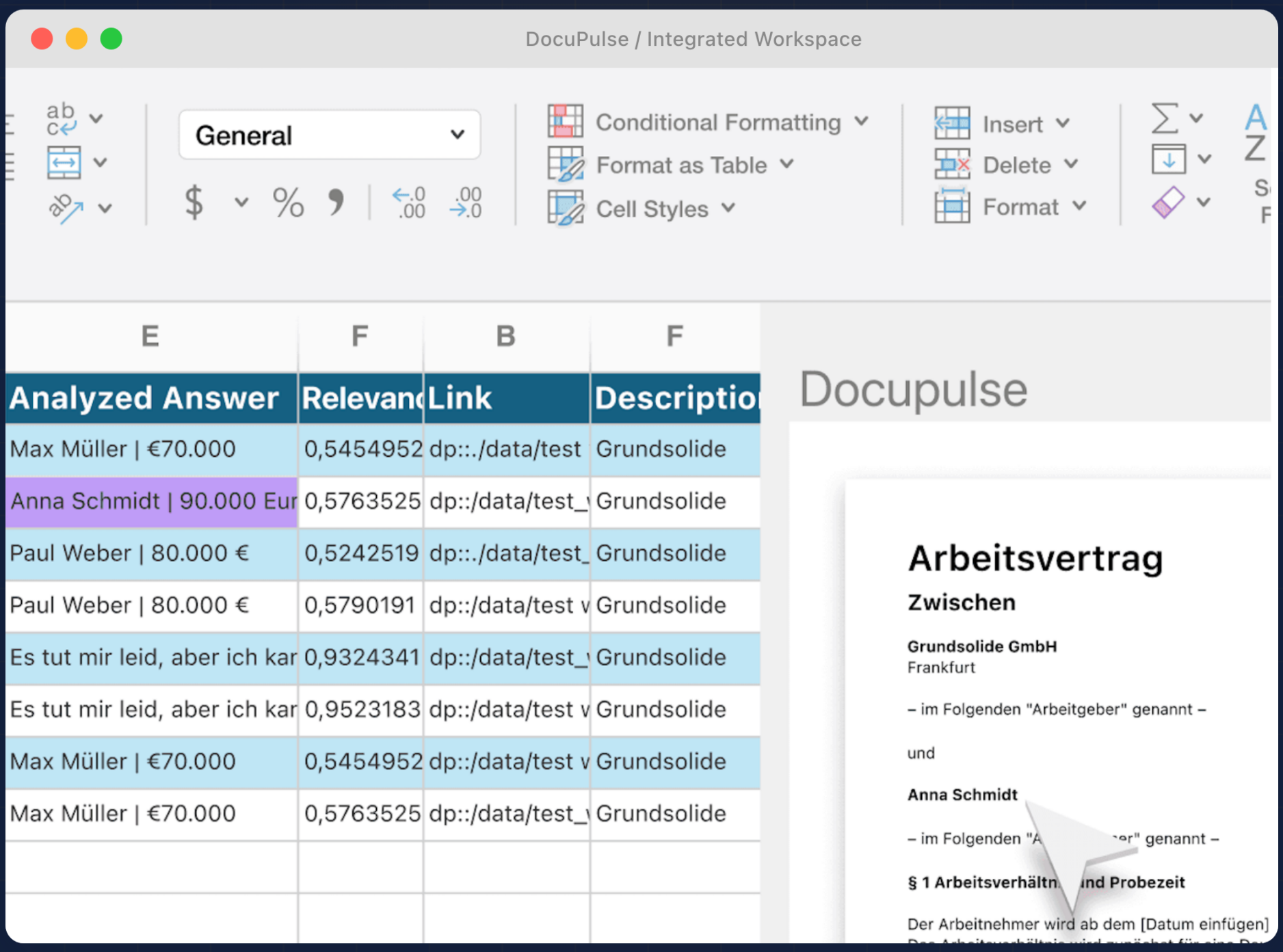
DIVESCALE CASE STUDY · 2026

React TypeScript AWS

DOCUMENT INTELLIGENCE PLATFORM

DocuPulse

AI-powered document intelligence inside Excel. PDF viewing, semantic search, intelligent extraction, and live cross-referencing for finance, audit, and compliance teams.



CLIENT
Financial Technology Company

DOMAIN
Finance / Audit / Compliance

Excel Add-In

The Document Fracture

Finance, audit, and compliance teams spend significant portions of their day switching between Excel, PDF viewers, cloud storage, and email. Every verification task requires opening a document, locating a figure, copying it, pasting it into a spreadsheet, and manually recording where it came from.

1

Transcription Errors

Humans mistype figures when copying between applications, introducing silent errors into critical spreadsheets.

2

Broken Audit Trails

Source links are stored in separate files, folders, or memory, making audits a reconstruction exercise.

