METIS INTELLIGENCE / RIAMS 2027
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The pilot that doubles the workload

Why digital maintenance can add work before it removes it

A digital maintenance pilot can put a second recording process into the hands of frontline teams while leaving the first fully in place. The technology may be working, yet the promised reduction in administration remains out of reach.

In a Metis research interview, a practitioner responsible for integrating asset management and field service described precisely this transition. Pilot teams were entering maintenance information digitally while continuing the established paper records. The intended benefit was clear: a usable history of what had been maintained, by whom, when and with which parts. At the time of the interview, the digital record had not yet replaced the established evidence process.

The central finding

Our interpretation is that retiring an existing record is a separate delivery milestone from launching its digital replacement. Unless the programme defines who can accept the digital evidence, what they need to see and when duplication can end, a successful technical pilot may still leave the workforce doing additional work.

The title describes duplicate recording, not a measured doubling of total working hours. This brief examines one implementation experience; it does not establish how common the problem is across European railways.

Who this is for

Infrastructure asset leaders, maintenance managers, digital programme owners, assurance teams and suppliers designing the transition from asset registers to operational field workflows.

Research contributors: Asset and field service integration leads, European infrastructure owners.



What the pilot exposed

The practitioner described a programme with three connected elements: the asset register, field service management and future digital services. The register defined assets and relationships. Field service management connected work to those assets. Further integration was intended to bring operational events and alarms into maintenance workflows.

Digital capture had begun before paper could end

Pilot teams had been trained and given devices. They were testing the digital workflow while continuing the existing paper process. The contributor described an ambition to make the digital evidence equivalent to the records used to demonstrate maintenance compliance. That equivalence was a goal at the interview date, not a completed or independently verified outcome.

This matters because the maintenance task and the proof that it happened are different things. Capturing a measurement on a device does not by itself establish that the resulting record meets every operational, internal assurance or applicable external requirement. In this account, the contributor linked continued paper recording to existing requirements. We have not independently established the legal basis or which authority would approve its replacement.

The asset register had to reflect how work happens

The contributor also described difficulty connecting asset structures with actual maintenance activities. A register could contain substantial detail without giving technicians an intuitive way to record the work they performed. Describing assets first and working out the maintenance relationship later created rework.

Rail location and task scope added practical complexity. A field team needs to identify the relevant section and asset accurately. An inspection may cover several assets, with an exception against one component generating a follow-up task. The implementation therefore had to connect the activity, location, asset and subsequent intervention in a way users understood.

One account with a clear boundary

These are reported experiences from a research interview conducted in December 2025. The organisation’s present deployment status has not been reconfirmed. We do not name its technology vendors or generalise the implementation difficulties into claims about what commercial platforms can or cannot do.

The decision hidden inside the rollout

A typical progress report might count devices issued, users trained and work orders created. Those measures show deployment activity. They do not answer whether the old record can be withdrawn or whether the new information is useful for the next maintenance decision.

Ask what must stop

The Step Back question for this pilot is straightforward: which existing activity should become unnecessary once the digital workflow is accepted? If the answer is paper recording, that change needs an accountable decision, acceptance criteria and evidence. Otherwise the programme may deliver an application while leaving the original workload intact.

Parallel operation can be a sensible way to test completeness and reliability. Metis does not suggest withdrawing records before they are accepted. The issue is whether the overlap is controlled: why it exists, what is being compared, how discrepancies are resolved and what conditions permit it to end.

Standardise the evidence without erasing the work

The contributor challenged the assumption that a single detailed process could meet every discipline's needs. A shared core could work, but task-level differences still mattered. That suggests a practical design distinction: standardise the evidence required for accountability, while testing how each discipline can produce it through its real maintenance workflow.

For example, a common requirement might be traceability to the correct asset and an accountable completion record. The steps needed to achieve that may differ between an inspection route, a component repair and an activity spanning several assets. These examples illustrate the design question; they are not a prescribed railway procedure.

