



ABF Freight optimizes dock operations to manage completion times

Motor carrier ABF Freight utilized SIMUL8 simulation software to **improve performance** in their materials handling operation, identifying an **efficient and economical approach** for optimizing dock operations.



About the project

From its origin as a small local carrier in 1923, ABF Freight System, Inc. has been transformed into one of North America's largest and most experienced motor carriers. With a forward thinking approach to quality improvement, ABF's mission is to **deliver value to its customers** by developing and implementing customized solutions to global logistical challenges.

ABF's industrial engineers were tasked with finding the most efficient and economical system to optimize dock operations and manage completion times.

For this project the team needed to coordinate available manpower, forklifts and open bays to handle incoming and outgoing shipments in the most efficient manner. Additionally, union regulations brought further elements of consideration, requiring solid justification for personnel schedule changes and shift patterns.

A simulation of the dock operations process was created to mimic the current system. ABF's forward thinking approach to quality improvement means they hold data on every area of the business.

Using SIMUL8's **Excel connections** feature, ABF imported existing data to give a minute-by-minute analysis of the company's dock operations. This allowed the team to validate the simulation against the real life process.

Using the simulation, the team then began to experiment with their ideas for improvement in a **risk-free environment** and with no detrimental impact on the current system. The Industrial Engineering team tested various scenarios to improve the completion times including; changing resource shift patterns, changing the number of open bays, and increasing the number of forklifts.

*"I've been extremely happy with the results we've had using SIMUL8. It was **easy to use**, and the program was able to synthesize the **massive amounts of data** we plugged into the models."*

Jamie Anawaty, ABF Engineer





The result

The ability to test so many scenarios resulted in a number of possible solutions presented to management. The visual nature of the simulation models, combined with the robustness and accuracy of the results, helped to **bring the solutions to life** and **gained instant buy-in** from decision-makers.


The true value of SIMUL8, according to ABF is that the industrial engineers **now have the ability to accurately forecast and illustrate how the changes they recommend will improve ABF's operations.**

ABF also highlighted the **speed of SIMUL8** to be far superior to other simulation software packages when the time to build simulations and the time it would have taken to garner the same results were considered. **"I was able to immediately start building simulations and seeing results"**, Jamie Anawaty added.

ABF is planning to expand their simulation applications to include the transportation travel times to further refine the materials handling simulation.

*"The results forecast by SIMUL8 and the actual results of operational changes match. We now have proof, which has allowed us to build up trust and credibility with upper management. **SIMUL8 has given us the ammunition for change.**"*

Jamie Anawaty, ABF Engineer



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