

# From Tribal Knowledge to Scalable Systems

Modernizing a Global Airline's Legacy Applications with **SoftSpell**

How Codespell Inc. Leveraged Softspell To Reduce Manual Effort By Up To 60% And Accelerate Legacy Application Transformation.

## About The Customer

The client is a leading global airline headquartered in the United States, operating an extensive network of domestic and international routes. Known for its commitment to passenger experience, operational reliability, and large-scale aviation operations, the airline manages highly complex systems supporting reservations, scheduling, operations, and customer service.



## The Challenge

### Legacy Systems Were Slowing Transformation

The airline relied heavily on tribal knowledge and a limited pool of subject matter experts to manage and troubleshoot legacy applications.

As digital transformation efforts accelerated, four major challenges emerged:

### Documentation Gaps

Critical business logic was buried inside decades-old COBOL code with little formal documentation available to IT or business teams.

### High Modernization Costs

Manual business rule extraction alone was estimated to take 14–18 months, creating major cost and resource concerns.

### SME Dependency

The organization depended on scarce experts with both COBOL and airline-domain knowledge.

## The Solution

### SoftSpell-Powered Legacy Modernization

Codespell INC implemented a phased modernization strategy using SoftSpell's AI-powered SDLC platform.

The engagement began with a high-impact COBOL module to validate the approach and create a repeatable blueprint for future transformation.

SoftSpell accelerated reverse engineering by converting complex COBOL logic into structured, business-readable artifacts, including:

- Software Requirement Specifications (SRS)
- Business Requirement Documents (BRD)
- Design Requirement Documents (DRD)

Functional workflows and UI visualizations  
The platform also found that manual business rule extraction would have taken 14–18 months and that it significantly accelerated key parts of the process.

## Complex Legacy Codebase

Years of fragmented updates and evolving dependencies made the applications difficult to understand and modernize safely.



## The Impact

### Faster Modernization with Lower Operational Overhead

#### 60% Reduction in Manual Effort

Teams spent significantly less time on manual reverse engineering and documentation activities.

#### 40% Reduction in Modernization Costs

Accelerated extraction and analysis reduced engineering overhead and overall transformation costs.

#### Significant Timeline Compression

Processes originally estimated to take 14–18 months were substantially accelerated using SoftSpell

## Before SoftSpell

- Tribal knowledge drove operational understanding
- 14–18 months estimated for business rule extraction
- Heavy reliance on scarce COBOL SMEs
- No structured legacy documentation
- Limited visibility into application dependencies

## After SoftSpell

- Structured SRS, BRD, and DRD documentation generated
- Business rule extraction significantly accelerated
- Reduced dependency on tribal knowledge and SMEs
- IT and business teams are aligned around system understanding
- Improved visibility into workflows and dependencies
- Stronger foundation for future modernization

# Key Benefits Realized

- Up to 60% reduction in manual effort across reverse engineering and documentation workflows.
- Up to 40% reduction in overall legacy modernisation costs.
- Significant acceleration of the 14–18 month business rule extraction timeline.
- Reduced dependency on tribal knowledge and scarce COBOL SMEs.
- Converted complex COBOL logic into structured SRS, BRD, and DRD documentation.
- Reduced operational risk during legacy transformation efforts.
- Enabled faster decision-making with AI-assisted system intelligence.



## Ready to Improve Your Operations?

SoftSpell is an GenAI SDLC platform that helps enterprise teams automate code generation, testing, and infrastructure setup, seamlessly integrated within your IDE. For inquiries, reach out to us at [Info@softspell.ai](mailto:Info@softspell.ai)

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