Actions Science Starter Kit

A practical method using familiar control language

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Use one consequential action to connect meaning, authority, execution and evidence across people and systems. Apply the six questions, challenge the actual boundary and link selected industry controls to the work. Begin with the planning exercise; use the optional sheets on pages 13–16 when needed.

Every system tells three stories: what was allowed, what was tried and what actually happened. Actions Science keeps them apart, reconciles them and shows where they don't match.

DEFINE	ESTABLISH AUTHORITY	DECIDE	ENFORCE	RECHECK
Name the exact effect; the target writes it down with a reference number	Confirm the right and the owner's approval of the prepared action	Accept: a pass for the prepared action only, or refuse it with a reason	Match the pass to the prepared action; done only when the target confirms	Match what was allowed, tried and done; keep any mismatch open. Retain evidence that supports an independent challenge

How to use this kit

A bounded team exercise, not a certification or deployment finding

The website and twelve-slide briefing explain the problem through one room-finding release. The companion export is a demo worksheet and results file; this Starter Kit helps your team apply the same structure to one action of its own. Use existing controls first. Actions Science does not require a new job title, a software purchase or adoption of Root Zero Vault.

A 30 minute planning session

MINUTES	WORK	OUTPUT
0-5	Review the room-finding example	Shared understanding of the exact action
5-10	List candidate actions	One consequential action selected
10-20	Complete the six-pillar action contract	Known facts, owners and unknowns
20-27	Choose the first challenge tests	Expected decisions and evidence
27-30	Assign the next smallest test	Owner, date and stop or expansion condition

Thirty minutes is a planning target. A real action may require deeper technical, legal, safety or operational review. Completing the worksheet does not authorize an action or establish that a deployed control works.

What good looks like at the end

- The team can state one exact action in a single sentence.
- Authority, operation, target ownership and independent review remain distinct.
- The team knows where the final permission check occurs and which routes could bypass it.
- Success, refusal, change, replay and missing-evidence cases have expected outcomes.
- Every conclusion identifies the evidence and assumptions that support it.

The companion action

One story across the website, Map, briefing and Starter Kit

Publish the owner-approved room-finding build 1.1 to Production once, before authorization expires.

PART	WHAT HAPPENS	WHY IT MATTERS
1	The AI produces a correct room-finding fix in build 1.1	Correct content does not create Production authority
2	The engineer requests Production under Test-only authority	The request is refused before the covered effect
3	The engineer deploys build 1.1 to Test	Legitimate work succeeds within the existing scope
4	Production's guard writes down build 1.1 with a reference number, and the owner approves that prepared release	Authority binds to the prepared artifact, target, use and expiry
5	Production matches the pass to the release it prepared and deploys it once	The target checks the permission before release; it is done only when Production confirms
6	Build 1.2 contains different bytes	It is a different action and needs separate authority

What the local companion establishes

Its embedded RSBIS WebAssembly verifier performs real local checks. It shows permit and refuse decisions, binds the example to exact inputs, records local observations, and supports local record checking.

What it does not establish

The downloadable page controls its own passes, signing key, clock and preview targets. It does not establish independent Production enforcement, durable organizational history, native deed issuance, a customer-qualified deployment, or measured business value.

The complete action journey

Read each row across, then follow the action downward

STAGE	EXISTING CAPABILITIES	GOVERNED ACTION	RETAINED EVIDENCE
1 Define	AI, data and software checks	Production's guard records build 1.1 with a reference	Action identity, reference number and inputs
2 Establish authority	Owners, identity, access and approvals	Establish the right and its limits	Authority and policy versions
3 Decide	Policy engines and agreed rules	Accept the prepared release, or refuse	Permission or refusal
4 Enforce	Target controls and effect credentials	Match the pass to the prepared release; check presenter, expiry, use, nothing relied on changed	Production's confirmation, result or refusal
5 Recheck	Audit, archives and independent review	Reviewer reconciles the supported historical finding	Decision, trust inputs, history and any open mismatch

Optional Root Zero Vault profile

RESPONSIBILITY	QUESTION	ROLE ACROSS THE JOURNEY
Deed	Who has the right?	Carries authority and limits for the exact action
Gate	May this action happen?	Decides before the effect and supports target enforcement
Chain	Can another person check it?	Retains authority, decisions, outcomes and later changes

A changed build stops. Approval for build 1.1 cannot authorize build 1.2, another target or a replay, and under the method a failed check restricts that route: until the owner reviews it, any new pass for that presenter needs the owner's fresh approval, while the pass already issued still works once. A pass alone also does not prove that the intended effect occurred. A pass is exact, single-use, short-lived and bound to its presenter, so a compromised actor or a stolen pass can do at most the one approved action, once, before it expires.

