WHITE PAPER

The Decisions That Shape an EAM Implementation

How implementation decisions shape asset management for decades

Most EAM decisions disappear into implementation. A few shape how the organization works for decades. Those decisions deserve more attention than their place on a project plan suggests.

Asset Management System Integration (AMSI)

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Executive Summary

Enterprise Asset Management (EAM) implementation programs involve hundreds of choices. Most are routine. A few shape the asset structures people inherit, the information future analysis depends on, the workflows people follow, and the integrations and customizations that are hard to change. Those choices can shape how the organization operates for decades.

Enterprise systems research helps explain why. Implementation outcomes depend on organizational factors as well as technical ones. For asset-intensive organizations, ISO 55001 adds an important point: decisions about information, risk, performance, expenditure, and lifecycle value should stay connected to organizational objectives. An EAM implementation can strengthen that connection or weaken it.

The owner and implementer see these choices from different angles. The implementer knows the platform, its limits, and how to deliver it. The owner knows the assets, operating environment, risks, and the capability the investment should create. The hardest decisions often sit between those perspectives. Technical feasibility alone does not tell the organization what it should choose.

An Independent EAM Advisor can help when the owner needs another perspective. The advisor does not manage the implementer or add another approval layer. The role is to compare options, trace long-term consequences, and clarify the tradeoffs. Even strong organizations may need additional help clarifying decisions when a choice is hard to reverse, affects several functions, creates lasting dependencies, or carries unresolved uncertainty.

This paper explains how to identify those decisions, what the owner, implementer, and advisor each contribute, and where an independent view can help. The goal is to help owners make choices that still make sense after the project ends, creating an EAM environment they can operate and adapt themselves.

The owner decides the direction. The advisor distills the tradeoffs. The implementer delivers the solution.

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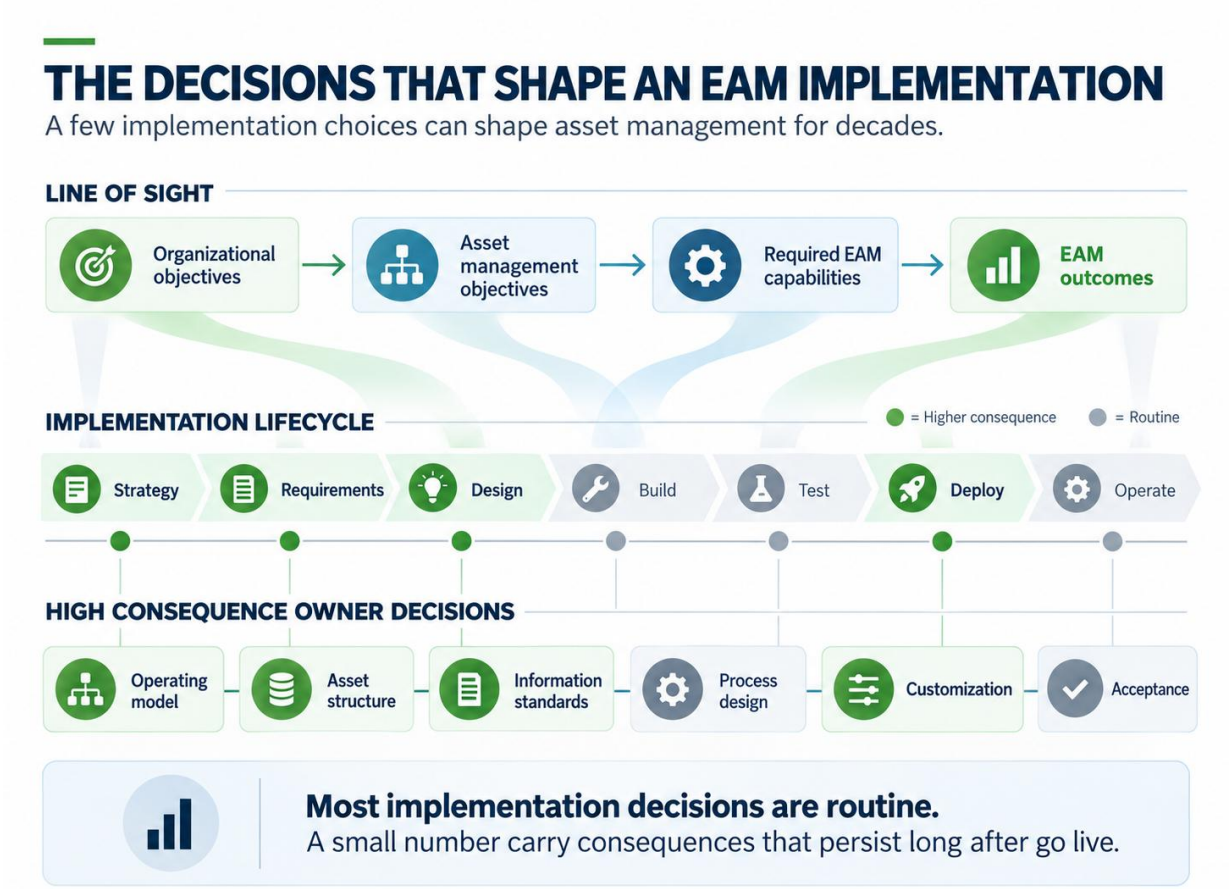


