stuntman

Materials & Energy

UNCHAINED LABS

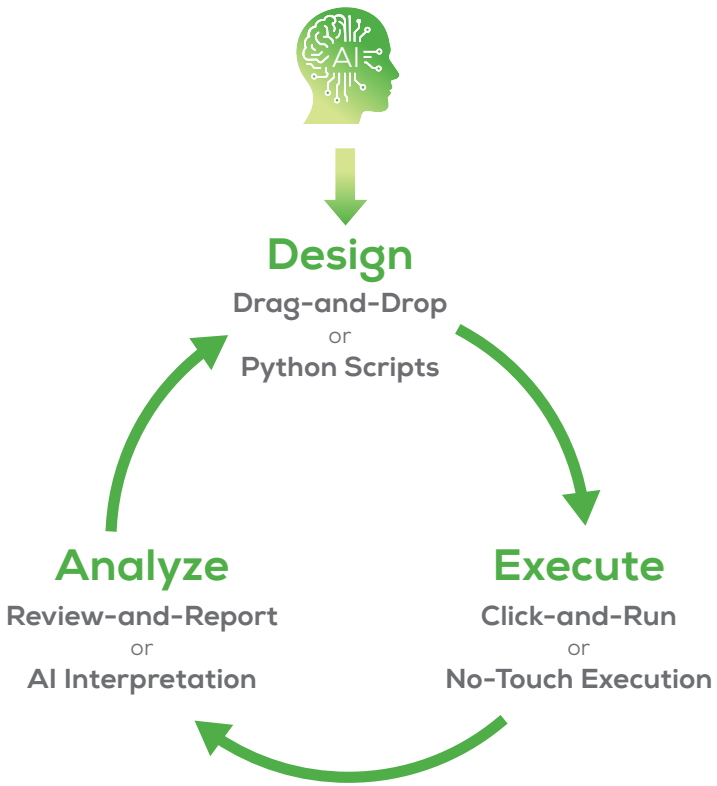
Tag in AI-driven automation

Stuntman combines built-in AI with fully modular hardware to tear through materials development – from electrolytes and polymers to catalysts, coatings, and hydrothermal syntheses. Screen materials and processing conditions in parallel with integrated analytics, and AI-driven experiment design and scripting. Whether you're tuning electrolyte formulations, scouting new polymers, screening catalysts, or dialing in films and coatings, you can build, swap, and scale any workflow on deck to crush every run – Stuntman's always ready to take the heat.

- Battery & electrolyte development
- Polymer synthesis & optimization
- Catalyst synthesis & screening
- Hydrothermal synthesis
- Coatings development

Up the ante with AI

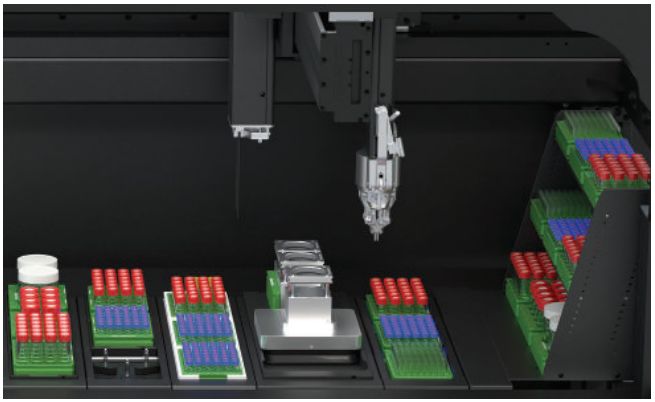
Built and tested on Stuntman, our AI turns your natural-language prompts into executable scripts that can drive closed-loop automation from start to finish. It helps plan and organize experiments, interpret results, and guide how things progress – you just tell it what you want to achieve. Generate entire workflows through AI, an intuitive drag-and-drop interface or dive into Python with full API access. Every condition, step, and data point is logged in open, structured formats for effortless sharing and analysis.



Do stunts your way

Stuntman's fully adaptable, so you can build your deck around your materials workflow. Crank through battery slurries and electrolytes with viscous liquid handling and conductivity checks. Push polymerization with high-T/high-P reactors and gas injection. Drop in modules for coatings, catalyst prep or porous materials synthesis. Pick and choose what suits your science and expand as you go. With built-in AI support, spot every stunt and tune your experiments for peak performance.

Metal impregnation



Co-precipitation synthesis

Charge up energy storage

Whether you're working with lithium-ion blends, polymer electrolytes, or redox flow systems, Stuntman's here for it. Formulate, mix, and screen at high throughput to turn months of work into days. Keep your energy storage breakthroughs charging ahead with integrated characterization – from solubility to electrochemical performance, or whatever fits your flow.

Conductivity arm

Visual inspection for solubility

Handle harsh conditions

Stuntman's made to take the extreme heat, pressure, and reactive gases that come with polymer chemistry – so you can hand off the glovebox gymnastics. High-T/high-P OSR reactors push up to 48 conditions in parallel, each with independent temperature, pressure, and built-in gas or liquid feeds. Tune catalysts, map conditions, or build catalyst reactivity libraries without slowing down the show.

