Genetically Modified Mice Supply Chain Analysis

ProModel
VISUALIZE ANALYZE OPTIMIZE **VAO** >>>

Vertical	Manufacturing	**Pharmaceutical**	Healthcare	Portfolio	Logistics	Financial	Government	Business

Genre	Case Study	**Project Review:**	White Paper	Technology Overview

Client

A leading global pharmaceutical firm

Situation

- A company merger greatly increased the GeMM (Genetically Engineered Modified Mice) program's internal and external line population. This resulted in a 40% cost overrun, in the first year alone, beyond all post merger financial projections.
- Once the various GeMM lines were combined, there was no means to project into the future what the combined supply chain would cost and how to control it.

Objectives

- Enable the company to accurately project/predict cost and FTE requirements for GeMM's into the future.
- Allow them to optimize the mix of internal and external line designations from both a cost and delivery standpoint.
- Based on the predicted internal line population, determine the subsequent related animal husbandry resource requirements.
- Document in flow chart form, the GeMM supply chain process.
- Help predict internal line caging requirements based on a GeMM line portfolio.
- Enable management to model the consolidation of all global lines under one internal and external production environment.

Solution

- This solution included a computer simulation application which allows the client to conduct "What-If" scenarios on all aspects of the GeMM supply chain.
- Input to the model comes from the number of ideas historically generated over a one year period
- The model then uses this "idea" input to drive two main functions
  o The availability of mice based upon the biological reproductive process of a line of mice
  o The demand for the mice based on the number of projected tests required
- Model was verified to be 90% accurate when compared to historical data
- The types of output or results from the model include projections as to the total requirements to generate the appropriate supply of mice, as well as the costs to generate that supply internally and externally

Results

Tangible benefits:
- Analyzed the future demand and line costs to identify changes in internal vs. outsourced lines which resulted in an annual budget savings of $1.5MM.
- Provided management with an analysis of the current FTE requirements versus projected department obligations revealing a potential FTE gap.

Intangible benefits:
- Provided the GeMM team a quantitative way to assess the cost of internal staffing requirements for husbandry activities if all lines were managed internally.
- Enabled them to decide which lines to develop internally and which ones to outsource
- Improved management's ability to profile budget impacts from varying external line configurations.
- Developed a custom user interface to expedite the team's ability to profile line requirements and rapidly customize scenarios.