Figure 1. Decisions That Shape an EAM Implementation

1. The EAM Implementation Problem

Enterprise systems are rarely remembered for the hundreds of small choices in a project plan. They are remembered for the few that become part of how the organization works: a data structure too difficult to unwind, a workflow everyone learns to live with, integrations that limit future options, or customizations seem necessary but become painful at the first major upgrade.

Enterprise system implementation has never been only a technology problem. Research on Enterprise Resource Planning implementations shows that organizational factors matter as much as technical ones. Leadership, strategic alignment, organizational fit, process design, communication, and user involvement all influence whether the system becomes useful infrastructure. [1]

For an asset-intensive organization, those organizational choices have a lasting consequence.

An Enterprise Asset Management system does more than automate transactions. It shapes how the organization structures asset information, records maintenance history, captures condition and failure data, links work to cost, and supports decisions about risk and investment. Choices made during implementation can influence asset management long after the project ends.

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ISO 55001 explains why that matters. It connects asset management decisions to organizational objectives and to performance, risk, expenditure, and lifecycle value. [2]

Implementation choices can strengthen or weaken that line of sight.

An asset hierarchy determines how information can be grouped and analyzed. A work process determines what gets recorded and when. A system-of-record decision determines which data the organization trusts. Customization can add capability, but also cost and dependencies. Migration can preserve useful history or carry poor information into the new system.

These choices are implemented in technology, but their consequences are organizational.

The challenge is not just to make the system work. It is to choose processes, information, and technology that support how the organization intends to manage assets for decades.

Some of those choices can be changed later with little consequence.

Others become part of the system by which the organization operates - those are the decisions that deserve more attention.

2. The Owner's Decision Problem

The hardest EAM decisions are difficult because the owner and implementer see different parts of the problem. The owner understands the assets, operating constraints, obligations, risks, and intended outcomes. The implementer understands the platform, configuration, integration, and delivery effort. Both perspectives matter, and some choices cannot be settled by considering either one alone.

That is where many consequential decisions appear. An asset hierarchy can be technically valid and still make maintenance history or reporting hard to use. A workflow can meet a requirement while preserving a poor process. A customization can solve today's problem but create years of support burdens.

Each choice involves tradeoffs among operations, information, risk, cost, and future flexibility. The implementer can explain what is feasible, what it will cost, and what delivery risks come with each option. The owner must decide which tradeoffs are acceptable.

The owner is investing in a capability: a better way to manage work, information, risk, cost, and asset performance. The implementation creates value only if its choices support that capability.

That responsibility stays with the owner. The implementer can explain the technology and the delivery implications of each option, but it cannot decide which tradeoffs best serve the organization over the life of the system. An Independent EAM Advisor can help owners identify the tradeoffs before a choice becomes design. The need depends on the decisions, not on the size of the project.

3. Identifying High-Consequence Decisions

Consequential choices can be separated from routine project work. A field label, report layout, or minor configuration preference can usually stay with the delivery team. Asset structures,

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information standards, integration boundaries, and major customizations deserve more attention because they reach farther and last longer.

A practical test asks six questions. How long will the effect last? How hard or costly will it be to reverse? How many functions, users, systems, or asset classes will inherit it? Could it materially change risk? Will future decisions depend on the information it creates? Will it create lasting reliance on a customization, integration, architecture, or vendor-specific approach? Together, these questions show whether a choice is routine or likely to shape how the organization will operate after the project ends.

Uncertainty raises the stakes. Even a modest choice may deserve more attention when requirements are unclear, alternatives are poorly understood, or downstream effects are hard to predict.

