High-Level Modeling

The General Algebraic Modeling System (GAMS) is a high-level modeling system for mathematical programming problems. GAMS is tailored for complex, large-scale modeling applications, and allows you to build large maintainable models that can be adapted quickly to new situations. Models are fully portable from one computer platform to another.

Wide Range of Model Types

GAMS allows the formulation of models in many different problem classes, including

- Linear (LP) and Mixed Integer Linear (MIP)
- Quadratic Programming (QCP) and Mixed Integer QCP (MIQCP)
- Nonlinear (NLP) and Mixed Integer NLP (MINLP)
- Constrained Nonlinear Systems (CNS)
- Mixed Complementary (MCP)
- Programs with Equilibrium Constraints (MPEC)
- Conic Programming Problems
- Stochastic Linear Problems

State-of-the-Art Solvers

GAMS incorporates all major commercial and academic state-of-the-art solution technologies for a broad range of problem types, including global nonlinear optimization solvers.

DemandTec Leverages GAMS to Drive Innovation in Retail and CPG Industries

DemandTec uses sophisticated econometric and optimization models to help retailers and manufacturers make merchandising and marketing decisions based on a quantified understanding of consumer demand. DemandTec's applications are used to:

- Model price elasticity, cross-price elasticity, and other merchandising causals to predict and influence demand given different merchandising conditions and strategies.
- Optimize prices and promotions to maximize sales, volume, or profit, while operating within the constraints of competitive pricing and other business rules.
- Accurately forecast the impact of merchandising strategies and tactics, taking into account cannibalization, halo effects, seasonality, trend, and other factors.