TECH mahindra



Case Study | BFSI

Global Bank Accelerates Acquisition Integration

with AI-Powered Mainframe Automation



EXECUTIVE SUMMARY

Overview

A leading global financial institution launched a business-critical acquisition integration initiative that required the migration of more than 40 ETL-driven business requirements into its core mainframe ecosystem. Project initiation delays significantly compressed the available delivery window, placing critical integration milestones at risk.

To accelerate execution, Tech Mahindra developed an AI-powered mainframe automation framework leveraging agent-based development capabilities. By combining AI-generated COBOL and JCL artifacts with expert human validation, the team rapidly recovered project timelines, transitioned the engagement from 'Red' to 'Green' status, and successfully delivered all committed migration requirements within the agreed business window.

40+
ETL-driven business requirements migrated to the core mainframe ecosystem

6 weeks
to recover the high-risk program and bring Delivery back on track

4 Months
to deliver all committed migration requirements

~70%
of initial development artifacts generated by AI

CONTEXT & SCOPE

Client Background & Challenges

This leading global financial institution is one of the world's largest banking groups, operating across multiple continents and serving millions of retail, commercial, and corporate customers. As part of a strategic acquisition initiative, the bank needed to integrate a newly acquired business into its existing ecosystem through a large-scale ETL migration program comprising more than 40 independent requirements. Although the program was scheduled to begin earlier, approval and requirement finalization delays significantly reduced the available execution timeline, placing the engagement in a high-risk state posing the below challenges

Compressed Delivery Window

Delayed project initiation significantly reduced the available development and testing schedule, placing delivery commitments at risk.

High-Volume Migration Scope

More than 40 independent business processes and associated data feeds required transformation, validation, and onboarding into the target platform.

Large-Scale Mainframe Development

Extensive COBOL and JCL development activities were necessary to support migration and business process execution.

Continuous Requirement Changes

The team needed to accommodate multiple rounds of business-driven revisions while maintaining committed timelines and quality standards.

BUSINESS OBJECTIVE

Business-Critical Acquisition Integration

The migration was a key enabler for acquisition integration, making timely delivery essential for downstream business milestones.

AI-POWERED AUTOMATION

Our Approach & Solution

Tech Mahindra developed and deployed an AI-powered Mainframe Automation Suite designed to accelerate activities across the software development lifecycle. The solution leveraged agent-based workflows, prompt engineering, Model Context Protocol (MCP) integration, large language models, and developer environments such as Devin and Windsurf.

Multiple specialized AI agents were created to automate requirement analysis, implementation planning, COBOL and JCL generation, code review support, test-data creation, self-learning corrections, and deployment activities. The solution generated approximately 70% of the initial development artifacts, enabling developers to focus on validation, optimization, and business-specific enhancements rather than creating code from scratch.

HUMAN-IN-THE-LOOP GOVERNANCE

To further streamline migration activities, Tech Mahindra introduced automated test-data generation, environment replication, and repository management capabilities. A structured human-in-the-loop governance model was implemented to ensure enterprise-grade quality. All AI-generated outputs were reviewed by experienced mainframe engineers, validated against business requirements, and subjected to established SDLC reviews and testing processes before deployment.



of initial development artifacts generated by AI

01
AI-generated outputs

02
Reviewed by experienced mainframe engineers

03
Validated against business requirements

04
Established SDLC reviews and testing before deployment

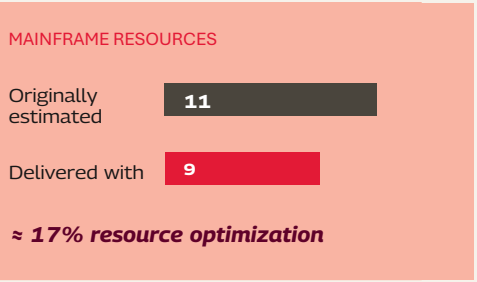
DELIVERY & VALUE

Business & Community Impact

The AI-enabled delivery approach helped recover a delayed acquisition integration program and transformed a high-risk engagement into a successful delivery outcome.

Within the first six weeks of execution, the team completed initial builds for more than 25 migration requirements and transitioned the project from 'Red' to 'Green' status. All 40+ committed migration requirements were successfully delivered within 4 months, despite multiple business-driven revisions throughout the program lifecycle.

The engagement was completed with 9 mainframe resources compared with the originally estimated requirement of 11 resources, representing approximately 17% resource optimization. By automating significant portions of COBOL and JCL generation, the team accelerated delivery, reduced manual effort, and maintained quality despite compressed timelines.



The initiative supported critical acquisition integration milestones, increased stakeholder confidence, and established a repeatable AI-powered framework for future mainframe development initiatives.

DELIVERY RECOVERY

Execution begins

Within 6 weeks

Initial builds for 25+ migration requirements · delivery back on track

Within 4 months

All 40+ committed requirements delivered despite multiple business-driven revisions



MEASURABLE OUTCOMES

Key Results

- ✓ Recovered project status from Red to Green within six weeks
- ✓ Completed initial builds for **25+ independent business processes** during the recovery phase
- ✓ Successfully delivered all **40+ independent business processes** within committed timelines along with requirement revision
- ✓ Accommodated **3-4 business-driven revisions** per requirement without impacting delivery commitments
- ✓ Delivered the engagement with 9 resources versus an estimated requirement of 11 resources giving a **17%** savings to the customer & accelerated time to market by 2 months.
- ✓ Established a scalable AI-assisted framework for future Mainframe development initiatives

Created a pathway toward 30-50% SDLC effort reduction through expanded automation for any future development activities.

About Tech Mahindra

Tech Mahindra (NSE: TECHM, BSE: 532755) offers technology consulting and digital solutions to global enterprises across industries, enabling transformative scale at unparalleled speed. With 146,000+ professionals across 90 countries, Tech Mahindra provides a full spectrum of services including consulting, information technology, enterprise applications, business process services, engineering services, network services, customer experience & design, AI & analytics, and cloud & infrastructure services. It is the first Indian company in the world to have been awarded the Sustainable Markets Initiative's Terra Carta Seal, which recognizes global companies that are actively leading the charge to create a climate and nature-positive future. Tech Mahindra is part of the Mahindra Group, founded in 1945, one of the largest and most admired multinational federation of companies. For more information on how TechM can partner with you to meet your scale at speed imperatives,
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