High-consequence decisions need a closer look at alternatives, assumptions, tradeoffs, and downstream effects, including choices around the asset hierarchy, systems of record, information standards, core process design, major customization, integration architecture, migration rules, and acceptance criteria.

The test questions keep long-lived decisions from disappearing into the implementation backlog.

The level of review should follow the consequence of the decision.

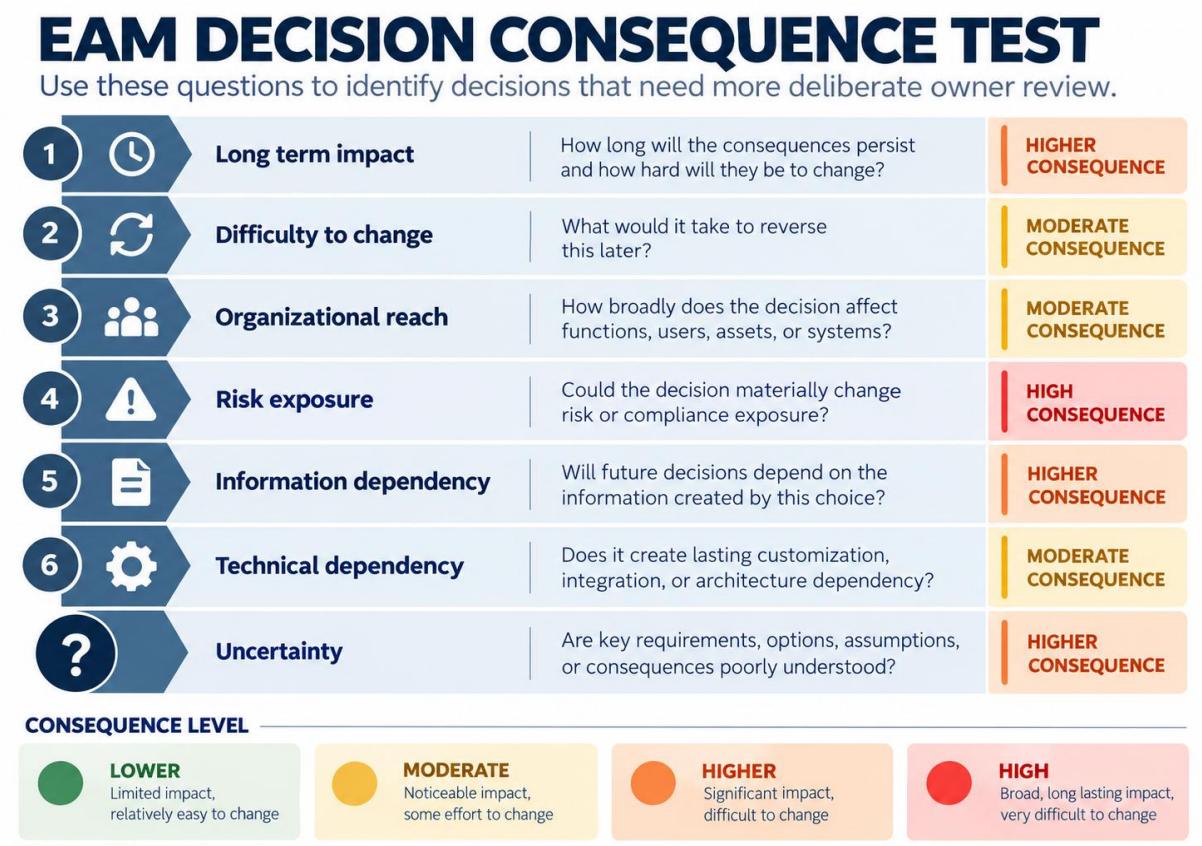


Figure 2. EAM Decision Consequence Test

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Once those decisions are visible, roles matter more. Each party brings different knowledge, and decisions improve when those contributions are clear.

4. Different Roles, Different Responsibilities

High-consequence decisions sit where business needs, asset management, information, and technology meet. The owner, implementer, and Independent EAM Advisor each see a different part of the problem. Their perspectives should inform the same decision without blurring who owns it.

The owner decides the direction. It defines the outcomes, brings the asset and operating context, sets acceptable risk, and owns the consequences.

The implementer turns that direction into technical options. It understands the platform, architecture, configuration, integration, migration, testing, and deployment. Its job is to explain what can be delivered, what constraints matter, what each option requires, and how the approved direction becomes a working solution.

