



## HEAT BALANCE MODULE

This module includes models for autoclaves, dryers, kilns, furnaces, boilers, and steam and gas handling equipment. This includes a 7000+ compound database. An interface to FactSage is available to access Fact's extensive databases for slags, mattes, and alloys.



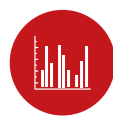
## DYNAMIC SIMULATION MODULE

This module simulates time dependent processes such as heap leaching, solar ponds, tailings ponds, and processes where variations in weather, feed rate, and ore type impact the process.



## ENGINEERING MODULE

This module allows process engineers to easily perform preliminary design calculations, size equipment, generate equipment and instrumentations lists, simulate and test process control strategies, and build operator training interfaces.



## CONTOURING MODULE

This module is used for building complex heap leach, tailings, and mine models from DXF contour files and for displaying data graphically.



## MINE MODULE

This module imports drill-hole data, mine block models, and the mining schedule to facilitate modeling the process directly from the mine over the life of the project.



## EQUILIBRIUM MODULE

The Equilibrium Module, new to METSIM®, includes APIs to both the Electrolyte Simulations powered by OLI Systems, Inc as well as The Geochemist's Workbench toolset for aqueous chemists, both of which are integrated seamlessly into the METSIM® user interface.



## COSTING MODULE

This module generates plant operating costs. It also includes OPCOST, a capital and operating cost program for mining, which generates fuel, materials, supplies and manpower requirements, and equipment purchase and replacement schedules, and from this, mine capital and operating costs.



## FUTURE DEVELOPMENT

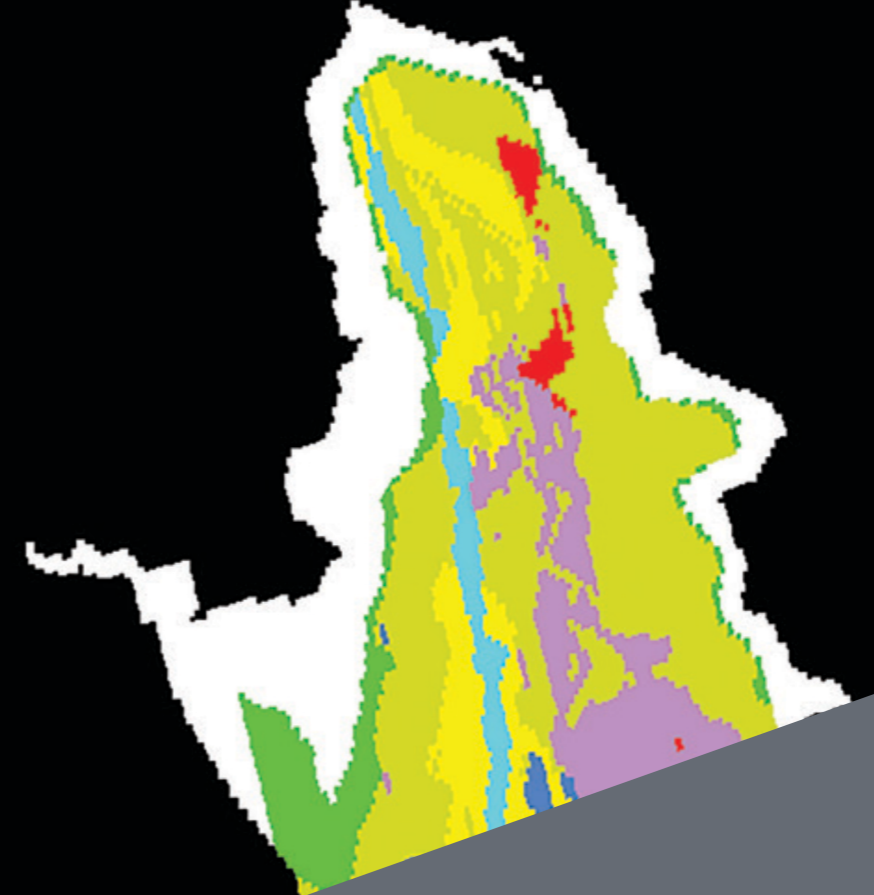
The Metsim International team is dedicated to advancing Metsim into the future with a continuing list of new unit operations and calculations. Furthermore, through our international business relationships, Metsim is already equipped with the necessary tools for simple inclusion in operations and industry 4.0 systems.

