

Strategies for a Successful Integrity Management Deployment

Deploying an asset integrity management system such as Credo – why data migration is the defining milestone, where projects go wrong, and how thirty years of global delivery de-risk the outcome.

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1. Executive summary

On paper, deploying a new asset integrity management (AIM) system looks like a software project: select a vendor, install, train, go live. In practice it is a data and work-process project. The software installs in days; moving, merging and shaping the multi-year archive of integrity data is what takes the real time and carries the real risk.

Credosoft has spent thirty years deploying asset integrity systems at refineries and chemical plants worldwide. The hard-won conclusion: most deployments do not fail because the software is weak. They fail because data migration is underestimated, legacy silos are merged badly or not at all, architectural limits surface only under real load, and the project drags on long enough to lose momentum, people and executive support.

Features and functionality matter, and must fit the business requirement. But even the most impressive feature list is worthless if the project delivery stumbles – a system that demos brilliantly and then stalls in migration delivers none of what it promised. The sections that follow set out strategies, grounded in Credosoft's global delivery record, that de-risk each of those failure modes.

2. Data migration is the core milestone of every project

Installation and configuration are the low-risk part of the job. The system is only as good as the data it holds – the equipment register, design data, thickness and corrosion history, inspection events, documents, radiography, P&IDs and operating limits – accumulated over years, across systems, in many hands. Moving that archive without losing meaning, traceability or history is the milestone every later capability depends on: risk-based inspection, remaining-life calculation, AI validation and 3D context all assume the migrated data is complete, reconciled and trustworthy. If it is late, partial or inaccurate, the project delivers a new shell around old confusion.

Core milestone

Make data migration the project's first and central milestone, with its own plan, acceptance criteria and sign-off – not a phase bolted onto go-live.

3. Thirty years of global deployments – experience you can measure

Credosoft's track record is specific: three decades of deployments across refineries and chemical plants worldwide, from first data load to the ongoing disciplines of inspection, corrosion management and risk-based decision-making. That produces something a generalist integrator cannot buy – a deep understanding of asset integrity data and the work processes around it: how integrity engineers, inspectors, NDT teams and managers actually work, where data lives in a real plant, and where a mapping will break before it breaks in the project plan.

4. The hidden risks that turn projects into disappointments

Failures and disappointments in AIM deployments are not random. They cluster around a small set of hidden risks – invisible in the sales cycle, appearing only once the project is committed. Recognising them early is half the mitigation.

Hidden risk	Why it stays hidden	Section
Data migration underestimated	Treated as a mechanical export/import rather than a discipline with a plan	§2, §5
Fragmented legacy data	Spreadsheets, documents and database silos with conflicting identifiers	§6
Mapping complexity	Reconciling codes, units and semantics defeats less experienced teams	§6
Architectural limits	Invisible at demo/pilot scale; surface only under real load	§7
Project drag	Long timelines erode momentum, people and sponsorship	§8

5. The discipline of moving, merging and shaping multi-year data archives

Moving, merging and shaping multi-year archives is a discipline in its own right, applying the fundamentals of project management – scope, ownership, sequencing, verification, sign-off – to data that is large, old and consequential. It is a separate, sometimes hidden risk: not the vendor's incidental chore, not IT's job alone, but work that needs a dedicated owner, a plan and repeatable tooling:

- Profiling the source data – what exists, what is missing, what contradicts what.
- Reconciling conflicting definitions so one asset, unit and code resolve to one record.
- Mapping legacy codes, units and semantics onto a consistent target model.
- Validating at every stage with reconciliation reports, keeping a full audit trail.

6. Merging and mapping – where less experienced teams are defeated

Legacy data is rarely in one clean place. It is a mosaic of spreadsheets that have grown organically, documents and drawings, and interconnected database silos – a CMMS or EAM here, a historian there, an inspection database, a document store, a P&ID system – each with its own identifiers, units and semantics, where the same asset is called something different in each.