The advisor connects business intent to technical delivery. The role is to compare options, test alignment with asset management objectives, and expose lifecycle consequences. Is a process being kept because it works or because it is familiar? Is data being migrated because it has value or because it exists? What flexibility is lost through customization? These questions are easy to gloss over when the project is focused on the next milestone.

Existing authorities for architecture, cybersecurity, records, procurement, legal, finance, and business process stay in place. The advisor works through them, not around them. Clear roles let all relevant perspectives shape the decision while keeping ownership clear.

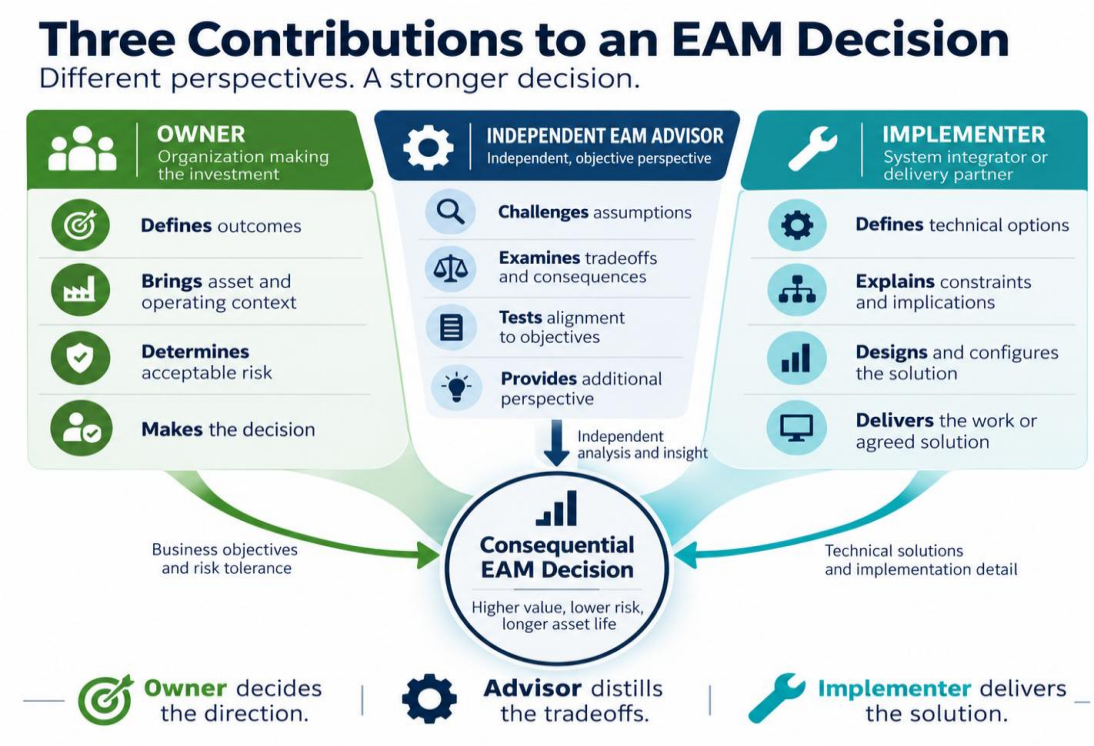


Figure 3. Three Contributions to an EAM Decision

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5. Preserving an Independent Perspective

Delivery responsibility naturally narrows attention. The implementer must work within scope, schedule, technical, and commercial constraints. An advisor who is not building the solution can stay focused on a different question: what will this choice mean for the owner after the project ends?

This matters most when several technical options could work. (Standard configuration or customization? Migration or reconstruction? Integration or consolidation? Preservation or redesign?) The harder question is what each option means for lifecycle cost, supportability, risk, future flexibility, and the capability the owner wants to create.

Other complex technology programs use independent review for the same reason: separation from delivery makes it easier to challenge assumptions, compare options, and surface risk. Government Accountability Office guidance on independent acquisition reviews is one example. [3] The same logic applies in EAM: a person who is not responsible for delivering the choice may see tradeoffs that delivery pressure makes easier to miss.

The Independent EAM Advisor remains an advisory role. It has no audit or assurance authority. Advisory and implementation responsibilities should stay separate and any relevant commercial relationships should be disclosed. Significant recommendations should be traceable, and the advisor needs enough access to understand the technical evidence and delivery constraints.

Independence helps when it gives the owner room to test whether a proposed direction still serves its objectives. That need changes over the lifecycle, and advisor involvement should change with it.

