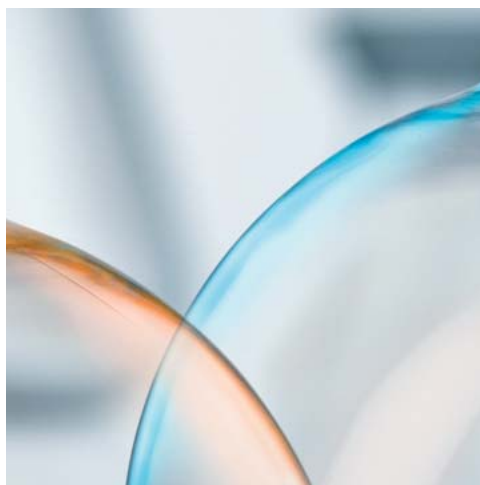




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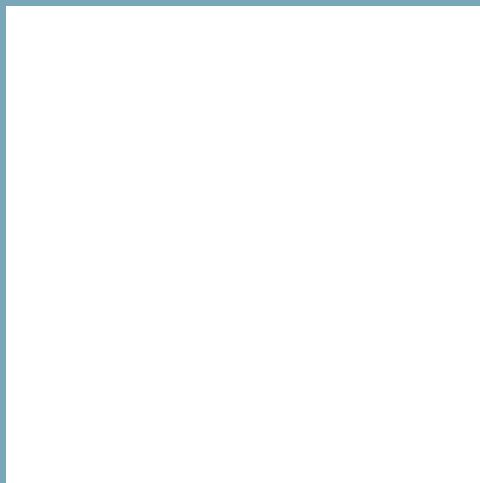
**POWERING**

*the process of*

**INVENTION™**

*integrated informatics*  
AND *workflow solutions* FROM MDL

AN INTEGRAL PART OF LIFE SCIENCE DISCOVERY FOR 25 YEARS



**THOUSANDS** of scientists in major biopharmaceutical research organizations around the world rely on MDL applications, content, and services. By introducing greater efficiency and effectiveness in chemistry and life science research, MDL solutions—for collecting, cataloguing, analyzing, and sharing data, managing experimental workflows, and supporting decisions—help scientists bring new compounds quickly and cost-effectively to market, positively impacting millions of lives.

Beyond the tangible returns of reduced research costs and time to market, an investment in MDL solutions offers a subtler, potentially more powerful benefit: enabling researchers to accomplish discovery tasks that were once inconceivable.



# MDL<sup>®</sup> ISENTRIS<sup>™</sup>: THE NEW

MDL<sup>®</sup> DISCOVERY FRAMEWORK

MDL<sup>®</sup> DISCOVERY EXPERIMENT  
MANAGEMENT

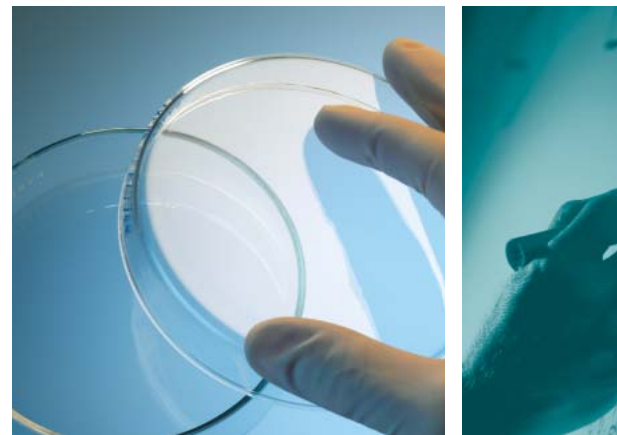
MDL<sup>®</sup> DISCOVERY KNOWLEDGE

MDL<sup>®</sup> DISCOVERY PREDICTIVE  
SCIENCE

MDL<sup>®</sup> CONSULTING & SERVICES

The MDL<sup>®</sup> Discovery Framework group offers MDL<sup>®</sup> ISENTRIS<sup>™</sup>—an open, flexible, and scalable platform that promotes data and application integration across the discovery domain. The architecture enables research IT groups to develop and deliver robust, high-quality research applications that are easy for scientists to learn and use and that integrate effectively with other applications.