THE GOLDEN QUESTION

What evidence would allow the responsible owner to accept the digital maintenance record and formally retire the corresponding paper process?

That question gives the pilot a decision to support. It connects the frontline user, the asset owner, the system team and the people who rely on the record. It also turns disagreement into something testable: which required evidence is missing, unreliable or difficult to retrieve?

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Design a pilot with a defined exit

The following is a Metis decision framework derived from the interview. It is a proposed approach, not a reported procedure from the contributor's organisation or a substitute for applicable assurance requirements.

Begin with a representative maintenance task

Select a bounded activity with the frontline team and the relevant asset owner. Describe how work is assigned, how the asset is identified, what is recorded, how exceptions are escalated and who later needs the evidence. Include a realistic exception, rather than demonstrating only the easiest completion path.

Agree acceptance before measuring success

Select a bounded activity with the frontline team and the relevant asset owner. Describe how work is assigned, how the asset is identified, what is recorded, how exceptions are escalated and who later needs the evidence. Include a realistic exception, rather than demonstrating only the easiest completion path.

Give parallel running a purpose

Define what the two processes are being compared for. Capture discrepancies and assign responsibility for resolving them. Set a review point and explicit exit conditions. A calendar deadline alone should not override an unresolved evidence gap; equally, continued overlap should have a documented reason.

The practical output is an agreed transition decision

A well-designed pilot gives leaders the evidence to move forward with confidence, whether that means wider rollout, a revised approach or a decision to stop.

Measure the burden as well as the uptake

Establish a baseline for the chosen task. During the pilot, measure duplicate entry, corrections and time spent retrieving evidence, alongside use of the digital workflow. Keep results task-specific and distinguish temporary training effort from recurring administration. Do not claim a productivity gain from login or submission counts alone.

Close the evidence loop

Test whether a completed task creates usable maintenance history against the correct asset. Can another authorised user understand what happened, find an exception and follow the resulting action? Once the record is accepted, document which old steps can stop, which remain and who owns the change.

The practical output is an agreed transition decision, supported by evidence. A pilot that has not reached that decision may still be valuable, but its benefits and remaining work should be reported accordingly.

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Research and editorial note

This brief draws on independent research, practitioner insight and sector literature. It is intended to inform discussion ahead of RIAMS 2027 and does not represent the views of any single organisation.

What leaders should take into the room

The most useful discussion is about the conditions under which digital work becomes the accepted operational record. In this research account, asset structures, field execution and maintenance evidence had to evolve together. Treating any one as a separate technology deliverable risked leaving the others behind.

Three questions for the next programme review

- Which paper or duplicate recording steps remain, and who owns the decision to remove each one?
- Can frontline teams connect their real tasks and exceptions to the asset structure without avoidable interpretation or re-entry?
- What evidence will demonstrate that the digital record supports assurance and the next maintenance decision?

The RIAMS discussion

RIAMS 2027 brings infrastructure owners, undertakers, regulatory bodies, suppliers and manufacturers together for high-level discussion on From Asset Data to Asset Decisions, optimising investment, maintenance and renewal across the whole rail asset lifecycle.

This finding informs the summit's discussions on asset master data, enterprise asset management configuration and the connection between field work and maintenance history. The question for participants is practical: what has to change in the operating process before a digital investment removes work and improves decisions?

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Research and editorial note

Primary evidence: a Metis practitioner research interview conducted in December 2025, retained in the RIAMS master research supplied for this series. Relevant passages cover register and workflow design, parallel paper and digital recording, intended integration and lessons from involving maintenance specialists. The source is held privately to preserve anonymity.

All contributor findings here are paraphrased. No direct quotations are published. Metis analysis and proposed actions are identified separately from reported experience. This is a qualitative account, not a representative survey or an independently audited case study. Planned capabilities and benefits are not presented as delivered outcomes. Modified attribution and removal of vendor, location and project identifiers