6. Where the Advisor Adds Value Across the Lifecycle

The advisor should be most involved while the most impactful choices are still open. Early in the project, the organization is defining what it wants the EAM environment to do. Once the design is settled, the delivery team needs room to build. The advisor becomes useful again when the project is locking in design, accepting compromise, or moving the new environment into operation.

Before implementation begins, the main questions are about intent. What problem is the organization trying to solve? What must be possible when the project is done? Which processes need to change? What information is needed? What should stay outside the EAM system? Clear answers at this stage reduce expensive design debates later.

Requirements can quietly turn current practice into future design. Review at this stage should separate real business and regulatory needs from inherited process, user preference, technical constraint, and solution preference. If the advisor is involved before implementer selection, the same review can sharpen evaluation criteria and expose assumptions in proposed approaches. It can also identify decisions the owner should keep rather than hand to the delivery team.

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Solution design is often the highest-leverage point because important choices are still open. These include asset hierarchy, information standards, work structures, criticality, failure and condition data, systems of record, integration boundaries, reporting, and customization. The implementer should lead the technical design. The advisor should test whether the design supports the work, information, and decisions the owner expects.

Once the design is settled, advisory involvement should drop. Routine configuration belongs with the implementation team. The advisor should continue to provide support in case of a major design departure, new customization, material scope change, data limitation, or integration dependency that changes the original tradeoff. Data migration also needs owner attention because it determines what history is kept, cleaned, archived, or treated as authoritative. Testing should ask two questions: does the system work as specified, and does it support the work and decisions the owner intended?

Go-live turns months or years of design choices into operational decisions. The owner needs a clear view of data readiness, user readiness, support arrangements, known defects, workarounds, and remaining gaps. After deployment, the question changes: is the new capability taking hold? Are people using the information? Are maintenance and planning decisions better supported? Are workarounds shrinking? Is dependence on the implementation team falling? As internal capability grows, the advisor's role should shrink.