3

Failed Search

Teams rely on file names and folder structures rather than content meaning, so critical clauses stay hidden.

5-10	3-4 hrs	51-60%
Minutes per document	Weekly search time	Manual data accuracy

CHAPTER 02

The Platform In Detail

Divescale replaced the chaos of disconnected document tools with an integrated platform inside Excel that unifies viewing, search, extraction, and validation.

- PDF Viewer
- Semantic Search
- Cross-Referencing
- Audit Trail

REACT · NODE.JS · TYPESCRIPT · AWS S3 · ELASTICSEARCH · POSTGRESQL · DOCKER

FEATURE 01 · PDF VIEWER

Integrated PDF Viewer

Before DocuPulse, users opened PDFs in external applications, constantly switching between Excel and Acrobat. Context switching destroyed focus. A single audit required dozens of application switches per hour.

BEFORE

Users opened PDFs in external applications, constantly switching between Excel and Acrobat.

PAIN

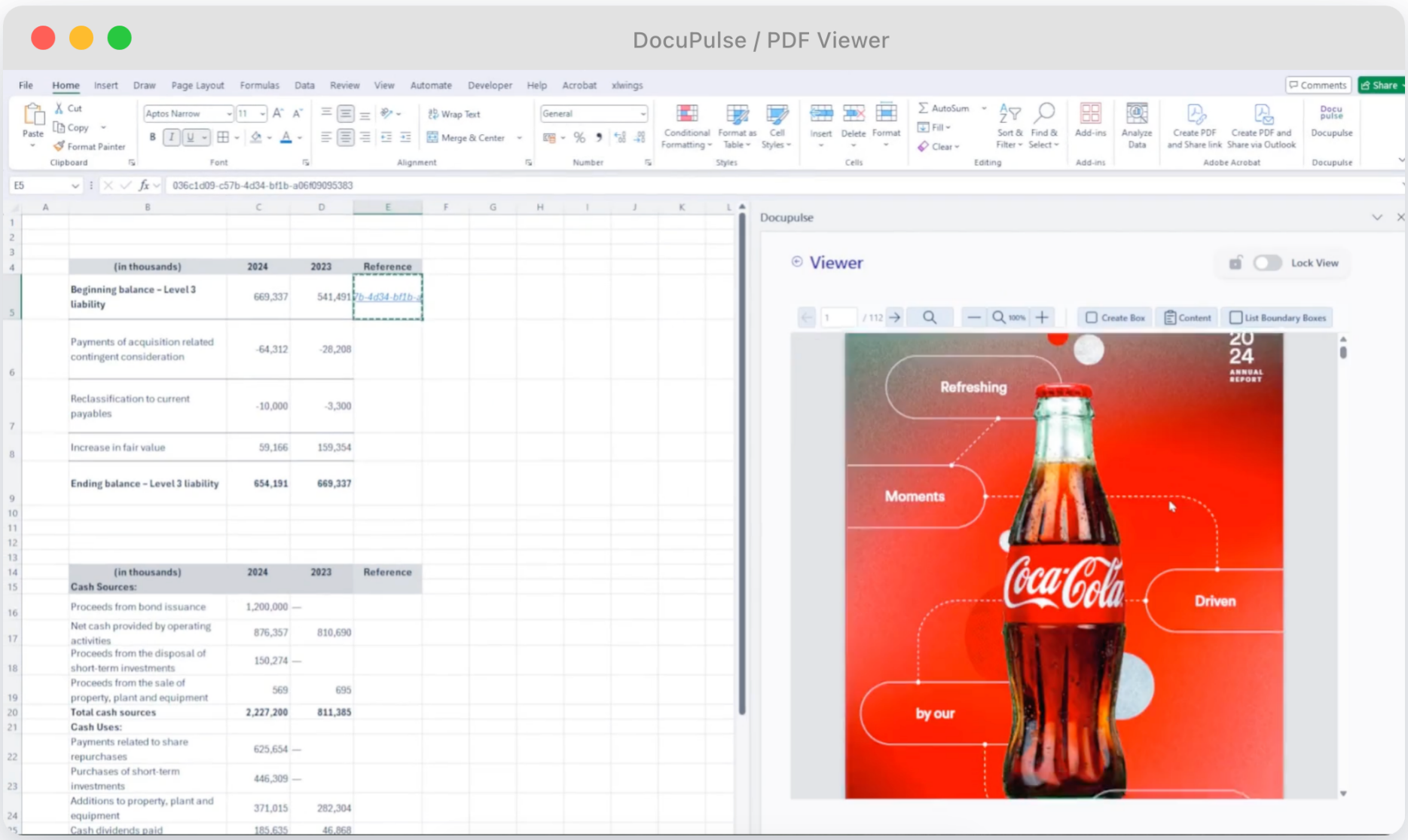
Context switching destroyed focus. A single audit required dozens of application switches per hour.

