ANALYSISWORKS

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Case Study: Optimizing a Global Production System

The Challenge

The one-of-a-kind global production system of a Fortune 50 aerospace manufacturer was facing unique logistical challenges. This system was feeling the pressure of competing demands that pulled their **$5 billion dollars** worth of material flow from literally all corners of the earth. Strategically, decision makers needed a reliable way of assessing different courses of action and quantifying their exposure to various risks. Operationally, they needed a systematic way to develop schedules, which would ensure that the right major components were efficiently delivered to the right place at the right time.

The Solution

In order to handle the complexity and balance the objectives of competing priorities, a simulation model was developed. This allowed us to dynamically dispatch logistics resources and dictate which cargo needed to be transported when and where to maximize overall system benefit. The approach provided the following benefits:

- **Easy to follow visual model**
  - Animated solution that is easy to verify and explain to stakeholders to ensure the model reflects **"how things really work"**
- **Quickly assess the benefits and risks of different strategic options**
  - Flexible model simulated thousands of scenarios efficiently, where making a mistake "in reality" was simply too costly
- **Dramatically reduced planning cost and effort**
  - Efforts to assess one strategy reduced from 80+ hours to 1 hour

The Results

The tool was subsequently handed over to the planning group in charge of operating the logistics network. At the time of the handover, the following results had already been realized:

- Client used the tools to confidently design a **billion dollar** logistics network
- Client avoided unnecessary equipment investment of **$32 million**
- Client assessed the impact of adverse weather events on their **global logistics** network

> *The AnalysisWorks team is one of the best that I've ever worked with, if not the best.*
>
> Roberto Lu, Technical Fellow, Boeing, Research and Technology