Six views of one action

The Actions Science pillars stay connected across the journey

PILLAR	TEAM QUESTION	USEFUL OUTPUT
Semantics	What exactly changes?	Exact action, target, payload and affected parties
Authority	Who may authorize it, under which limits?	Owner, delegation, conditions, expiry and approvals
Execution	Where is permission enforced before the effect?	Credential holder, final check and bypass surface
Evidence	What can another person verify?	Request, decision, attempted execution and observed result
Continuity	What happens during failure, delay or change?	Retry, revocation, restart and uncertainty behavior
Assurance	How strong is the finding, and what challenges it?	Reviewer, methods, assumptions and limitations

The working cycle

1 DEFINE	2 HYPOTHESIZE	3 PREPARE	4 CHALLENGE	5 JUDGE	6 IMPROVE
Name the exact effect and surface	State what must hold and how to disprove it	Assign owners and gather evidence	Try bypass, substitution, replay and change	Record supported claims, gaps and contradictions	Fix mechanisms and refine requirements

The cycle produces bounded findings and reusable requirements. A relevant change reopens the affected requirement or test.

Six tests for the complete action path

Test the integrated path and its evidence

TEST	WHAT THE TEST ASKS	ROOM-FINDING EXAMPLE
T1 Decision before action (formal: Pre-action decision and rejection)	Does a deterministic decision occur before the effect, and does refusal leave usable evidence?	The initial Production request is refused under Test-only authority
T2 Rules as they were (formal: Historical policy and authority)	Can a reviewer reconstruct the rules and legitimate authority that applied at that time?	The owner approval and policy version remain available
T3 Pass tied to the action (formal: Decision-bound execution)	Can a pass for one request authorize another artifact, target or use?	Build 1.1 approval cannot release build 1.2
T4 No way around (formal: Mediation assurance)	Is every declared route to the effect closed or named and tested, and is an effect made outside the path found from the target's own log, as far as that log records it and whoever went around it cannot change it? A failed check on a route restricts that route.	Every declared Production route enters the checked boundary or is named; Production's own log finds any deploy made without a pass, which is detection, not prevention
T5 Checkable without you (formal: Operator-independent replay)	Can another reviewer recompute the decision offline from retained evidence, the continuity bundle and independently established trust inputs, after keys, operators or systems have changed?	The reviewer checks the original decision without rerunning the release
T6 One story throughout (formal: End-to-end semantic coherence)	Do identity, authority, policy, permission, effect and verification refer to the same event?	The record remains about build 1.1, Production, one use and the observed outcome

Acceptance remains bounded to the tested deployment, declared surface and trust assumptions. A narrower review may still expose useful gaps, but it does not satisfy a broader claim.

For Test 4, reads, changes put back before the next check and effects in other systems are not found from the target's own log; finding an effect made outside the path never excuses an open route, and finding it afterward never counts as prevention. To claim Test 4, an implementation shows that every in-scope route goes through prepare and approve; the effect and the used mark happen in one step; the record of used approvals is kept where the target's own admins cannot roll it back; an outside system that performs the effect checks the approval itself and drops repeats; and trusted components and exclusions are stated. Where a target cannot prepare actions, its guard prepares them on its behalf: weaker unless the guard is the only way in; the claim says so.

Action inventory

List candidate actions, then select one manageable test boundary

#	CANDIDATE ACTION	WHO AUTHORIZES IT TODAY	WHERE THE EFFECT OCCURS	WHAT COULD GO WRONG
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Include actions whose incorrect refusal would disrupt important work. Prefer an action with a meaningful effect, a visible target boundary and an achievable first test.

Selected action and reason

_____

Next smallest test

_____

Selected action contract

Record unknowns as work to resolve

Exact action: operation, payload or artifact, target, affected people and expected result

_____

_____

Authority: acting identity, delegation, authority owner, limits, expiry and required approvals

_____

_____

Execution: target, operator, component holding effect credentials and check immediately before the effect

_____

_____

Evidence: request, authority and policy version, decision, attempted execution, observed outcome and any effect made outside the path

_____

_____

Continuity: changed input or target, revocation, retry, restart, unavailable permission and unknown outcome

_____

_____

Assurance: reviewer, reproduction method, assumptions to challenge and route to correction

_____

_____

Owners, boundaries and routes

Keep decision rights, operation and review distinct

RESPONSIBILITY	NAMED OWNER	DECISION OR DUTY
Authority owner		Approves the action and its limits
Application owner		Owns the proposing application and its request
Target owner		Controls the target and effect credentials
Connection owner		Maintains the action contract across handoffs
Independent reviewer		Challenges the claim using retained evidence
Affected person or representative		Raises a challenge or requests correction where applicable