The modern AIM concept requires deep integration with minimum friction between disciplines: inspection, corrosion, process, reliability and NDT must work against one trusted model, so a finding in one discipline is immediately visible to the others. That only happens if the legacy silos are genuinely merged.

The fragmentation trap

Failure to merge legacy silos does not leave the problem behind – it relocates it. The new system inherits the old fragmentation: engineers still bounce between systems and re-key data, and the promised single source of truth never materialises.

This is where less experienced teams are defeated. Mapping is judgement, not lookup: V-101 in the inspection database and 101-V in the CMMS are the same vessel; a unit of measure changed at some point; a legacy code carries two meanings depending on the decade it was written. Thirty years of doing exactly this is the difference between a merged platform and a fragmented one.

7. The architectural reality behind the demo and the pilot

Deep tooling and architectural aspects of large-scale concurrent systems are not apparent at demonstration or pilot stages. A demo shows a few thousand records and a handful of users; it cannot reveal what happens with years of history, millions of records and hundreds of concurrent engineers.

Those factors — database scaling, locking and concurrency control, caching, query performance, import throughput, security at scale — surface only under stress from rising data volumes and concurrent users, and are often learned only after years of hard lessons in the field. Credo's platform has already absorbed them: it scales from a single user to a global team and lets many engineers work on the same equipment data at once, safely.

Evaluate at scale

Ask not whether the system works in the demo, but what happens to it at scale — judge it on behaviour under load and production history, not the pilot screen.

8. Speed of deployment as risk mitigation

Long-running projects lose momentum, key personnel, focus and executive support. The longer a deployment drags, the more likely it is overtaken by reorganisation, budget cycles or a change of sponsor.

Speed is therefore a risk-mitigation strategy in its own right. Credosoft's record is rapid delivery: a working solution in place quickly, then incremental enhancement after the core project is delivered. A live, migrated core in production early builds confidence, secures executive buy-in and gives the migration an immediate home — instead of accumulating risk in a long, abstract program.

9. The Credo platform — evolved, not theoretical

The Credo platform is the product of three decades of real-world deployment. Credo8 is a mature, proven, data-centric platform and remains the primary integrity management tool — the single source of truth for equipment data. Credo3D + AI is an additional visualisation and analytical layer on top of it, deployed in parallel with zero disruption.

It is tuned to the realities of refineries and chemical plants, not a theoretical model: damage analysis to API 581, corrosion management, integrity operating windows to API 584, P&ID drawings and document management are grounded in how integrity work is actually performed.

- Deployment: SaaS on Credosoft servers, or on-premise.
- Compliance: ISO 27001 and 9001.
- Scale: from a single user to a global team, from one unit to multiple plants.

10. Conclusion — the strategies restated

A successful deployment is not a matter of buying better software. It is managing the data migration, the fragmentation, the architecture and the clock. Restated as strategy:

Strategy	What it means
1. Data migration is the core milestone	Plan, resource and sign it off as first among equals — it is the project.
2. Respect the discipline	Moving, merging and shaping multi-year archives needs dedicated ownership and repeatable tooling.

3. Merge the silos for real	If the legacy silos survive the migration, the fragmentation survives too.
4. Evaluate at scale	Judge the platform on production behaviour under load, not the demo or pilot.
5. Move fast	Deliver a working core early, then enhance incrementally.
6. Choose a partner with the record	Thirty years of global delivery has already absorbed the lessons that fail newcomers.

These strategies are the distilled lessons of thirty years of global deployments at refineries and chemical plants – the reason Credosoft's deployments land working systems that stay working as they scale.

11. About Credosoft

Credosoft builds Credo – integrity management software for refineries and chemical plants. Credo8 provides the mature, data-centric core; Credo3D + AI adds photorealistic 3D visualisation and AI-assisted analysis. Thirty years of global deployments help integrity teams move from fragmented legacy data to a single source of truth – and keep it there.