For researchers, the new architecture streamlines the storage and retrieval of a broad range of scientific information including chemical structures, reactions, biological activity, and related property data. Taking advantage of evolving technology, including increasingly contextual links, scientists can rapidly access the data required to advance discovery programs. Using a single login, researchers can move data from diverse query sources into multiple applications, progressively discerning the trends, relationships, patterns, and insights that drive discovery.



As genomics and proteomics accelerate the pace of convergence in discovery research, MDL ISENTRIS encourages collaboration, eliminates barriers, and fosters creativity within, and among, research teams.

*Energize discovery*

*Generate new ideas*

*Collaborate effectively*

*Get the most from your data*

*Improve lead quality*

*Unify discovery efforts*

# SHAPE OF INTEGRATION



Workflow management means moving data easily from one task to another, transferring compounds from the query stage through analysis and decision to testing. Interdisciplinary project teams must coordinate these activities between labs and collaborate effectively. Time spent administering and documenting projects is time lost to discovery.

MDL® Discovery Experiment Management enables scientists to manage chemistry and biology data and workflows, including procurement and logistics, in a high-throughput research environment. Using an integrated set of

applications, scientists can analyze and register structures and data, design syntheses, select precursors, synthesize libraries, manage plate and sample information, develop assays, conduct *in vitro* and *in vivo* research, report results, and collaborate effectively using a single, familiar system.

Experiment management solutions from MDL streamline discovery by marshalling appropriate resources and facilitating workflow transitions at every step in the research process.

*Integrate chemistry and biology workflows*

*Streamline sourcing*

*Reduce drug development time*

*Improve accuracy*

*Share information and ideas*

# IMPROVING R&D PRODUCTIVITY

# UNPRECEDENTED ACCES

MDL® DISCOVERY FRAMEWORK

MDL® DISCOVERY EXPERIMENT  
MANAGEMENT

MDL® DISCOVERY KNOWLEDGE

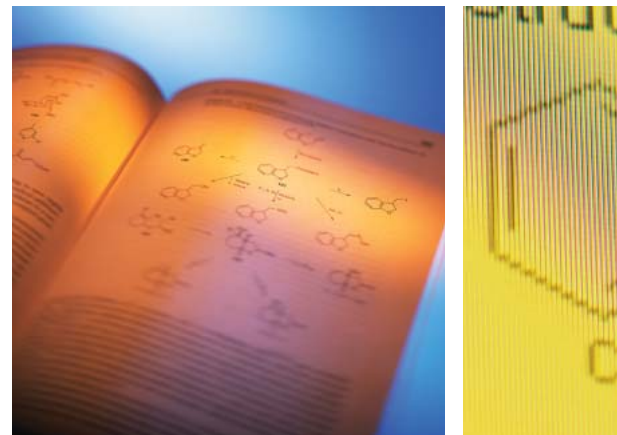
MDL® DISCOVERY PREDICTIVE  
SCIENCE

MDL® CONSULTING & SERVICES

There's no shortage of scientific information available to researchers. The challenge is to help scientists navigate and search both public domain and proprietary resources to access the best available chemical and biological information.

MDL's electronic databases include the world's largest structure-searchable reaction database and an extensive collection of chemical sourcing, synthetic methodology, pharmacology, metabolism, toxicology, and chemical safety databases. These compendia support every stage of discovery R&D, from developing hypotheses through synthesizing and testing compounds to selecting and optimizing promising leads.

DiscoveryGate<sup>SM</sup>, MDL's Web-based discovery environment, gives scientists unprecedented access to MDL and third-party content, as well as original journal articles, patents, and authoritative reference works on synthetic methodologies—with intelligent filters so researchers see only the information they want—all through a single login.



