



# ➤ OPTIMIZATION

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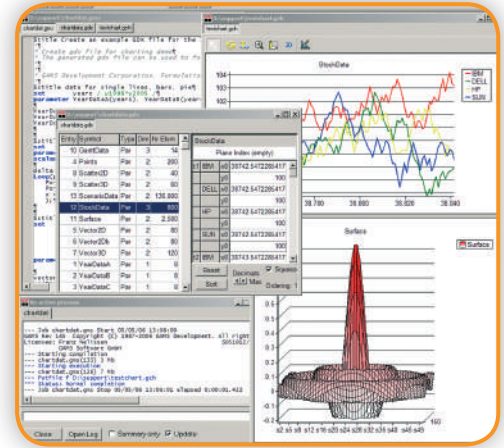
## GAMS

### 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.

### 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.



GAMS Integrated Developer Environment for editing, debugging, solving models, and viewing data.

### A Water Management Decision Support System (DSS) for the Indus Basin

Large non-linear optimization models developed in GAMS are a centerpiece of the water management DSS for Pakistan's Indus Basin. The system is used for agricultural investment planning and water management, but also to investigate the impacts of climate risks on water and agriculture. An international consortium led by National Engineering Services Pakistan (NESPAC) recently extended this system.

Major features include:

- The GAMS models seamlessly interact with an Oracle database, which feeds both model data and results into a Geographic Information System (GIS).
- Users from government, industry, and consulting groups use the web-based application to calculate water requirements and cropping patterns.
- The results are available in various formats: maps, graphs, and tables.



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