

SynSilico launches Agentic INNOptimizer® to boost R&D Efficiency with Next Generation intelligent Experimental Design

Agentic INNOptimizer® is dynamically guiding optimization tasks achieving up to 70% reduction of experiments compared to standard design of experiment tools

GELEEN, LIMBURG, NETHERLANDS, August 25, 2026 /EINPresswire.com/ -- [SynSilico®](https://www.synsilico.com/), a pioneer in AI++-driven innovation for scientific and industrial research, is proud to announce the release of [Agentic INNOptimizer®](https://www.synsilico.com/optimizer), a next generation web-based optimization platform designed to transform how researchers and engineers approach experimentation.

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Agentic INNOptimizer takes the next step of democratizing Bayesian Optimization. Our agent supports users to intelligently and dynamically configure BO to waste even less time and experiments. Use it!”

*Oliver May, Managing Director
SynSilico B.V.*

Agentic INNOptimizer® leverages the power of Bayesian Optimization (BO) but now dynamically and intelligently configured with support of Optibot™, a fully user controlled Agent. The outcome: smarter BO setup to significantly reduce number of experiments required in the development and optimization of processes, protocols, formulations, and compositions across a wide range of industries including chemical manufacturing, materials

science, pharmaceuticals, food technology, and beyond.

Accessible at optimizer.synsilico.com, Agentic INNOptimizer® provides users with an intuitive and configurable platform that integrates advanced analytics, to guide data-driven experimental design strategies. The tool is especially well suited for applications in Quality by Design (QbD) studies, offering unparalleled insights into design spaces and the complex relationships between input variables and performance/quality outcomes. During the first two months (until Nov 30th, 2026), we offer a 20% discounted early adopter price which you can find on our website.

Accelerate Innovation with Bayesian Intelligence:

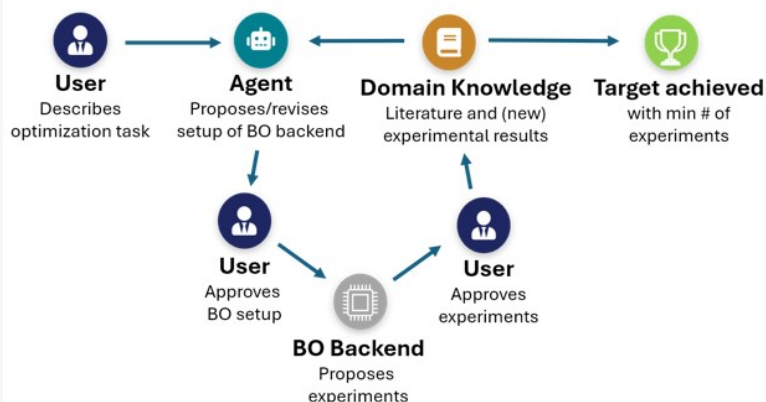
At its core, Agentic INNOptimizer® uses Bayesian Optimization, a probabilistic model-based approach to guide experimental design intelligently and efficiently. This methodology excels in situations where experiments are expensive, time-consuming, or resource-intensive, making it

ideal for scientific research, product development, and process optimization. Compared to other statistical standard tools such as Design of Experiments, up to 70% less experiments are needed for complex optimization tasks. By modelling system behaviour and continuously learning from results, Agentic INNOptimizer® goes beyond recommending the most promising experimental conditions to evaluate next. For the first time, it also automatically proposes the optimal Bayesian Optimization (BO) configuration, maximizing the effectiveness of the optimization process. It even suggests adjustments

to the configuration during optimization cycles when it sees improvement potentials. It even checks for potential outliers. This further reduces redundant experimentation and allows users to reach their goals with fewer iterations, saving both more time and cost than with first generation BO tools. Meta just published a pioneering paper on [Agentic Bayesian Optimization](#) on August 8, offering a compelling overview of the agentic concept and its advantages over existing advanced optimization strategies.

Human-in-the-loop Agentic INNOptimizer® Improvement Cycle

The agent proposes BO setup, the user approves, backend computes, results refine the next round of BO setup to achieve optimization task with min # of experiments



Agentic Experimental Optimization

Key Features and Capabilities:

- **Flexible Optimization Engine:** Agentic INNOptimizer® is easily adaptable by Optibot™ with full user control for virtually any experimental optimization task. Whether fine-tuning a chemical reaction, optimizing a formulation, or improving a manufacturing protocol, users can quickly configure optimization scenarios to suit their needs.
- **Insightful Design Space Visualization:** The platform provides rich visualization and analytics tools to help users understand the shape and structure of their design space. These tools uncover hidden trends, interactions, and dependencies among input and output parameters, offering deeper understanding for decision-making and troubleshooting.
- **Interactive Analytical Dashboard:** A comprehensive dashboard allows users to explore multi-dimensional parameter interactions, response surface maps, Pareto frontiers, and convergence behaviours. These tools are invaluable for hypothesis generation, model validation, and strategic planning.
- **Free Trial Version:** A fully functional trial version of Agentic INNOptimizer® is available at no cost, providing users with access to a broad suite of analytical features to evaluate its capabilities before full-scale deployment.
- **API Integration for Automation and Scalability:** Agentic INNOptimizer® includes a robust API, enabling integration into external software solutions, laboratory automation systems, and digital

co-pilots. This makes it ideal for self-driving lab applications and closed-loop experimental workflows, where the optimizer can guide and automate decision-making in real-time.

An improved Tool for the Era of Digital Experimentation:

The traditional approach to experimental design often involves trial-and-error and one-variable-at-a-time (OVAT) strategies that can be both inefficient and limiting. Agentic INNOptimizer® replaces these legacy methods with a modern, algorithm-driven framework that supports:

- Multivariate Experimental Design
- Various seeding strategies and constraints setup
- Sequential Learning with Uncertainty Quantification
- Data-Efficient and Agent-supervised Exploration and Exploitation
- Agentic support with Optibot™ for dynamic optimization of BO parameters, including choices of surrogate models (kernels), acquisition functions and tuned exploitation versus exploration settings

As industries increasingly adopt digital transformation and AI-driven R&D, Agentic INNOptimizer® provides a scalable and intelligent infrastructure to accelerate discovery and innovation across domains.

Unlock the Power of Your Data:

With continued use, customers build a rich dataset of experiments and outcomes in their private Agentic INNOptimizer® environment.

SynSilico offers custom support services to help organizations leverage this growing data asset, including:

- Local Implementation: Our team can install the tool on your company's local (or cloud-based) computational infrastructure.
- Data Strategy Consulting: Expert support to design data collection strategies, improve data quality, and extract actionable insights from historical or live experiments.
- Self-driving lab Solutions: Integration with existing enterprise tools, laboratory information systems (LIMS) and automation (robotic) systems.

Applications Across Diverse Industries:

Agentic INNOptimizer® has broad relevance in sectors where formulation, process conditions, or materials must be finely tuned for optimal performance. Current and potential use cases include:

- Chemical Industry: Reaction condition optimization, catalyst screening, and synthesis parameter tuning.
- Pharmaceuticals: Drug formulation optimization, bioprocess design, and QbD-based protocol refinement.
- Materials Science: Composite design, additive manufacturing parameters, and property targeted materials development.
- Food Technology: Recipe optimization for taste, texture, nutrition, and stability.

- Agrochemicals: Fertilizer formulation, crop treatment protocols, and environmental performance balancing.

Get Started Today:

Interested users can explore Agentic INNOptimizer® by visiting optimizer.synsilico.com, where a free trial version is available for immediate use. No installation is required - just log in and begin optimizing your experiments.

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