AIAI-INV-011 | CHAPTER 11 | Application guides

From a physical asset to a reviewable decision.

Sensors, drawings, equipment and computing devices become useful when observations stay attached to their conditions and limits.

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Take away three things

1. Give every observation an asset, time and context.

2. Preserve the source when a value becomes a recommendation.

3. Define the qualified review needed for physical consequences.

The physical world supplies constraints

An equipment record can include a drawing revision, component identity, inspection or observation. A device can supply a measurement under particular operating conditions.

The digital model should retain those conditions. A unit, calibration state or changed configuration can alter whether information is suitable for a decision.

The AISCaffold direction

The portfolio’s equipment concepts connect asset relationships, proposed sensor inputs, telemetry and work-pack review. AI Chief Engineer adds a related specification direction for technical checks.

The illustrated interfaces show a design experience. They do not establish a manufactured sensor system, verified field integration or professional engineering approval.

Computing is also physical

RAM-X considers which authorised devices and services are suitable for a workload. Memory, transfer, compatibility, energy and recovery influence whether a proposed arrangement is useful.

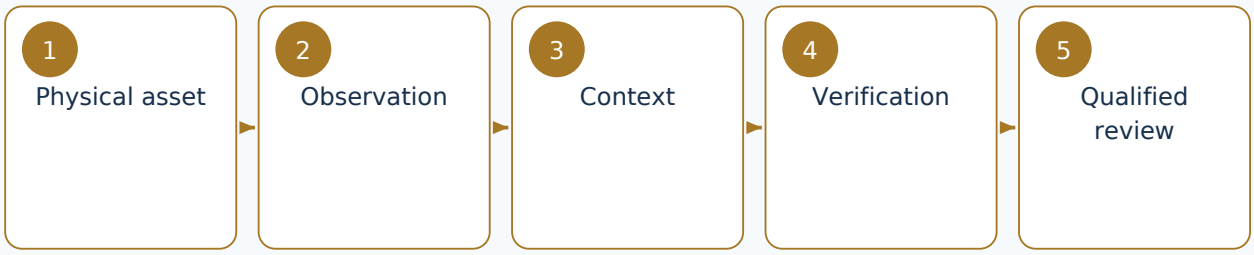
The relevant comparison is the accepted task outcome under measured conditions, rather than a sum of unrelated hardware specifications.

Design a testable hand-off

For a physical-system proposal, record the observation source, the proposed interpretation, the check and the person responsible for a consequential decision. Then define how to test each link.

Figure 11. The idea in one view

FIGURE 11 / From a physical asset to a reviewable decision



Concept illustration. Read the chapter for its scope and assumptions.

Conceptual explanation with illustrative inputs where shown. This figure is not an empirical result or a validation of a deployed system.

Basis and scope

Public explanation based on the AISCaffold design materials, AI Chief Engineer specification direction and RAM-X engineering blueprint. Hardware, safety and operational claims require their own test and professional review evidence.

Read online and explore related work

Open this chapter online

The online edition includes interactive representations where useful. The chapter remains complete as a static explanation.