SOLUTION

A built-in PDF viewer embedded directly inside Excel.

OUTCOME

Users review source documents while simultaneously editing spreadsheets in the same window.



FEATURE 02 · CROSS-REFERENCING

Live PDF Cross-Referencing

Source links were recorded manually in separate notes or forgotten entirely. Auditors spent hours tracing figures back to their origins. Missing links created compliance gaps.

BEFORE

Source links were recorded manually in separate notes or forgotten entirely.

PAIN

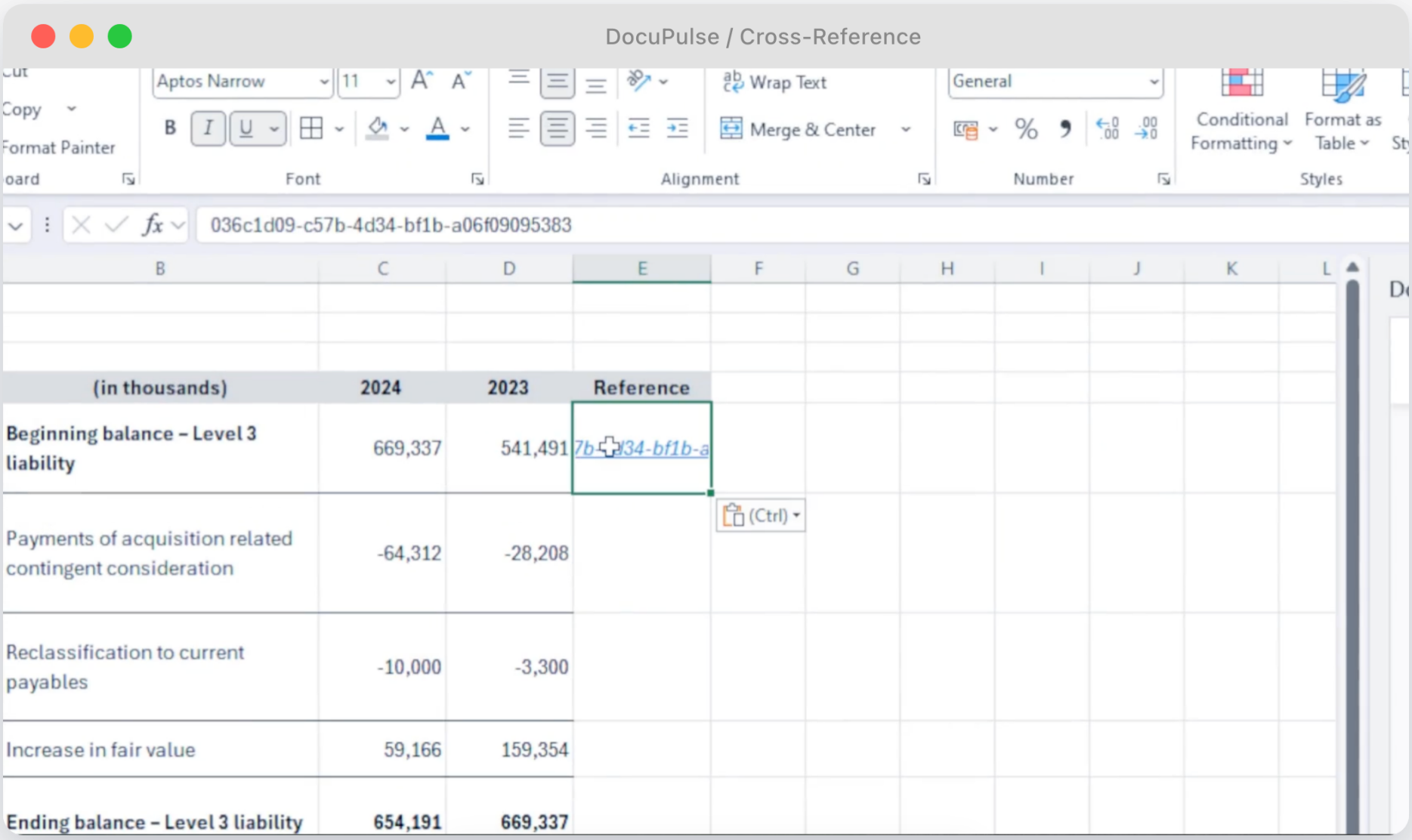
Auditors spent hours tracing figures back to their origins. Missing links created compliance gaps.

SOLUTION

Users draw reference boxes around PDF content to generate unique cross-reference IDs pasted into Excel cells.

OUTCOME

Clicking any reference instantly reopens the exact document, page, and highlighted location.



