

DUPONT Saves Millions With Logistics Modeling

George Gates
DuPont



DuPont is using Simulation to avoid costly capital expenditures on the rail car fleets as customer demands change. Demand changes could involve the purchase of rail cars, better management of the existing fleet or even reduction in the fleet size. Old method of analysis often suggested immediate allocation of funds for purchase of expensive rail tankers.

“There was a perceived need to increase the fleet size based on past experience,” said George Gates, a Logistics Consultant within DuPont. The real problem wasn’t necessarily the shortage of special rail cars, but rather their use. “The problem is difficult to get your arms around. Variability in production output and transit cycle time, maintenance scheduling, sequencing of orders and other things combine to make the detailed

DuPont touches virtually every aspect of your life, from the clothing you wear to household products you use and even the food that you eat. DuPont supplies chemicals to tens of thousands of manufacturers who produce the final products you see in the stores. Products such as Hollofil II for sleeping bags, Teflon for nonstick surfaces, Tyvek to protect your house and Stainmaster carpets that have

the reputation of looking good for years. The list is seemingly endless.

The transportation of bulk chemicals from DuPont to the manufacturer is where the specialized fleets of rail cars are used. Rail cars vary in cost from \$80,000 for standard tank cars to over \$250,000 for tankers designed to carry unusual materials. When you start talk-

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Problem: Demand changes could involve the purchase of rail cars, better management of the existing fleet or even reduction in the fleet size. Old method of analysis often suggested immediate allocation of funds for purchase of expensive rail tankers.

Solution: ProModel has helped us to model the vari-

ability associated in production, availability of tank cars, transportation times and unloading at the customer site.

Results: The first model helped DuPont avoid \$480,000 in capital investment. Since that first model, Mr. Gates has pioneered logistics modeling on a variety of product lines, crossing division boundaries and political domains.

ing about those kinds of figures it's easy to understand the excitement DuPont has had over avoiding fleet purchases.

"ProModel has helped me to paint a realistic picture for everyone involved in the problem. It's easy to develop a quick fix solution but unless the people

you are working with understand the entire problem, the solution can't be properly identified and im-

plemented. ProModel has helped us to model the variability associated in production, availability of tank cars, transportation times and unloading at the customer site.

I can graphically illustrate a national distribution system under current production levels and under forecast customer demand. The real problems are much easier to identify," said Gates. "When the key players are already convinced that a capital expense is justified, it puts you in an interesting position to show them they can actually down size the fleet and make the required customer deliveries. Without simulation there would be no way to make your point."

Mr. Gates had no formal training on ProModel before his first project. The first model took two weeks to complete and helped DuPont avoid \$480,000 in capital investment. Since that first model, Mr. Gates has pioneered logistics modeling on a

variety of product lines, crossing division boundaries and political domains.

What are some potential uses for modeling logistics with ProModel in the future?

"ProModel has been invaluable for improving our logistics systems, and we have only scratched the surface. We have-

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n't even

touched international logistics or logistics support for the development of new markets. The savings in these areas has the potential of being substantially higher. We see many opportunities for using ProModel in the future."



George Gates, Jr.
DuPont

About the Author: George Gates is a Supply Chain Associate for DuPont's Specialty Chemicals Sourcing Division. He has also served

a change facilitator for Specialty Chemicals. He has combined continuous improvement tools with simulation software tools to optimize fleet sizing and logistical systems.

FIND OUT MORE

George Gates, Jr. is the Founder and President of Gates Supply Chain Consulting, Inc. He has pioneered the use of simulation as a tool for modeling supply chain systems in a number of major corporations. He has worked directly with logisticians and supply chain managers in finding ways to improve existing supply chains and plan for future systems. He has traveled extensively in the U.S. and Canada and has also written manuals on the topic of logistics modeling.

Contact: If you have any questions please contact PROMODEL Corporation at 1-888-ProModel or send an email message to sales@promodel.com.

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