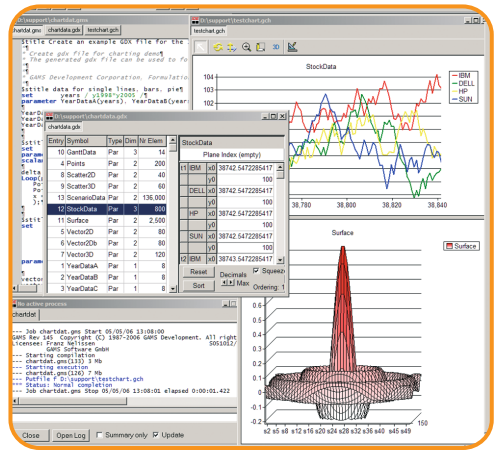# ➤ OPTIMIZATION   www.gams.com ◄

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.
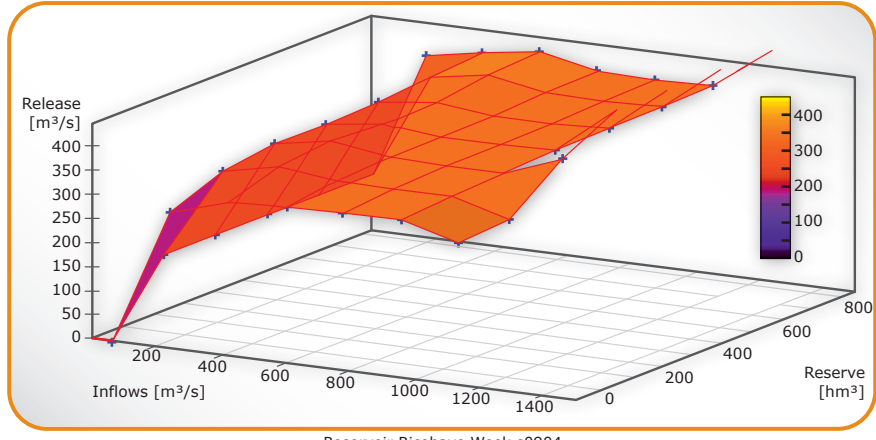

GAMS Integrated Developer Environment for editing, debugging, solving models, and viewing data.

Decision Support Systems for the Energy Sector (SADSE)

The SADSE research unit is part of the Institute for Research in Technology of the Comillas Pontifical University in Madrid, Spain (http://www.iit.upcomillas.es) and provides assistance in technical and economic analysis of systems in the energy sector. A fundamental aspect of this analysis is the modelling of energy markets and associated strategic decisions. SADSE has developed a variety of mathematical models and tools for different companies, including:

- **QPLAN, SIMUPLUS:** generation and transmission planning in liberalized markets using NLP
- **SECA, StarNet:** price determination for transmission capacity auctions and bulk operation that uses MIP
- **MOES, VALORE, MORSE, PLAMER:** market equilibrium for medium-term generation operation with MCP or QP
- **MEMPHIS, ROM:** chronological stochastic unit commitment for high penetration of renewable energy sources by Monte Carlo simulation and MIP
- **MHE, EXLA:** stochastic hydrothermal coordination model by means of NLP and SP or iterative LP
- **MAFO, GRIMEL, SGO:** short-term generation operation and optimal bidding by MIP and LP

For more information about these applications please contact Andres Ramos (**andres.ramos@upcomillas.es**)

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