforts on all projects. Also, he worked with the Fabrication Team to implement efficiencies and help daily balance work with overall capacity.

With rising expectations and the need for optimizing operational processes, he needed the ability to track, manage, and easily share data across the teams to handle this growth. However, the software solution didn't exist until MSUITE approached Shapiro & Duncan.



THE Approach

MSUITE approached Mr. Canter about a new innovative platform that can provide a solution to help manage Shapiro & Duncan’s growth and needs for managing staff, activities, and quality of output on accelerated schedules. MSUITE brought innovation to Shapiro & Duncan by enabling them to track, manage, and share critical information across all stakeholders.

THE Solution

FabPro - Track | Manage | Share

With its state-of-the-art equipment and staff of qualified employees, Shapiro & Duncan can fabricate and assemble any type of piping configuration accurately from the simplest riser to complex mechanical and boiler rooms. Direct from the shop floor, FabPro automates real-time production and material logistics. The shop’s-controlled environment enables S&D to maintain a high degree of quality and a constant productivity level regardless of weather or project site conditions.



FabPro helped Shapiro & Duncan institute a more effective way to serve their clients with:

SHOP ANALYTICS

Predictive Analytics to increase visibility, productivity, and accuracy to manage production as work moves from drawing approval through site receiving.

ENHANCING PROCESSES

Enhanced Processes and ability to work with instructions from BIM, CAD, PDF, or field drawing on a napkin, keeping everything in one location.

Automation of fabrication estimates, timesheet reports, and process improvement feedback in real-time.

Easy to Use Software on the shop floor that displays work needing to be done, in the order it needs to be done.

OPTIMIZING PRODUCTION

Reducing Waste with integrations into machines like TigerStop, RazorGauge, Watts, HGG, and PypeServer to optimize cutting processes.

Increase Productivity by turning shop floor production data into actionable insights you can use to improve your efficiency and productivity.

Streamlining Communications between office, shop, and field teams with real-time notification of things like approvals for fabrication, drawing markups, trucks leaving the shop, and more.

THE Results (ROI)

Shapiro & Duncan increased productivity by quickly identifying bottlenecks in their workflow and making the necessary adjustments to speed up production. Modifications to the shop included adding Monitors in all stations of the shop floor. Materials Bins at all stations are used to speed up workflow and an open and fluid area for shipping and receiving.

Implementing FabPro brought substantial returns on investment in several areas:

- 1**

Administrative ROI - Administrative work on weekly Time Sheets was reduced from up to **10 hours of weekend overtime to a 15-minute task per department** for one employee on Fridays. Completely eliminating misapplied time and inaccurate time sheets.
- 2**

Eliminating Paper between Departments - Shapiro and Duncan estimate they are **saving \$100,000 per year** by shifting to digital as they no longer use paper between PreCon, VDC, Fab Shop and Field. Shapiro and Duncan credits FabPro for bringing a large portion of these departments to a digital environment.
- 3**

Real-time Access to Production Time Data - Having access to the production time on the floor lead to optimizing workflows that resulted in a **60% efficiency improvement**.
- 4**

Production Workflow Improvements - Completely changing how they handle material delivery enabled better flow in the shop, quick access to backordered parts, and better setting and managing priorities.
- 5**

Increased Direct Productivity - Shapiro and Duncan's fabrication schedules for years had been based on a shop standard of 80 inches a day per welding station. Simply exposing the actual real-time data resulted in a **productivity increase of 150%** or 120 inches a day.
- 6**

Accelerating Schedules - FabPro helped Shapiro & Duncan complete one of the fastest data centers, a 30mW 120,000 sq ft project, in less than six months. FabPro provided the visibility into Fabrication efforts enabling all stakeholders to monitor the real-time progress of the fabrication for twenty 553-ton Air Cooled Chillers and Sixty 154-ton computer room air handlers. With clear communication and visibility of finished assemblies in FabPro, **project schedules were able to be accelerated by two weeks** and set the precedent for Phase 2 of the project.

COVID-19 Pandemic Response

When the COVID-19 pandemic hit, most contractors were struggling to adapt to the new reality. Processes that had been in place for years were being thrown out the window overnight to adapt to government mandates and local executive orders. Having a fully customizable and flexible fab shop software in place was key to our success during this time. Being able to transition all of our VDC personnel to a remote environment is one thing, but to have the confidence that our craft workers on the shop floor would have focused direction, our leaders would have the ability to manage workload, prioritize spools, and provide complete transparency from the time material enters the shop, until that bill of lading is created allowed me to send the entire fab shop mgt. team and support staff home to work remotely and not miss a beat." - **Chris Canter**

MSUITE

MSUITE is cloud-based suite of management software to connect BIM, Fab, and Field Construction Teams. MSUITE helps you track, manage, and share data throughout the entire life-cycle of a construction project. Stemming from a Mechanical Contractor in Iowa in 2015, MSUITE's products have been a solution to a problem that the construction industry has needed for decades.

ABOUT SHAPIRO & DUNCAN

Shapiro & Duncan provides cutting edge mechanical engineering and construction solutions – including design-build, fabrication, installation, and maintenance services that promote sustainability at every stage of a building's life cycle. The firm is unique in using Building Information Modeling (BIM) and Integrated Project Delivery to promote sustainability and ensure customer satisfaction. A third-generation family-owned business, Shapiro & Duncan has been serving customers in the D.C. area since 1976.



MSUITE | We connect BIM-FAB-Field teams.
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