The AEC Knowledge Resilience Framework v1.0 9.30.2026

Why Knowledge Resilience?

Resilience is the ability to keep performing when conditions change, expected or not. Knowledge resilience is that ability applied to what a firm knows: retaining and renewing the judgment it needs to do good work. It matters because knowledge fails quietly. It walks out in a resignation, goes stale while nobody's looking, or turns out to be missing when a client asks for something new. The cost shows up as rework, delay, and gaps in quality.

The AEC Knowledge Resilience Framework defines knowledge resilience in ways relevant to the architectural, engineering, and construction industries. This allows an organization to see where it's strong, where it's exposed, and what to do about it.

The Three Themes

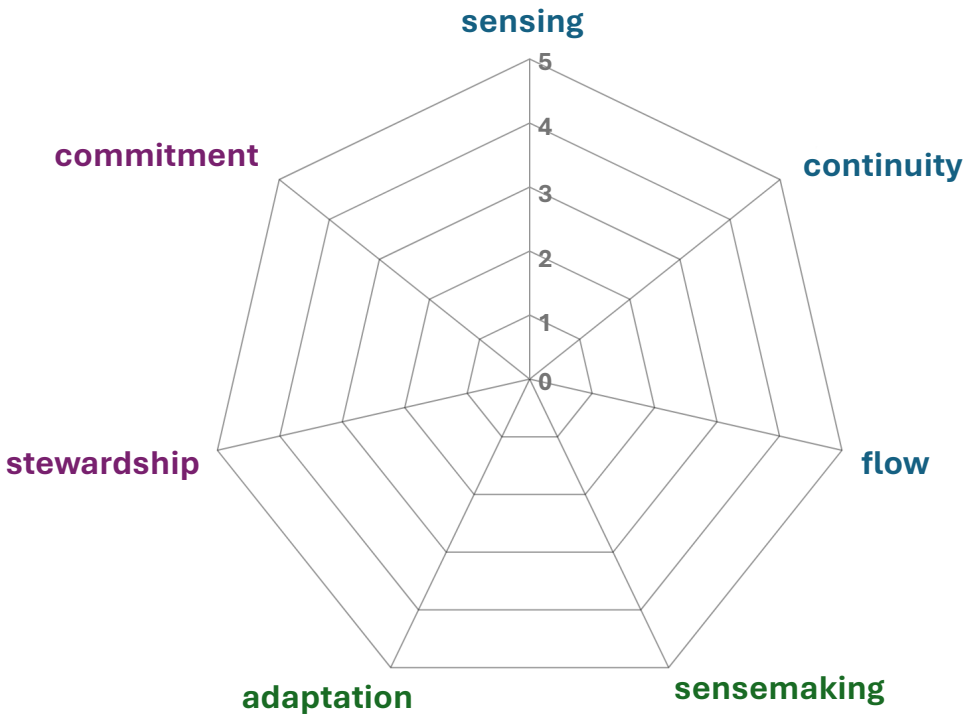
The AEC Knowledge Resilience Framework contains seven dimensions organized in three themes, **RETAIN**, **RENEW**, and **SUSTAIN**. This model works for whole firms as well as major subdivisions of firms, such as departments, studios, etc.

RETAIN	RENEW	SUSTAIN
know what's critical, protect it, and get it to the people who need it	learn from experience & change your practice because of it	put names & money behind RETAIN and RENEW so they survive turnover & the busy season
sensing What knowledge is critical? What threatens it? What's coming?	**sensemaking** Does the organization learn from its own experience, what went wrong & what went well?	**stewardship** Who owns each knowledge domain? Does it outlast its champion?
continuity Does critical knowledge survive loss of a person, project, or system?	**adaptation** ... and does learning (from any source) reliably translate into change?	**commitment** Does leadership treat knowledge as an asset ... and back it with time & money?
flow Does critical knowledge reach those who need it? Can they trust it?		

Assessing a Team or Firm

For each of the seven dimensions, assess your firm or team from 0 to 5. Specific hallmarks for each dimension are provided on the following pages. Pick the level of each dimension that best matches **observed practice**. Try not to rely on personal gut sense; seek out evidence to ground each assessment in objective fact.

Record your assessments on this chart.



Using the Assessment to Guide Action

What did your assessment reveal? Probably, there are one or more low-scoring dimensions that call-out for attention. Later in this guide, we offer ideas to help level-up areas where you decide to invest effort -- specific, achievable steps that move the needle in the right direction without "boiling the ocean." It should be easy to move up a level in a year.

