



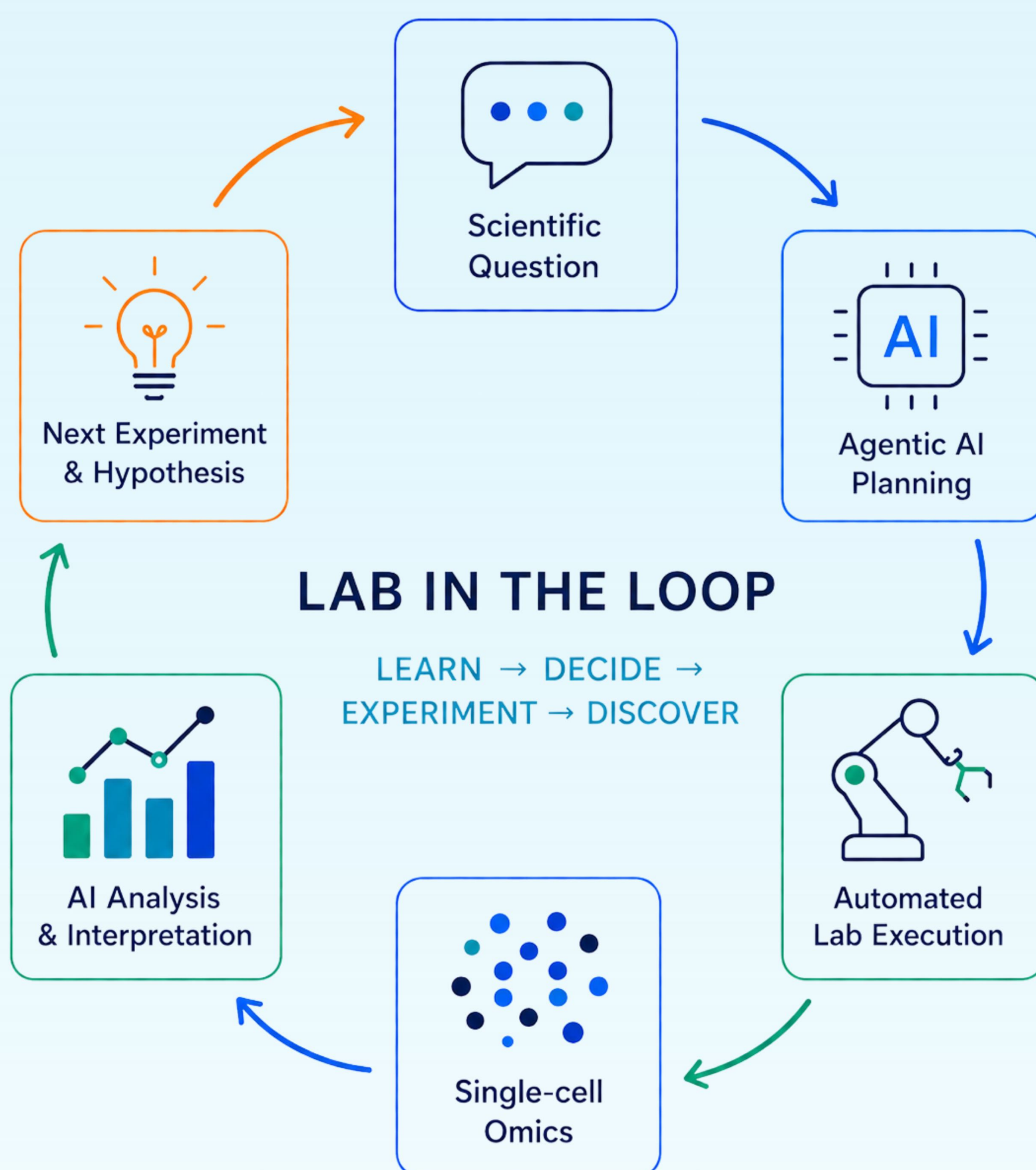
ATOMIC

AI-Powered Autonomous Lab
for Scalable Scientific Discovery

Agentic AI + Automation for Precision Medicine and Drug Discovery

ATOMIC connects agentic AI, laboratory automation, single-cell omics and closed-loop learning to help researchers move from scientific question to automated experiment to data-driven next step.

From Idea to Experiment to Insight



Agentic AI in the Loop

- Scientific planning agent
- LIMS / metadata agent
- Scheduler agent
- Automation execution agent
- Bioinformatics agent
- Analysis agent
- Hypothesis-generation agent
- Each agent performs a specialised role, enabling the platform to coordinate design, execution, analysis and learning across the experimental cycle.

What Makes ATOMIC Different?