Optimization Sampling Reactor (OSR)

Prep catalysts like a pro

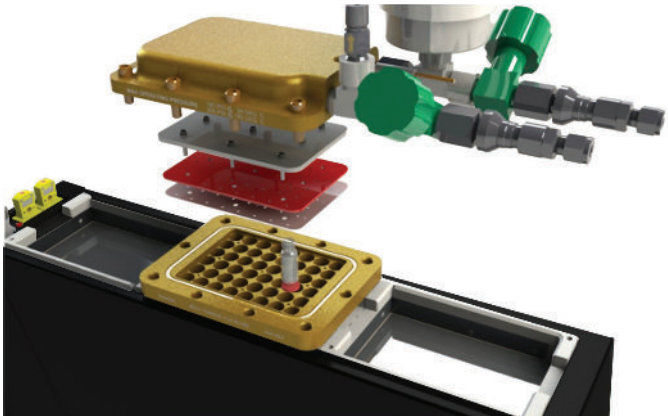
Stuntman muscles through catalyst prep — weighing supports, adding precursors, tracking pH, and keeping every mix uniform. Run impregnation with precise dosing and vertical-shaker mixing, or drive co-precipitation with multi-liquid feeds, tight pH control, automated aging, and cleanup. Whether you're optimizing supported metals or exploring new oxides, you'll get rock-solid prep every time.

Vertical shaker for impregnation

Co-precipitation with multi-liquid feeds and pH

Rev up hydrothermal reactions

Stuntman automates precise dosing and gel prep, high-T/high-P runs in DSPR or OSR reactors, and particle recovery with on-deck centrifugation – so you can scale up hydrothermal work without losing momentum. Turn your hydrothermal synthesis one-offs into high throughput discovery for zeolites, nanoparticles, catalysts or other materials you're chasing.



Deck Screening Pressure Reactor (DSPR)

Optimization Sampling Reactor (OSR)

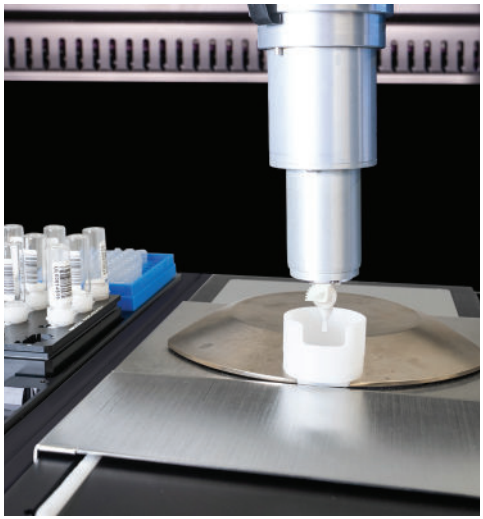
Stick film formulation

Stuntman keeps film formation consistent, clean, and on cue. Start with tiny test films and have optimized coatings in a matter of weeks then lock in performance with controlled drying and curing. Measure what matters – thickness, gloss, color, tack, friction, wear or electrochemical response. No matter if it's inks, paints, functional films or battery materials, Stuntman makes coatings you can trust.

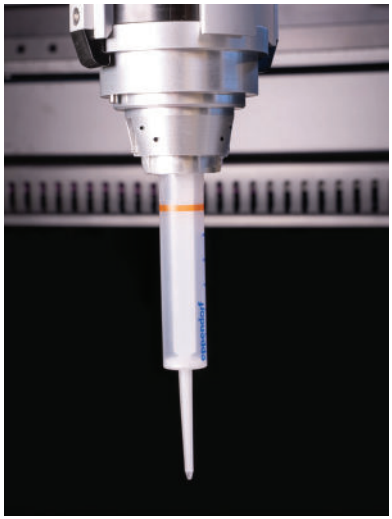
Drawdown coating

Dose it right and seal it tight

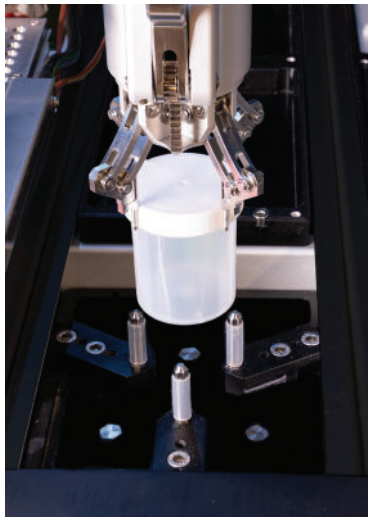
Stuntman's automated powder dispense and liquid handling hit the mark with accurate and reproducible dosing of powders, high viscosity materials, and sticky slurries. Automated capping keeps every vial sealed for heat and pressure or for whatever's next.



Solid dispensing



Viscous liquid dispensing



Automated capping

Bring in the crew

With Stuntman, integrations and add-ons are endless so your materials workflow never hits a wall. Churn through mixing with planetary mixers, acoustic mixers, homogenizers, or sonicators. Simplify workups with a centrifuge, evaporator or other tools. Hook into analytics that matter – electrochemistry for batteries, XRD for catalysts, or SEM for coatings. No matter the trick, Stuntman's built to play well with others.

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