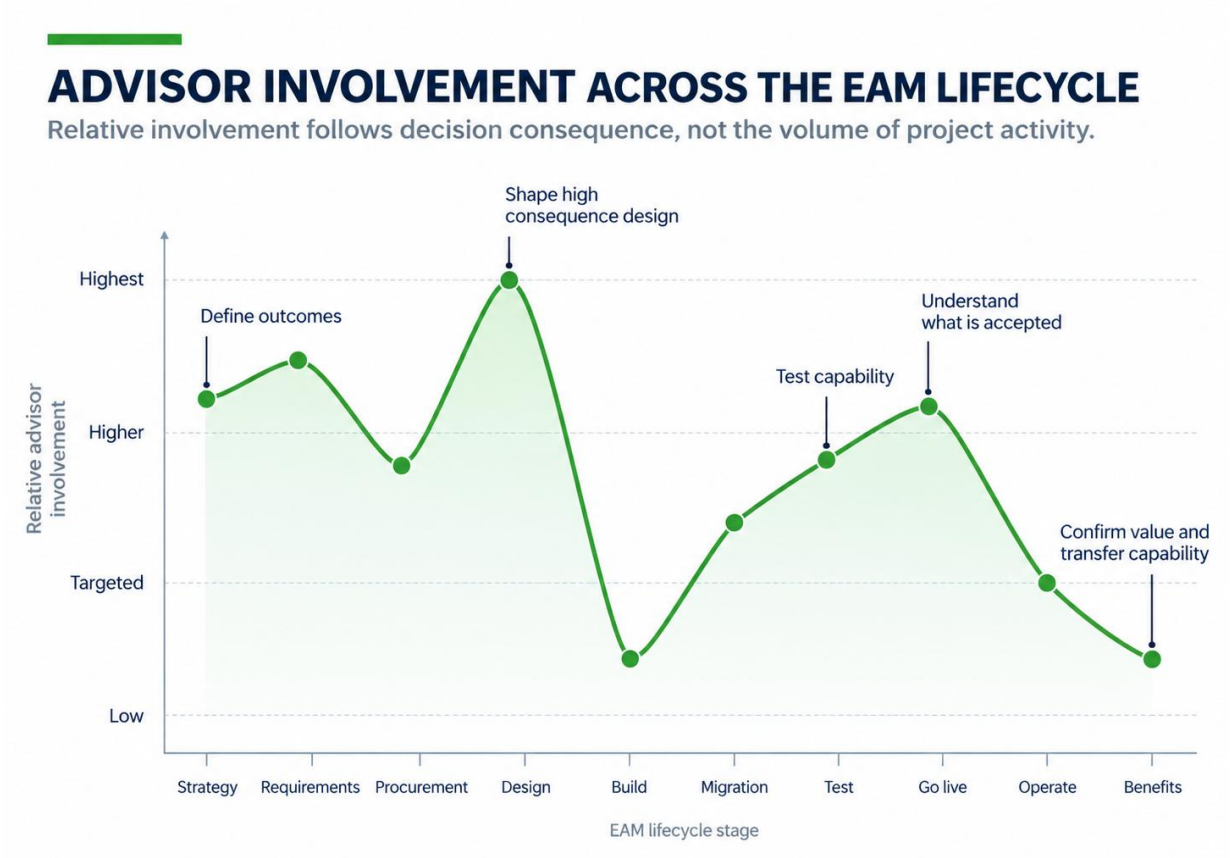


Figure 4. Advisor Involvement Across the EAM Lifecycle

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7. A Practical Engagement Model

A permanent seat on the project team is rarely necessary. A few planned decision points, targeted support when new issues emerge, and selective participation are usually enough to keep attention on the choices that matter most.

At key decision points, the owner needs a clear record of what is being decided and why. Which objective does the choice support? What alternatives were considered? What assumptions support the recommendation? What tradeoffs and long-term effects come with it? What remains uncertain? A short decision record is usually enough to preserve the reasoning.

As other issues appear (a new customization request, data limitation, dispute over asset structure, or change in integration scope) a routine choice may evolve into a consequential one. Limited advisory support gives the owner a way to examine those issues before they become embedded, without adding another layer of project management.

The advisor may join design reviews, architecture discussions, data working groups, readiness reviews, or selected steering meetings when a consequential choice is likely to surface. Routine status meetings and detailed configuration sessions usually do not need that presence.

Project size alone does not justify the role. Consequence, uncertainty, and internal capability do.

Is the owner likely to make a decision here that would benefit from another perspective?

8. What Good Looks Like

Success becomes easier to judge after the project team begins to disappear. The owner can explain why major choices were made, knows who owns the information and processes, and can change the system without reopening basic questions every time a new requirement appears. The EAM environment becomes part of normal operations rather than a permanent project.

Clear ownership comes first. Asset information, business processes, data quality, system changes, risk and criticality information, and performance monitoring all need clear owners. The information should be relevant, consistent, structured, governed, and fit for the decisions it supports. More data is not the goal. Trusted, useful information is.

Complexity like customizations, integrations, reports, and workarounds should exist because they solve a defined problem, not because they accumulated during delivery. The owner should know what was deferred, what was accepted, what risk remains, which assumptions mattered, and what may need to be revisited. Known compromise can be managed. Forgotten compromise becomes technical debt.

The owner should be able to manage the environment without recreating the implementation project. It should be able to maintain asset structures, govern information, review data quality, evaluate configuration changes, and assess enhancements. Outside expertise may still help

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with a major upgrade or integration, but routine operation should not depend on the original implementation team or the advisor. Less dependence is a clear sign that capability has transferred to the owner.

The capability also has to improve the work. Better asset information should make condition and risk easier to see. Better maintenance information should make planning and prioritization easier to defend. Fewer disconnected systems and workarounds should make information easier to use. Faster access to trusted information should support better decisions. Those are the signs that the original objectives are turning into value.

A successful implementation leaves the organization with an EAM environment the owner can govern and adapt, decisions it can explain, and less need for the same outside help.

The owner decides the direction. The advisor distills the tradeoffs. The implementer delivers the solution.

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About This Paper

This paper applies established ideas from enterprise systems implementation, asset management, and independent review to the decisions that shape an EAM implementation. The Decision Consequence Test and engagement model are practical tools for helping owners focus on choices that can create lasting effects.

ABOUT AMSI

Asset Management System Integration (AMSI)

AMSI works with utilities, transportation agencies, municipalities, and government organizations to improve asset management systems, information, risk, investment planning,

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and decision capability. Its work connects strategy to day-to-day decisions and builds capability that remains after the engagement ends.

About the author

Todd Shepherd, Principal Consultant and cofounder of AMSI, works with asset-intensive organizations on asset management strategy, risk-informed decision making, lifecycle planning, and asset information. He is an Institute of Asset Management Certified Trainer and a board member of Talking Infrastructure.

Start a conversation

Planning an EAM implementation or facing a small number of decisions with long-term consequences? AMSI can provide independent owner-side support focused on those decisions without taking over delivery.

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