In general, levelling-up follows a predictable sequence within each dimension:

0	find the skunkworks	surface what's already known *somewhere*
1 / 2	do a pilot	do something on purpose & record what happens
3 / 4	make it systematic	give the thing an owner and a trigger

The Seven Dimensions Defined

Specific hallmarks for each dimension are provided on the following pages. The levels follow a common pattern, based on observable behavior or artifacts created from those behaviors:

Level 5	**Embedded**	Performed deliberately, consistently, & systematically
Level 4	in between	
Level 3	**Practiced**	Done deliberately, but perhaps just once. Might be stale.
Level 2	in between	
Level 1	**Ad Hoc**	"Random acts of knowledge management"
Level 0	**Absent**	Not visibly happening at all (but perhaps just hidden)

While there's no intended hierarchy to the seven dimensions of the Framework, one – Sensing – does stand apart somewhat. A team's or firm's awareness of their knowledge landscape uniquely informs the other six dimensions. Therefore, if your team or firm is below level 3 on Sensing, prioritize investment there before working to raise the level of other dimensions.

RETAIN

sensing

The firm knows what knowledge is critical, what it lacks, what threatens what it has, and watches for change.

Many firms watch projects closely and don't look for stormclouds on their horizon.

5 Embedded
Exposure & gaps reviewed regularly & updated when people, projects, or markets change. Someone watches for what's coming and it informs decisions.

3 Practiced
Critical domains, who holds them, and known gaps were identified & documented. Someone watches developments in clients' industries, regulation, & tech.

1 Ad Hoc
A few leaders could name the one-and-onlys, but it's never been written down, and their lists wouldn't match.

0 Absent
Critical knowledge discovered when it's gone.

RETAIN
continuity

Critical knowledge survives the loss of any one person, project, or system.

Nexpert: *The next expert; an expert-in-training.*

5 Embedded
Nothing critical rests on one person or system. Obsolete knowledge gets retired.

3 Practiced
Nexperts deliberately developed for critical domains. Standards reviewed; sensitive knowledge treated as such.

1 Ad Hoc
Some seniors mentor on their own initiative; things recorded if someone cared. Redundancy is accidental.

0 Absent
One holder or one system per critical domain. Nothing transfers until someone gives notice.

RETAIN
flow

Knowledge reaches the people who need it, when they need it, and they can act on it.

5 Embedded
A new PM finds who knows X in a day; gets an answer they can trust & act on. Answers stay visible for the next person.

3 Practiced
Known places to ask & ways to find expertise, working for most questions. Reuse is normal on familiar work.

1 Ad Hoc
A few experts are known for being generous. Finding help depends on tenure & personal network.

0 Absent
People reinvent because they don't know what exists or whom to ask. Experts gatekeep.

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RENEW

sensemaking

The organization generates new knowledge from its own experience: it pauses to notice, examine, and record what happened.

Most of what happens goes right! Learning only from failure means learning from rare, dissimilar events, which is hard.

5 Embedded
Reflection is routine and covers work that went well. Safe to name mistakes. Output used by people who weren't there.

3 Practiced
Reviews at defined points (e.g., project close) producing a record. Failures always reviewed; successes when unusual.

1 Ad Hoc
Some leads debrief or keep notes. Whether a project teaches the firm anything depends on who led it.

0 Absent
Projects end, teams disperse, lessons leave with individuals. Failures blamed or buried.

RENEW

adaptation

The organization absorbs change from any source (its own lessons, a new standard, new delivery method, a lost principal) and metabolizes it into changed practice.

"If there is no change in behavior, then probably nothing has been learned."
— Erik Hollnagel

5 Embedded
Lessons & outside change have a path into practice, and rollouts include a check that the change held.

3 Practiced
Select lessons become revised standards, checklists, or training. Outside change rolled out with intent, if slowly.

1 Ad Hoc
Some teams change how they work; the firm doesn't. Changes stick while the enthusiast is watching.

0 Absent
Lessons recorded, nothing changes. Outside change absorbed by whoever gets stuck first.

SUSTAIN

stewardship

Named human ownership of critical knowledge domains and of the KR practices themselves, such that they survive turnover.

5 Embedded
Ownership sits in the role; transfers with it. Owners review on cadence and hand off to a replacement before they leave.

3 Practiced
Critical domains have named owners. Key practices have a named lead. Lapses still occur when people change roles.

1 Ad Hoc
Ownership is real but unspoken: everyone knows to ask Maria. It ends when Maria leaves.

0 Absent
No one owns any domain or practice. What exists was built by someone who's moved on.

SUSTAIN

commitment

Leadership treats knowledge as an asset and allocates against it. Intent backed by budget, time, and decisions.