*Make informed sourcing decisions*

*Synthesize novel compounds faster*

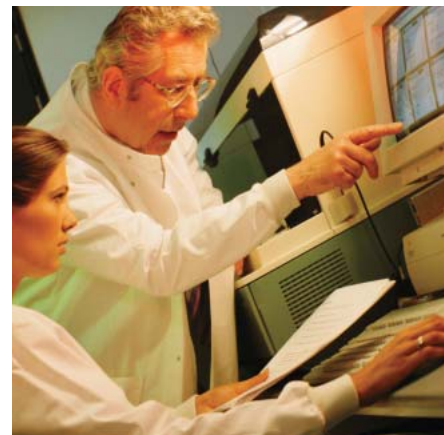
*Generate more viable leads*

*Conduct better informed  
investigations*

*Benefit from the latest chemical  
safety information*

# SUPPORT

# S TO SCIENTIFIC INFORMATION



The output of new drugs is declining while R&D investments rise. This situation is exacerbated by the information overload and workflow bottlenecks typically encountered in today's high-throughput, cross-functional research environment.

Scientists use chemically intelligent content and predictive science solutions from MDL and third-party providers to model the responses of complex biological systems. Integrated data pipelining, visualization, statistical analysis, predictive modeling, and QSAR techniques enable scientists to assess these responses quantitatively in a collaborative research environment.

For example, a comprehensive decision support system from MDL lets project scientists assemble and share data from many sources; analyze the data visually using property-based, structure-based, statistical, and chemical rules sets; develop, share, track, and re-use hypotheses; and apply the analysis results as new queries against MDL and corporate databases to find similar compounds—all interactively through a common project workspace.

*Establish reliable  
QSAR models*

*Visualize and analyze  
data interactively*

*Share a project workspace*

*Formulate and test  
hypotheses*

*Process large data sets  
in real time*

*Access data on metabolic  
fate and toxic effects*

# ING COLLABORATIVE DECISIONS

# ENHANCED BUSINESS PE

MDL<sup>®</sup> DISCOVERY FRAMEWORK

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MANAGEMENT

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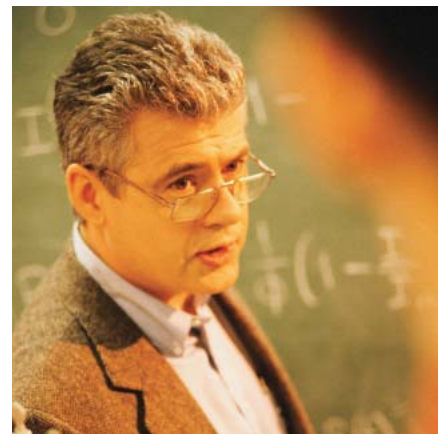
MDL<sup>®</sup> DISCOVERY PREDICTIVE  
SCIENCE

MDL<sup>®</sup> CONSULTING & SERVICES

MDL consultants offer unparalleled expertise in both informatics and life science research. This potent combination enables MDL to assess workflow processes pragmatically and assist with the development and implementation of enterprise-wide, candidate-advancing discovery informatics solutions. MDL's goal is to offer its clients a competitive advantage in their own markets—by lowering costs and improving research performance.

**CHEMISTRY** MDL consultants maximize chemists' productivity by helping them manage the discovery process better and ensuring that efficient chemical registration, data management, workflow, reporting, and decision support systems are fully integrated and aligned with corporate business strategies and objectives.

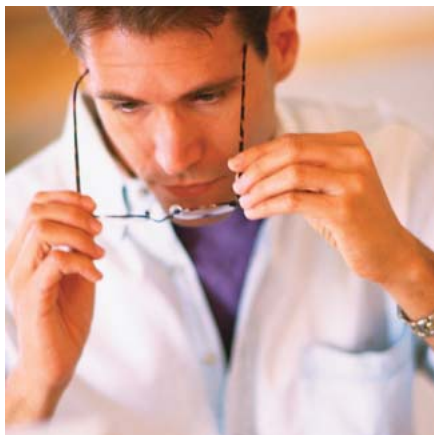
**BIOLOGY** MDL solutions for biologists include systems for registering biological and chemical data, managing plate libraries, performing assays, and reporting results. MDL provides the informatics tools and techniques biologists use to explore complex disease mechanisms, identify potential targets, and evaluate candidate compounds.



