

# How to Document Technical R&D Work That Actually Holds Up

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There is a version of R&D documentation that is written for auditors and claim consultants. It is written formal, polished, and assembled after the fact. And there is a version that is written as a natural record of what actually happened. Usually specific, honest, and useful to the next person who needs to understand what was tried and why.

The second version is also the one that holds up. Here is what it looks like and how to produce it without it becoming a separate job on top of the actual work.

## What Good Documentation Captures — And When

Good R&D documentation captures three things: what was known at the start, what was attempted during the work, and what was learned or advanced by the end.

The 'what was known at the start' piece is the most commonly missed. By the time anyone sits down to write up technical work, the starting point has been rewritten by the outcome. It is hard to remember what was uncertain before the solution existed. Capturing this at the start, as a brief note on the technical challenge and what the existing approaches were, is the most valuable habit to build.

The 'what was attempted' piece is the investigation record. The specific approaches tried, the tests run, the results observed, the decisions made along the way. This does not need to be a formal report. A structured log entry, date, what was tried, what was found, what was decided next, is sufficient and more credible than a polished narrative written later.

The 'what was learned or advanced' piece is the outcome record. This shows what the work achieved, how it advanced the relevant technology beyond its previous state, and what the new baseline is.

## Connecting the Work to the Right Technology

A work record that exists only at the project level, that may be assigned to a ticket or logged in a sprint, produces project evidence. The same record, connected to the core technology area it is advancing, produces R&D evidence.

The connection is simple but important: for each piece of technical work, identify which technology area it is advancing. In manufacturing, that might be the joining process technology, the metrology capability, or the production digitalisation work. In software, it might be the proprietary algorithm area, the security architecture, or the platform infrastructure. In MedTech, it might be the device materials science or the validation methodology.

Once the connection is made, the work record contributes to a technology-level history. It gives a running compendium of what has been learned in that area, across all projects and over time. That history is what makes the knowledge retainable when people leave, and what makes the claim defensible when an auditor asks.

## The Three Documents that Matter Most

In a well-structured R&D programme, three document types do most of the evidentiary work.

The Project Charter is written before the work begins. It records the technical objective, the state of the art at the

outset, the specific challenge or uncertainty being addressed, and the approach planned. It does not need to be long. It could be a structured page is sufficient. Its value is entirely in being written before, not after.

The R&D Diary or Investigation Log is maintained during the work. It records what was attempted, what was observed, and what was decided, in real time. The format matters less than the habit: consistent, specific, and contemporaneous.

The Evidence File is the repository for the outputs. It contains test results, data, calculations, photographs, prototype records, code commits that demonstrate the investigation. These are the artefacts that existed at the time the work happened, and that confirm the investigation record.

Together, these three pieces – charter, diary, evidence file – connected to a named core technology, constitute an R&D record that holds up under audit and that remains useful long after the work is done.

## What this Means in Practice

The documentation burden is lowest when it is distributed across the work rather than piled up at the end. A five-minute charter written at the start of an investigation, a brief log entry after each significant test or decision, and a habit of saving test results and data outputs as they are generated. These habits, built into normal technical workflow, produce a complete and credible record without a separate documentation effort.

ReaDI-Watch is designed to support exactly this. It provides the structure for charters, investigation logs, and evidence files, connected to the company's core technology framework, so the record builds naturally as the work happens.

If you would like to see what good evidence looks like at the work package level, specifically the detail and format that makes an R&D record credible, the next article covers that directly.

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