## METSIM® DEMO

METSIM® capabilities are expanding daily. Contact a representative today and let us help you improve your process to meet your business needs.

Want to know more and interested in a free, 14-day trial of METSIM®?

Visit [www.metsim.com/trials](http://www.metsim.com/trials) or scan this code to submit your 14-day trial request.



## CONTACT US

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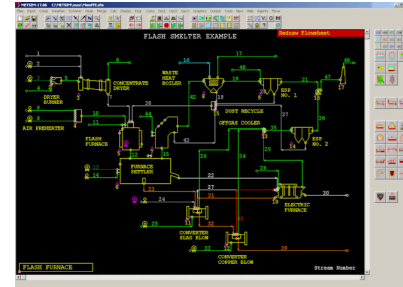
**METSIM**  
INTERNATIONAL



LEADER IN METALLURGICAL &  
PROCESS SIMULATION SOFTWARE

## WHAT WE OFFER

METSIM<sup>®</sup>, the world's premier process modeling software, accurately simulates processes for mining, material handling, comminution, hydrometallurgy, pyrometallurgy, metal refining, inorganic chemicals, and alternative energy and environmentally sensitive processes. METSIM<sup>®</sup> uses an assortment of computational methods to affect an optimum combination of complexity, user time, and computer resources usage.



Example model flowsheet for a copper flash smelter, from concentrate drying through copper converting.

During 40 years of operation, METSIM<sup>®</sup> has been used by 550 companies and 50 universities in 56 different countries.

## ABOUT METSIM<sup>®</sup>

The basis for analysis of all chemical and metallurgical processes is the mass and energy balance. Plant design, capital costs, and technical evaluations are all dependent on such calculations. METSIM<sup>®</sup> is a general-purpose process simulation system designed to assist the engineer in performing mass and energy balances of complex processes.



Open and Private Training Courses Available Upon Request



YouTube Tutorials for common METSIM<sup>®</sup> Operations available at: [www.metsim.com/faq](http://www.metsim.com/faq)

Considered the industry standard, METSIM<sup>®</sup> is the world's leading simulation software for metallurgical and chemical engineering processes. With full access to a programming language (APL) there are literally no limits to METSIM<sup>®</sup>, other than those imposed by your computer operating system. Models can be as incredibly simple or as infinitely complex as needed for your mining or processing facility.

## COMPLETE PROJECT SIMULATION

- SAG/Ball Milling and Flotation of Various Ores
- Chloride Leaching of Molybdenum Concentrates
- Hydrochloric Acid Leaching of Alumina Clays
- Gold Cyanidation / Precipitation
- Roasting/Flash Smelting of Copper Concentrates
- Acid and Carbonate Leaching of Uranium and Vanadium Ores
- Heavy Media Coal Preparation Plants
- Base Metal Smelting
- Gold, Nickel, Uranium, and Copper Heap Leaching

## METSIM<sup>®</sup> IN 3 STEPS



### APPLICATIONS

METSIM<sup>®</sup> covers every aspect of your workflow.