Declared action surface

Systems that participate in the action

_____

Shared action identifier or exact-action commitment

_____

Routes that can reach the target or obtain effect credentials

_____

How each system preserves meaning and governing context

_____

Legitimate work that must succeed

_____

What a refusal should explain and enable next

_____

Challenge plan

Agree on expected behavior before running the trial

CHALLENGE	EXPECTED OUTCOME	EVIDENCE TO RETAIN	OWNER AND STATUS
Exact action, valid authority and required conditions	Intended effect occurs	Approval, decision and observed result	
Correct action, but authority missing or outside scope	No unauthorized effect and a usable refusal	Refusal reason and target observation	
Artifact, payload, target or use changes	Changed request is refused or separately authorized	Binding check and target observation	
Properly authorized work is incorrectly refused	Integration defect follows an authorized correction path	Refusal, diagnosis and successful retest	
Retry, revoked authority or uncertain completion	No blind duplicate execution and defined reconciliation	Prior-use or revocation checks and outcome reconciliation	
Required evidence is missing or altered	The limitation is visible and no unsupported success claim is made	Independent review finding	

Trial owner and date

_____

Conditions for expanding or stopping the trial

_____

Evidence and result record

Separate what is supplied from what the trial actually demonstrates

EVIDENCE ITEM	LOCATION OR IDENTIFIER	ORIGIN CHECKED	COMPLETE FOR CLAIM	REVIEWER NOTE
Exact request and action identity				
Authority, delegation and approval				
Applicable policy and version				
Permit or refusal decision				
Target enforcement observation				
Observed outcome or uncertainty				
Trust, key and change history				
Independent recomputation result				

Result labels

LABEL	USE IT WHEN
Supplied	The kit or implementation includes the mechanism or instruction
Observed locally	Your team ran it in a local or controlled teaching environment
Demonstrated in deployment	The selected target and complete covered path produced retained evidence
Demonstrated independently	Another qualified person reproduced the agreed finding without relying on the operator's assertion
Planned or unknown	The work has not run, the evidence is unavailable, or the result remains unresolved

Decision, next step and claims boundary

Turn one trial into a bounded conclusion

Trial decision

FIELD	RECORD
Supported conclusion and exact scope	
Gaps, contradictions and unresolved assumptions	
Legitimate work and incorrect refusals	
Review time, integration effort, latency and cost	
Next action: expand, correct, repeat, pause or stop	

Using Root Zero Vault as an implementation profile

Actions Science can be applied with existing controls. Root Zero Vault's RSBIS profile offers Deed, Gate and Chain as one architecture intended to preserve the relationships among authority, decision, permission, effect and historical evidence. A capable alternative may satisfy the same requirements. Compare complete action paths against the same scope and obligations. Under the method, step 1 starts at the target: the target writes down the exact action with a reference number, the pass must match it, and the action is done only when the target confirms. The target's preparation, the match to it and the target's own confirmation are designed and tested in RSBIS, with coding scheduled.

Claims boundary

- A design, source implementation or passing test does not by itself establish customer deployment performance.
- A local companion run does not establish independent enforcement, durable history or Production safety.
- A pass does not establish that the target produced the intended effect.
- A successful trial supports only the tested action, target, routes, versions, evidence and trust assumptions. Time savings, risk reduction and comparative advantage remain outcomes to measure.

Next: Continue at https://rootzerovault.com/actions-science. Use the optional sheets on pages 13–16 for industry references and current observations. The included 12-slide briefing introduces the same story; the full Implementations Kit 2.20 supplies the detailed worked profile.

Familiar language and a distinct method

Optional practice sheet 1 | Keep the action at the center

Actions Science brings established practices into one repeatable investigation of a consequential action. Its structure is the five stages (Define, Establish authority, Decide, Enforce, Recheck); the six pillars and questions; the six tests; and the working cycle on page 5.

PILLAR	CONNECT IT TO FAMILIAR WORK
Semantics	Transaction context, exact resource and material parameters
Authority	IAM, authorization, delegation and separation of duties
Execution	Admission control, policy enforcement and complete mediation
Evidence	Audit trails, provenance, attestations and verification
Continuity	Revocation, idempotency, recovery and retained history
Assurance	Control effectiveness, challenge tests and independent review

These connections are not exact equivalences. A trace is not permission; an approval does not prove enforcement; a signature does not prove an observation true. Follow the actual relationship across the whole declared action path.

What makes the method worth testing

End-to-end tracking has substantial predecessors, including process mining, W3C provenance, MIT systems-safety methods and in-toto supply-chain verification. The potential contribution is the specific action-centered method and its practical results. This kit makes no world-first claim.

State a claim, name what would disprove it, challenge the actual boundary and retain the result. Compare with competent existing controls under the same requirements. Measure gaps found, legitimate-work disruption and effort to reproduce the finding.

Your next useful comparison

Action and current controls: _____

Claim and observation that would disprove it: _____

Reviewer and measure of useful improvement: _____

Make the control reference useful

Optional practice sheet 2 | Extend the existing record

For each selected reference, record the local duty, actual mechanism, owner, evidence, test and next step. Use existing requirement and evidence IDs. A source-control mapping is not a passing finding.

