GAMS

➤ OPTIMIZATION ➤

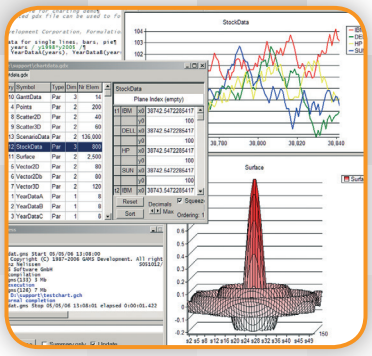
GENERAL ALGEBRAIC MODELING SYSTEM

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.



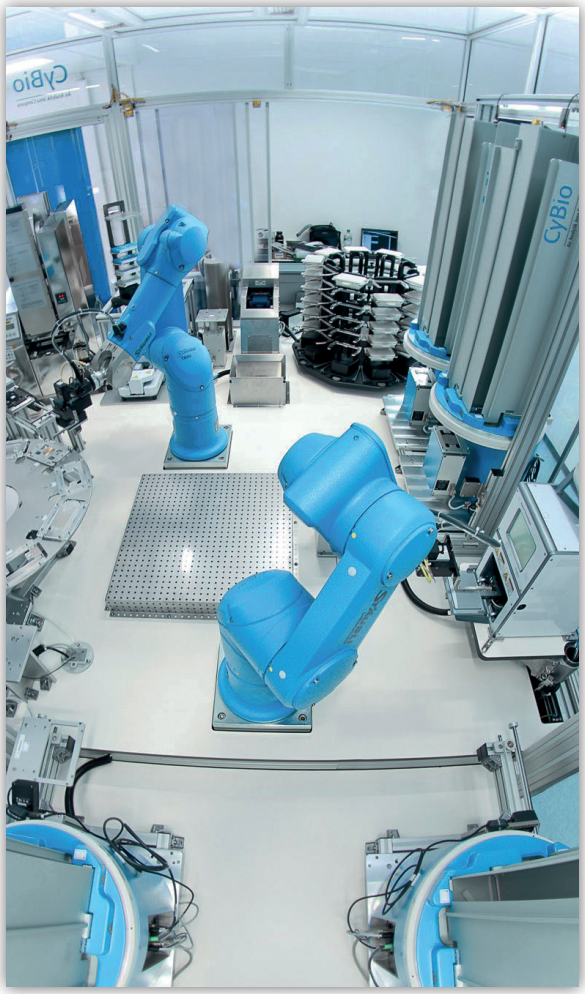
GAMS Integrated Developer Environment for editing, debugging, solving models, and viewing data.

CyBio Scheduler - Scheduling Software for High Throughput Screening

High Throughput Screening is a scientific experimentation method widely used in the pharmaceutical industry especially in the field of drug discovery. Because the large number of promising compounds for new drugs cannot be analyzed by manual labor, the screening process is automated using robotics. Robotic screening systems are used to handle and transport micro plates containing chemical compounds, to analyze these compounds, and to process the experimentation data.

CyBio, now merged into Analytik Jena AG, and the Max Planck Institute Magdeburg apply optimization involving GAMS to increase the throughput of robotic screening systems. A GAMS model is the integral part of the CyBio Scheduler – the scheduling software used for planning optimal activity timing. The output of the model parametrizes the screening systems to ensure the most efficient utilization ratio for critical resources, thereby minimizing idle time. The fast handling of the micro plates reduces systematic errors caused by sedimentation, decay, or temperature drift, thus resulting in higher data quality.

At Analytik Jena AG, optimization using GAMS has significantly boosted the screening system's overall throughput by increasing process speed, improving productivity, and reducing variance for high quality data.



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For further information please contact Thomas Haenel - thomas.haenel@analytik-jena.de