Case Study

Building a Unified Engineering Backbone: Codebeamer ALM Transformation

Metrics at a Glance

40%
Less Rework

End-to-end traceability eliminates redundant cycles

60%
Less Time Spent on Audit Prep

One-click compliance reports replace manual evidence gathering

50%
Test Effort Reduction

Automated requirement-to-test mapping cuts testing overhead

MICRO GENESIS

The Challenge

Our client is an 80+-year-old Indian leader in air conditioning, commercial refrigeration, and MEP contracting, and was navigating the complexities of software-driven product development on disconnected legacy systems. With a sprawling footprint of 30+ offices, 7 manufacturing units, and 3,000+ staff, the organization needed to speed up innovation while upholding its hallmark quality and regulatory rigor.

Critical Bottlenecks:



Siloed Lifecycle Data:

Requirements, design, code, test cases, and defects lived in separate tools with no traceability.



Manual, Error-Prone Processes:

Teams relied on emails, Excel sheets, and manual approvals, creating version chaos.



Regulatory Overload:

Audits demanded exhaustive documentation—evidence gathering consumed weeks.



Ineffective Test Management:

Test cases were mapped to requirements manually, leading to unclear coverage and frequent defect leakage.



Poor Visibility:

No real-time dashboards meant slow decisions and missed release milestones.

The Solution

MicroGenesis deployed Codebeamer ALM as a centralized digital engineering backbone, unifying the client's entire product lifecycle in just 3–4 months (following a 10-day PoC).

Implementation Highlights:



Single Source of Truth

Unified platform for requirements, tasks, tests, and defects with full version control.



28 Custom Trackers

End-to-end coverage across releases, design, development, and all V&V disciplines.



Baselined Requirements & Change Control

Formal reviews with structured workflows and suspect propagation alerts.



Toolchain Integration

Seamless connectivity with SVN (SCM), PTC Windchill (PLM), and LDRA (test automation).



Enterprise Security & Adoption

Role-based access, custom dashboards, and 3 days of hands-on training.

Business Impact

Area	Impact
Requirement Traceability	**40%** less rework via bidirectional lifecycle links
Test Management	**50%** effort reduction through automated req-to-test mapping
Audit Preparation	**60%** less time spent with one-click automated trails
Defect Management	**30%** reduction in defect leakage via integrated traceability
Release Management	**30%** faster releases using workflow-driven approvals

Strategic Wins:

- Full end-to-end traceability across firmware, hardware, and system engineering
- Scalable ALM foundation for multi-variant product portfolios
- Automated audit trails ensuring regulatory readiness
- Faster time-to-market through visibility and automation
- High user adoption driven by structured training and leadership engagement

Ready to build your unified engineering backbone?

Let's talk.

Get in Touch

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