**LOGISTICS** Effective solutions for procuring and managing reagents and samples offer many benefits to R&D organizations—from increased speed of research, to direct cost savings, to improved worker safety. By leveraging MDL's expertise in logistics best practices, companies can achieve immediately quantifiable time and cost savings while ensuring full compliance with critical regulatory requirements.



# PERFORMANCE



**INFORMATION INTEGRATION** An open, scalable, flexible, and highly customizable architecture, MDL® ISENTRIS™ is an ideal platform for developing and deploying integrated chemistry, biology, inventory, and other informatics solutions and services. Comprehensive data and application integration strategies from MDL are based on a thorough understanding of each client's organizational structure and business performance objectives.

## **CUSTOMER SERVICES AND TRAINING**

To bring researchers and developers quickly up to speed with MDL products, MDL provides a flexible array of training options including both onsite and Web-based workshops.

To keep researchers productive, MDL's dependable customer support specialists provide accurate, reliable, and timely responses to queries about software implementation and usage—whether onsite, by telephone, or through the Web.

# SOLUTIONS WITH A GLO

MDL® DISCOVERY FRAMEWORK

MDL® DISCOVERY EXPERIMENT  
MANAGEMENT

MDL® DISCOVERY KNOWLEDGE

MDL® DISCOVERY PREDICTIVE  
SCIENCE

MDL® CONSULTING & SERVICES

An international organization with approximately 500 employees located at 16 offices on three continents, MDL is positioned to deliver high-quality discovery informatics solutions and projects across multiple sites anywhere in the world. Using MDL technology, scientists can instantly find the published and proprietary information they need, take it with them wherever they go, and share their data and research with colleagues around the world.

As the pioneering leader in discovery informatics and a part of the Elsevier Life Sciences division, MDL offers both technical innovation and corporate stability in today's volatile business environment.



In 25 years, MDL has accumulated the largest installed base among discovery informatics providers and an unequalled list of industry innovations, from the first commercial computer systems for handling graphical chemical structures and reactions and the first commercial 3D structure database to the first searchable chemical structures in Web pages.

Today, the innovation continues. With a new generation of integrated solutions built on MDL® Iseptris™ and DiscoveryGate™—providing single-login access to the most comprehensive Web-based discovery information available—MDL is continuing to offer scientists novel solutions to real challenges.

# INNOV

# BAL REACH



MDL enters its second quarter-century embracing the scientific promise of the new millennium, and actively working to extend its heritage of innovation. With the assistance of a Scientific Advisory Board consisting of preeminent scientists and industry leaders from around the world, MDL is identifying informatics strategies that will deliver on the post-genomic promise of faster, less labor-intensive, and more cost-efficient research.

By embracing an open architecture, developing strategic alliances with key partners, and continuing an unrivaled tradition of innovation, MDL is committed to providing customers—our most important strategic partners—with the best available informatics resources and guidance for discovery.

# ATION ON A SOLID FOUNDATION

WWW.MDL.COM



*Powering  
the Process  
of Invention™*

**MDL®**

**MDL Information Systems, Inc.**

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Over 1,000 life science companies supercharge their discovery engines with MDL software solutions to generate fresh ideas and make breakthrough discoveries. By synchronizing and streamlining the sharing and management of vital information and knowledge, we enable scientists to work more efficiently and invent drugs faster. This saves time, money, and lives. In support of our customers and the momentous challenges they face, everything we do must be reliable, resourceful, innovative, and insightful. For more information, visit [www.mdl.com](http://www.mdl.com).

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