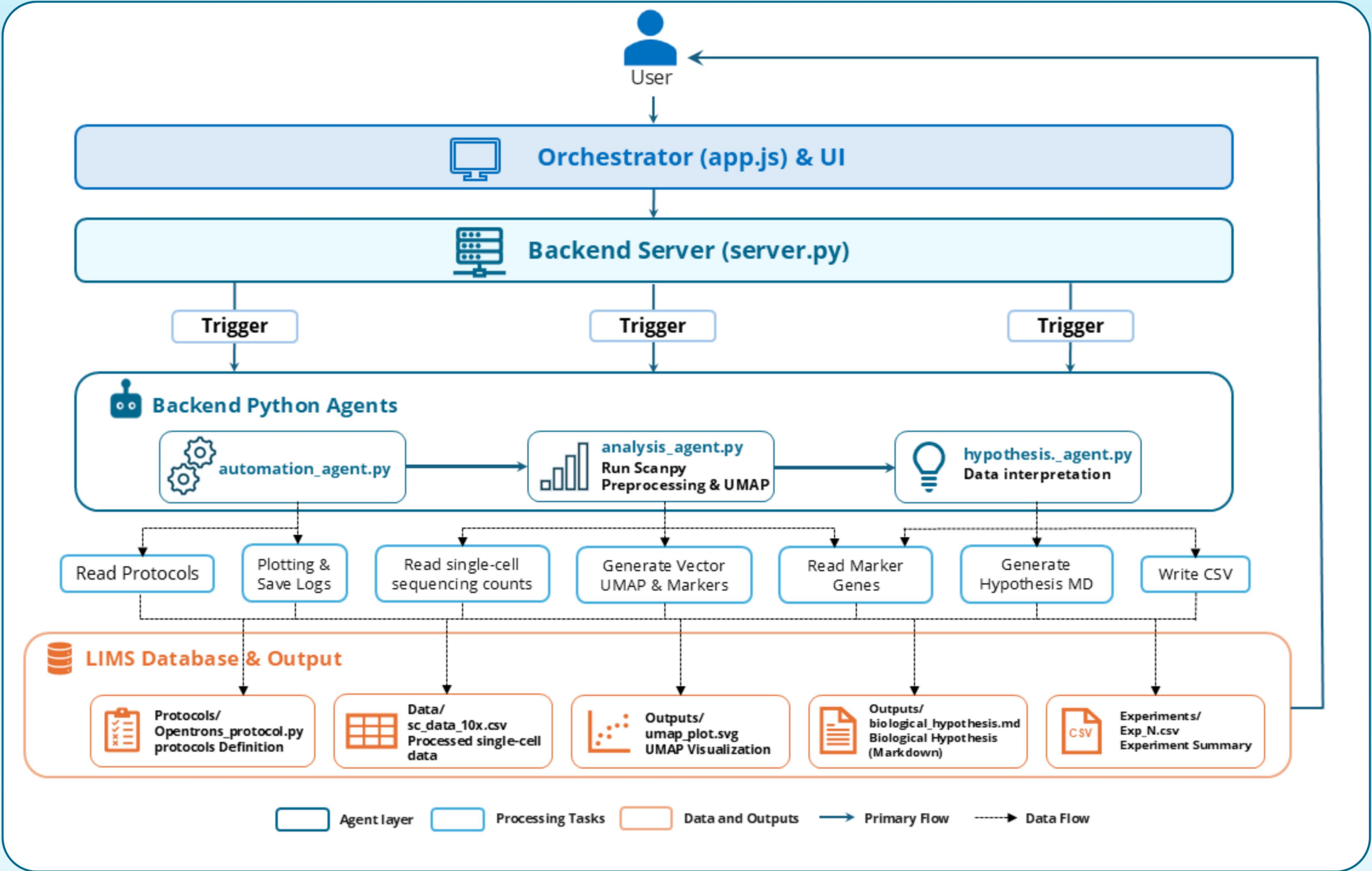
Agentic AI for experimental planning: AI agents translate scientific intent into experimental design, workflow steps, analysis tasks and next-step recommendations.

Automation for reproducible biology: Robotic workflows support cell culture, drug treatment, plate handling, fixation, single-cell barcoding and library preparation.

Single-cell resolution: High-throughput single-cell profiling captures how individual cells respond to perturbations.

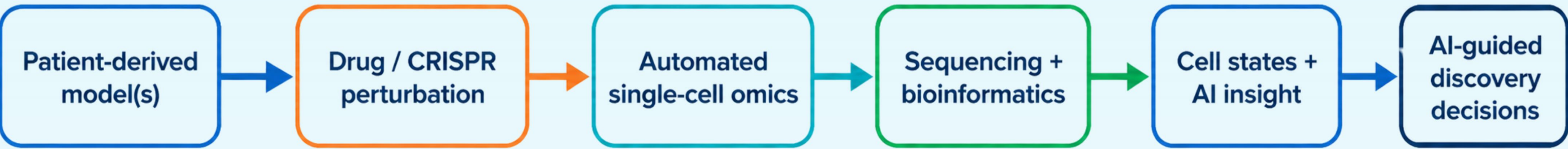
Closed-loop discovery: Experimental data feeds back into AI models to prioritise the next round of experiments.

Agentic AI Architecture



ATOMIC Applications and Featured Technology

From Patient-Relevant Biology to AI-Guided Discovery Decisions



Precision Medicine

- Patient-derived organoid drug testing
- Tumour heterogeneity and resistant cell-state analysis
- Immune / stromal co-culture response profiling
- Drug combination prioritisation
- Mechanism discovery

Key value: identify not only whether a treatment works, but which cells respond, which cells survive, and why.

Drug Discovery

- Target discovery and validation
- CRISPR or drug perturbation screens
- Mechanism-of-action studies
- Resistance pathway identification
- AI-guided experimental prioritisation

ATOMIC enables richer perturbation screens by linking automated experiments to high-dimensional single-cell readouts.

Why It Matters

Scientific AI is moving beyond analysis of existing data. ATOMIC demonstrates how AI can actively guide the generation of new biological data. By combining agentic AI, lab automation, single-cell multi-omics and closed-loop learning, ATOMIC provides a practical framework for intelligent biomedical discovery.

See how autonomous experimentation and agentic AI can work together to power the next generation of biomedical discovery.
Scan to contact us.