5 Embedded
Knowledge is a factor in staffing, growth, & succession. The time and budget both persist through the busy season.

3 Practiced
Knowledge work appears modestly in budgets & utilization expectations. Exposure factors into hiring & succession.

1 Ad Hoc
One or two leaders protect time or money in their own units, or when a crisis makes it obvious.

0 Absent
Knowledge work is unbudgeted and unrewarded. Whatever happens, happens on personal time.

Actions to Level-Up in Each Dimension

SENSING

0 → 1 surface what's already known

- Three leaders separately name the five most critical knowledge domains & the holders; compare.

1 → 3 do it deliberately & write it down

- Make a 1-pager showing knowledge domains, holders, how rare it is, and what breaks if it's gone.
- List work not pursued, turned down, or fumbled for lack of expertise.
- Name who's already watching clients' industries, regulation, and tech. Ask what they're seeing

3 → 5 give it an owner & a trigger

- Attach knowledge review to firm's recurring planning effort.
- Name who owns this and put it in their role description.
- Define triggers of off-cycle look: a key resignation, etc.
- What did the firm see early and act on? What did it miss?

CONTINUITY

0 → 1 surface what's already known

- Ask who's already mentoring a successor or keeping unshared personal reference files.
- Name the single-holder knowledge domains.

1 → 3 do it deliberately & write it down

- Pick the three highest-exposure domains; name nexpert for each and give them real work in it.
- Set a rule: critical work gets staffed with a nexpert who does part of it, not shadows it.

3 → 5 give it an owner & a trigger

- Build knowledge transfer into role transitions.
- Judge readiness by nexpert having *performed* the work.
- Debrief real loss events — what broke, what held, what changed as a result.

FLOW

0 → 1 surface what's already known

- Find who people actually go to, and how they learned to.
- Ask new hires what took them longest to find out.

1 → 3 do it deliberately & write it down

- Pick one channel for technical questions and tell people it's the place; have a few seniors commit to answering.
- Make the current standards findable in one place. Move anything non-authoritative out of the way. Tell everyone.

3 → 5 give it an owner & a trigger

- Make answers visible to the next person, not just the asker.
- Treat question responsiveness as part of expert's job: name it in reviews & expectations.

SENSEMAKING

0 → 1 surface what's already known

- Find the leads who already debrief their projects and ask what they do with what they learn.
- Ask what the last "oh, no" taught us and who knows it.

1 → 3 do it deliberately & write it down

- Debrief projects at close: 30 minutes; what we'd do differently & something new we tried that worked.
- Review a project that went unusually smoothly with the same seriousness as one that went sideways.

3 → 5 give it an owner & a trigger

- Widen the triggers beyond project success or failure: new project types, first-time clients, and near misses.
- Treat project issues as knowledge symptoms: what did this person need to know, and could they have gotten it?

ADAPTATION

0 → 1 surface what's already known

- Find a team that changed how it works this year, and ask what made the change stick.
- Ask what a recent debrief changed, if anything.

1 → 3 do it deliberately & write it down

- Take one lesson from a debrief and turn it into a revised standard, detail, Revit asset or checklist.
- Check-in: Is a change from last year in use, or did it drift?

3 → 5 give it an owner & a trigger

- Name who decides which lessons become practice, and how a change gets announced, rolled-out, and confirmed.
- Watch big changes for a year after rollout; fix what drifted.

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STEWARDSHIP

0 → 1 surface what's already known

- List who people *actually* go to for each critical domain: the de facto owners (and any hidden experts).
- Ask those people whether they know they're it.

1 → 3 do it deliberately & write it down

- Name an owner for each of the top critical knowledge domains and tell them, in writing.
- Say what owning means: keep knowledge current, know who else can do the work, flag when it's at risk.

3 → 5 give it an owner & a trigger

- Put ownership in role descriptions so it transfers when people change jobs. Make ownership visible firm-wide.
- Set a review cadence and reassign duties well before an owner leaves as part of their departure checklist.

COMMITMENT

0 → 1 surface what's already known

- Find what knowledge work is already happening on personal time, and what it's costing the people doing it.
- Ask where knowledge shows up in the budget today. Usually: intranet, a few conferences.

1 → 3 do it deliberately & write it down

- Fund one thing deliberately this year (hours, not just software) and say publicly what it's for.
- Give the owners from **stewardship** protected time.

3 → 5 give it an owner & a trigger

- Put knowledge on the agenda when the firm discusses succession, growth, M&A, or a new market.
- Review the knowledge line in the annual budget against what **sensing** says is at risk.

Foundations

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