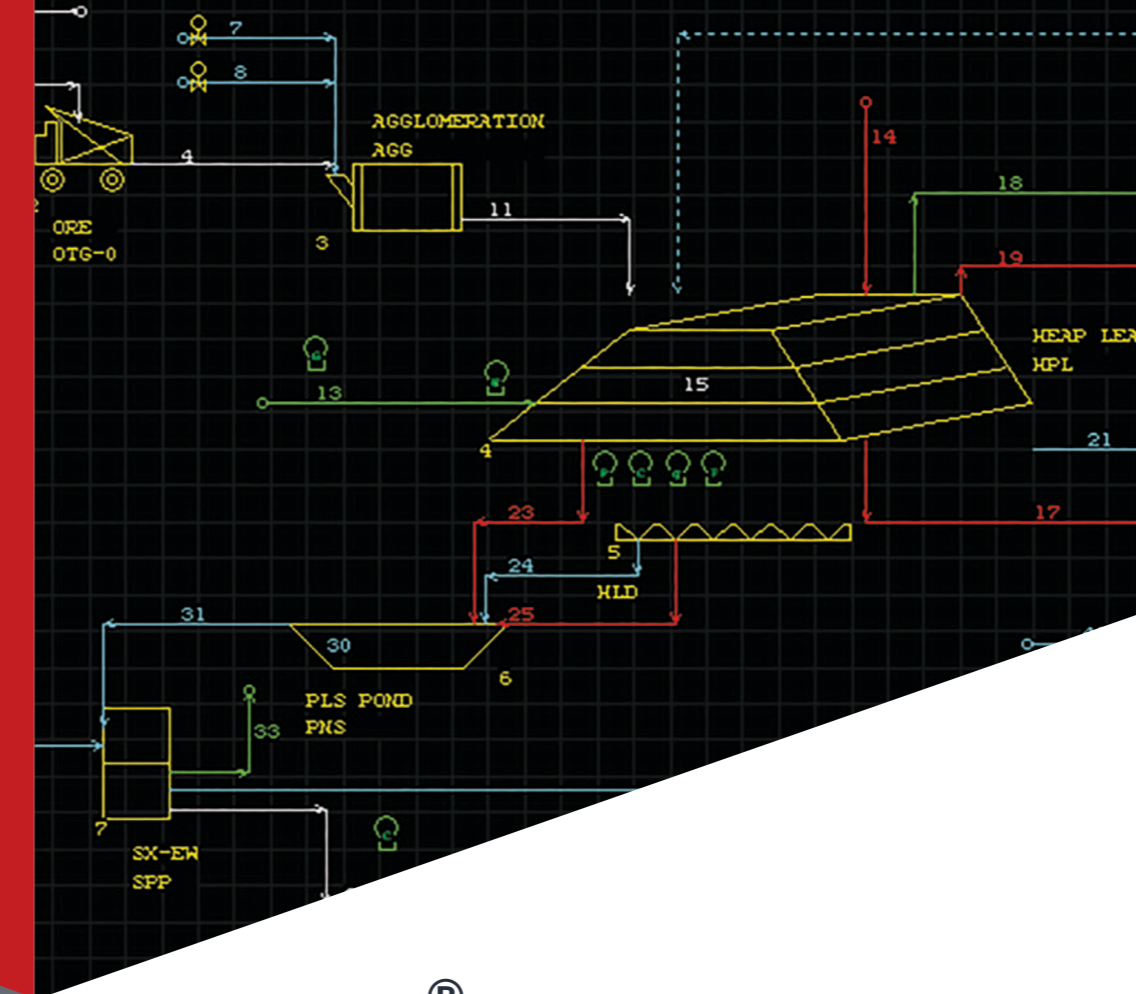
### PROCESSES

Design and test processes to ensure maximum efficiency



### ANALYSIS

Create multiple simulations to find the most effective solutions



## METSIM<sup>®</sup> FEATURES

- Advanced graphical interface for building models and printing flowsheets, including a DXF interface to AutoCAD and many other graphics programs.
- Option to display on the flowsheet, during and after calculations, any quantifiable process variables, including: stream flowrates, temperatures, pH, P80, and elemental/mineral assays for rapid evaluation and debugging.
- Over 180 unit operations, and growing, with detailed algorithms for accurately simulating and designing processes and equipment.
- Dynamic Data Exchange (DDE) interface to Excel as well as the ability to read and write text and comma-separated-variable files, providing simple, fast communications with external programs.
- Seamless links to our partners, Geochemist's Workbench, FactSage and OLI Systems Inc.
- New interfaces and APIs developed upon request.

## METSIM<sup>®</sup> MODULES



### BASE MODULE

This module includes mass balancing, chemical, mineral beneficiation and hydrometallurgical unit operations to simulate flotation, leaching, solid/liquid separation, solvent extraction, electrowinning, material handling and numerous other equipment items such as tanks, pumps, bins, conveyors, stockpiles, etc.



### COMMUNUTION MODULE

This module includes unit operations for crushing, screening, grinding, classification, gravity separation, dense media, and coal preparation. This module is used when particle size, liberation and/or washability data are critical to the process.

## OUR PARTNERS

Seamless software APIs available for these great products:

THE  
Geochemist's  
WORKBENCH

FactSage<sup>™</sup>

OLI<sup>®</sup>  
systems, inc.