

# Invention Machine Goldfire

## *Driving Sustainable Innovation for the Chemical Industry*

“Invention Machine Goldfire prevents us from reinventing the wheel.”

– **Leading European manufacturer of foams**

With intense competition, a strong regulatory climate, globalization, sharp increases in energy and material costs, complex multi-level manufacturing processes and ever-shortening downstream product lifecycles, the chemical industry remains a very dynamic industry. Addressing these challenges and meeting the mandate for sustainable innovation is critical to the long-term health of bulk and specialty chemicals manufacturers.

How will you aggressively develop new products and business opportunities? How do you differentiate non-proprietary products via packaging, delivery systems or new applications?

Invention Machine Goldfire is a unique software solution that transforms ideas into commercial products, making innovation a repeatable and sustainable process.

Designed with engineers, scientists and researchers in mind, Goldfire automates more than a dozen critical innovation tasks spanning a product's lifecycle—from identifying a new market to developing a new product to improving existing product offerings.

Fusing proven innovation tools and methods with precise access to corporate and external knowledge, Goldfire systematically guides users through every day innovation tasks to bring structure and uniformity to inventive problem-solving, concept discovery, and idea generation and validation.

Leading chemicals manufacturers—including Sun Chemical, Chemtura, Eastman Chemical, Cabot Corporation, and Tasnee—are using Goldfire to:

- Reduce costs through creative solutions to process improvements and efficiencies
- Find new markets and applications for current technologies; identify opportunities for new products in current markets
- Improve information exchange – better leverage internal and external knowledge capital for:
  - Materials identification; materials application
  - Cross domain solutions (i.e. biotechnology; nano-materials; materials-process trade-offs)
- Better identify and understand competitive and industry trends
- Perform comprehensive Root Cause Analysis (toxicity, impurity) and FMEA (product safety).





## INNOVATION TASKS with Invention Machine Goldfire

### >> ANALYZE A MARKET

Quickly Understand a Technology Space  
Technology Driven Evolution of Product  
Technology Landscaping  
What do I know about X?

### >> DEVELOP A NEW PRODUCT

Design a New System  
Design a Hybrid System

### >> IMPROVE A SYSTEM

Capture Design Intent of a System  
Diagnose a Product Failure  
Fix a Product Defect  
Improve Product to Achieve a Specific Goal  
Resolving a Contradiction or a Trade-Off

### >> RISK MANAGEMENT

Predictive Failure Analysis

### >> LEVERAGE IP

Finding a New Market for an  
Existing Technology  
Patent Busting

## SNAPSHOT OF PAST CHEMICAL PROJECTS with Invention Machine Goldfire

- Improve plastic resin molding process to minimize production time while reducing current problems such as air bubbles introduced during the pour, surface ripples caused by air cooling, and the need for polishing of surface damage during removal from molds.
- Identify new markets for metal-based inks.
- Resolve an ink misting problem during high speed printing for polymer packaging materials.
- Improve the process for coating photographic paper.
- Analyze and improve the process and chemical formulation for applying labels to glass bottles.
- Simplify paper making process through removal of pulp washing and bleaching operation.
- Improve the shear strength, and hot/wet properties of epoxies, and thin layer resin coatings, for use in the demanding aircraft industry.
- Reduce the amount of foam created in the liquid solution of a shaving cream product during processing and packaging.
- Identify new opportunities that could be fulfilled by modifying the characteristics of an existing foam product.
- Circumvent a blocking patent to develop a competitively differentiated food-safe disinfectant.

A \$3.7billion specialty chemical company identified 42 leads and generated \$1million in increased revenues.

A leading provider of innovation software, Invention Machine drives sustainable innovation by empowering global organizations to translate ideas into market-leading products, consistently and rapidly.

Global 2000 manufacturers in more than 25 countries rely on Invention Machine Goldfire for product innovation, process improvement and market expansion. Its unique software fuels sustainable innovation across numerous industries, including aerospace and defense, automotive, consumer, technology, energy and environment and life sciences. For additional information, please visit [invention-machine.com](http://invention-machine.com).