REFERENCE	WORK FOR THE ROOM RELEASE	EVIDENCE OR SCOPE LIMIT
CIS 6.2	Specify how access withdrawal reaches the target	Observe the cutoff; issued approvals need explicit revocation rules
CIS 16.8	Check separation of Test and Production	Examine actual permissions and cross-environment routes
CIS 16.10	Challenge declared publish paths and changed values	Route evidence supports only the assessed design scope
CCF CHM-02	Link the authentic Production change approval	Approval alone does not prove the approved build executed
CCF SM-14	Challenge detection of interference with monitoring	A verifier detecting an altered file is a separate result

Version basis: CIS v8.1 and Adobe CCF v5.0. These are our partial or supporting relationships. The full kit considers 12 CIS safeguards and five CCF controls. The other 141 CIS safeguards remain unreviewed here; wider organizational duties stay with their owners.

Complete one existing requirement row

Requirement ID and exact duty: _____

Framework version and ID; relationship and applicability: _____

Actual component and local obligation; accountable owner: _____

Evidence ID, source, scope, date and trust basis: _____

Expected test result; actual observation or NOT RUN: _____

Change that invalidates the finding; next owner and due point: _____

Sources: cisecurity.org/controls/cis-controls-navigator and adobe.com/trust/compliance/common-controls-framework.html. Adobe identifies v5.0 as stable and v6.0 as preview at this source check on September 25, 2026 Pacific.

Keep observations current

Optional practice sheet 3 | Define the signal and its response

Use indicators when their sources are connected and their scope and age are known. These are local measurement definitions, not official framework scores or live feeds supplied by the kit. No measured value is asserted here.

INDICATOR	RECORD	OWNER AND RESPONSE
Authority validity	Exact-action result and source age	Authority/target: apply mandatory refusal rules
Binding result	Approved values versus target values	Connection/target: stop a mismatch before effect
Route qualification	Assessed routes / declared routes; inventory revision	Target: reopen changed or unknown coverage
Revocation delay	Observed cutoff, path and clock basis	IAM/target: compare with the approved limit
Unresolved outcomes	Unknown attempts, age and IDs	Operator: reconcile; hold unsafe retries
Evidence validity	Missing, stale or altered required items	Evidence owner: reopen affected claims
Challenge currency	Current cases; failures and unrun cases separate	Reviewer: assign the affected retests
Legitimate-work impact	Incorrect refusals, completions and added latency	Application/operator: correct disruption

For each: name the source, configuration, window, observation time, maximum lag, freshness rule, threshold approver, response owner and restoration condition. Missing information is UNKNOWN or NOT MEASURED. A zero denominator is not 100%.

Use the right cadence

Before an effect: enforce required action conditions. After a relevant change: reopen and retest affected claims. On the approved schedule: challenge routes, recovery and independent reconstruction. Do not reassess all 153 safeguards for every action.

A green dashboard cannot grant permission. Any required restriction must reach the actual target under an approved policy; a later recovery must satisfy the authorized restoration conditions.

Turn the joined evidence into a finding

Optional practice sheet 4 | One action and one accountable next step

Use the same room-finding release. Suppose an authorized test discovers a direct API route that publishes build 1.2 using the authority intended for build 1.1. This illustration is not a reported deployment result.

The binding and mediation claims fail for that tested configuration. The target owner owns the route and credential repair; the application or connection owner owns material-field binding. The authorized release owner decides the required restriction. Keep the failed observation, fix under proper authority, then retest the affected paths.

KEEP THESE RESULTS SEPARATE	RECORD THE ACTUAL OBSERVATION
Governing decision	Permit, refusal or no decision issued; exact decision reference
Target outcome	Matching effect, scoped refusal, not attempted or unknown
Evidence verification	Check performed, result, verifier and trust dependencies
Assurance finding	Supported claim, boundary, contradictions and next work

A permit followed by a lost target reply remains a permit with an unknown outcome. Investigate the original attempt and prevent unsafe repetition. Missing later evidence does not turn the historical permit into a refusal.

Plan the first real observation

Choose one legitimate success and one meaningful challenge from page 10. The full kit adds named cases for Test-only authority, changed material values, revocation, alternate routes, duplicates, evidence interference, independent historical verification and restriction/restoration.

Case and approved environment: _____

Expected decision and target observation: _____

Actual result and evidence IDs, or NOT RUN: _____

Finding, limitation, accountable owner and next step: _____

Detailed procedures: Implementations Kit 2.20, Core 2.11, Industry Alignment and Continuous Assurance. The full kit retains the existing SDK, training, RZV issuance and responsibility material; this public starter remains the short first-use route.