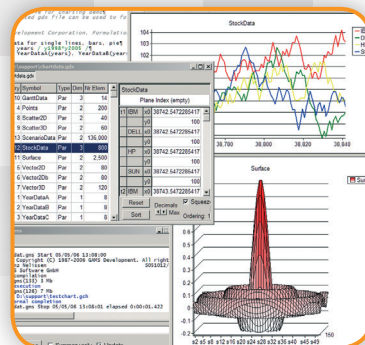# GAMS

➤ OPTIMIZATION ◄

GENERAL ALGEBRAIC MODELING SYSTEM

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.

Object-Oriented GAMS Application Programming Interfaces

The object-oriented GAMS API allows the smooth integration of GAMS into applications by providing appropriate classes for the interaction with GAMS:

- Seamless integration of the GAMS system into other programming environments (.NET, Java, Python).
- Use the GAMSDatabase class for in-memory representation of data for convenient exchange of input data and model results.
- The GAMSJob class executes models written in GAMS.
- The GAMSModelInstance class solves sequences of closely related model instances in the most efficient way.

"GAMS API is a very good way to encapsulate GAMS models inside programming languages. This API allows to have a dynamic link between the GAMS model and our applications. It is very robust and efficient. Moreover it includes a new feature that allows to solve several close instances of a same problem very fast. With this feature, we implemented very efficient sensitivity analysis of our models."

Dimitri Tomanos
Modeller analyst, GDF-Suez

"With the GAMS .NET API we were able to implement some complex recursive MIP-based algorithms we could not easily express in the GAMS language itself. One advantage of the GAMS API was that we could reuse large parts of database access and data manipulation steps implemented in GAMS."

Erwin Kalvelagen
Amsterdam Optimization Modeling Group
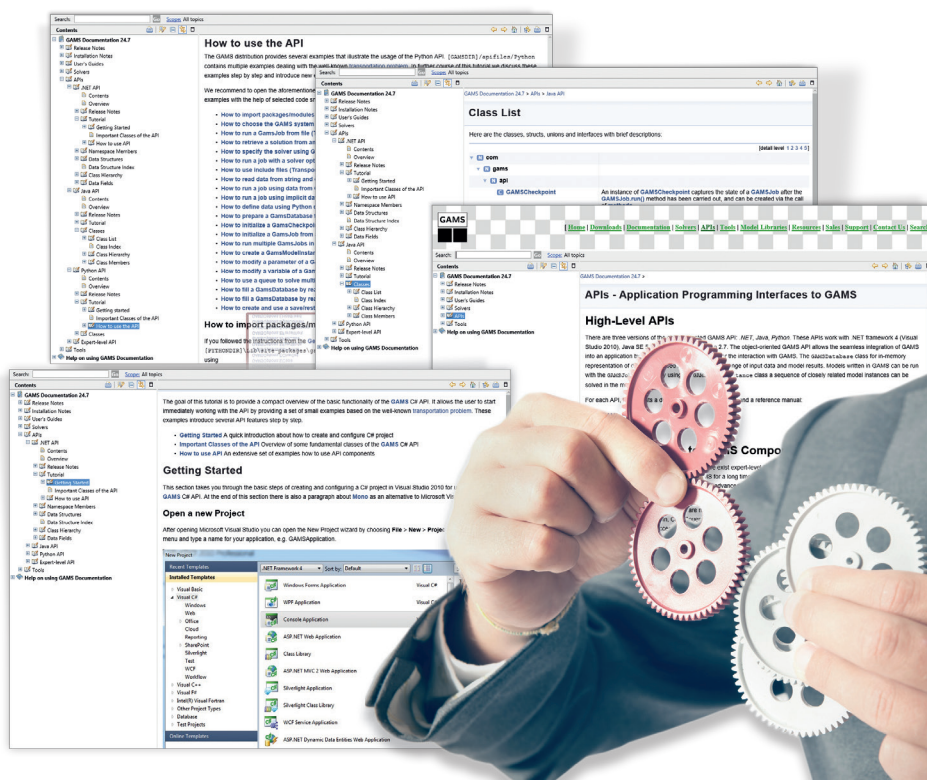
For more information, technical documentation, and examples please visit: http://www.gams.com/help/topic/gams.doc/apis/index.html

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