FEATURE 03 · DATA EXTRACTION

PDF-to-Excel Intelligent Extraction

Tables and figures were copied manually from PDFs into Excel. Reformatting consumed hours. Errors crept in during transcription. Source links were lost.

BEFORE

Tables and figures were copied manually from PDFs into Excel.

PAIN

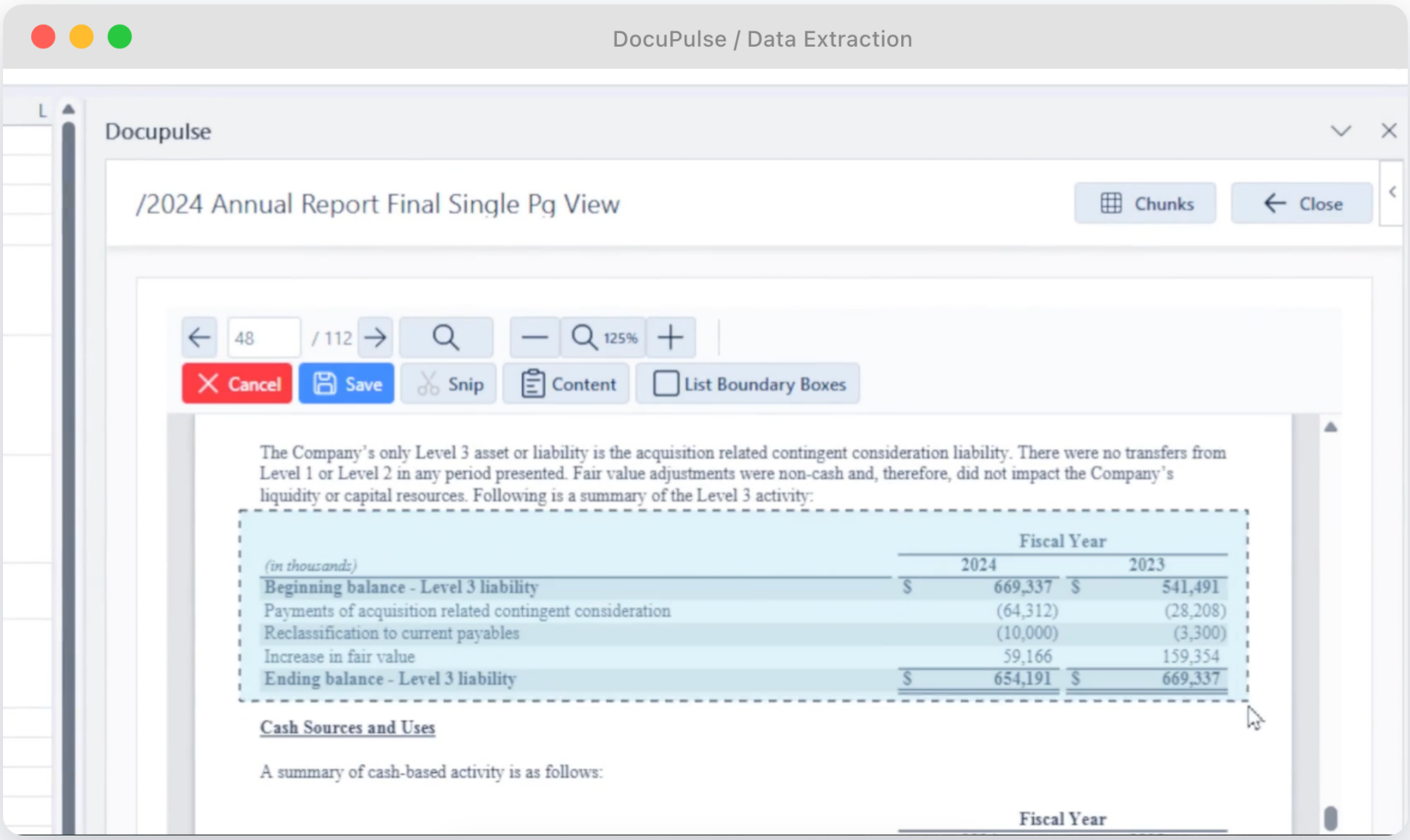
Reformatting consumed hours. Errors crept in during transcription. Source links were lost.

SOLUTION

Users draw selection boxes around tables or text inside PDFs. DocuPulse detects, extracts, structures, and pastes data into Excel while preserving formatting and linking to source.

OUTCOME

Extraction time reduced from hours to seconds per document.



FEATURE 04 · SEMANTIC SEARCH

Semantic PDF Search Engine

Finding information across hundreds of documents meant reading file names or using exact keyword search. Keyword search missed synonyms and context. Professionals read entire documents to find single clauses.

BEFORE

Finding information across hundreds of documents meant reading file names or using exact keyword search.

PAIN

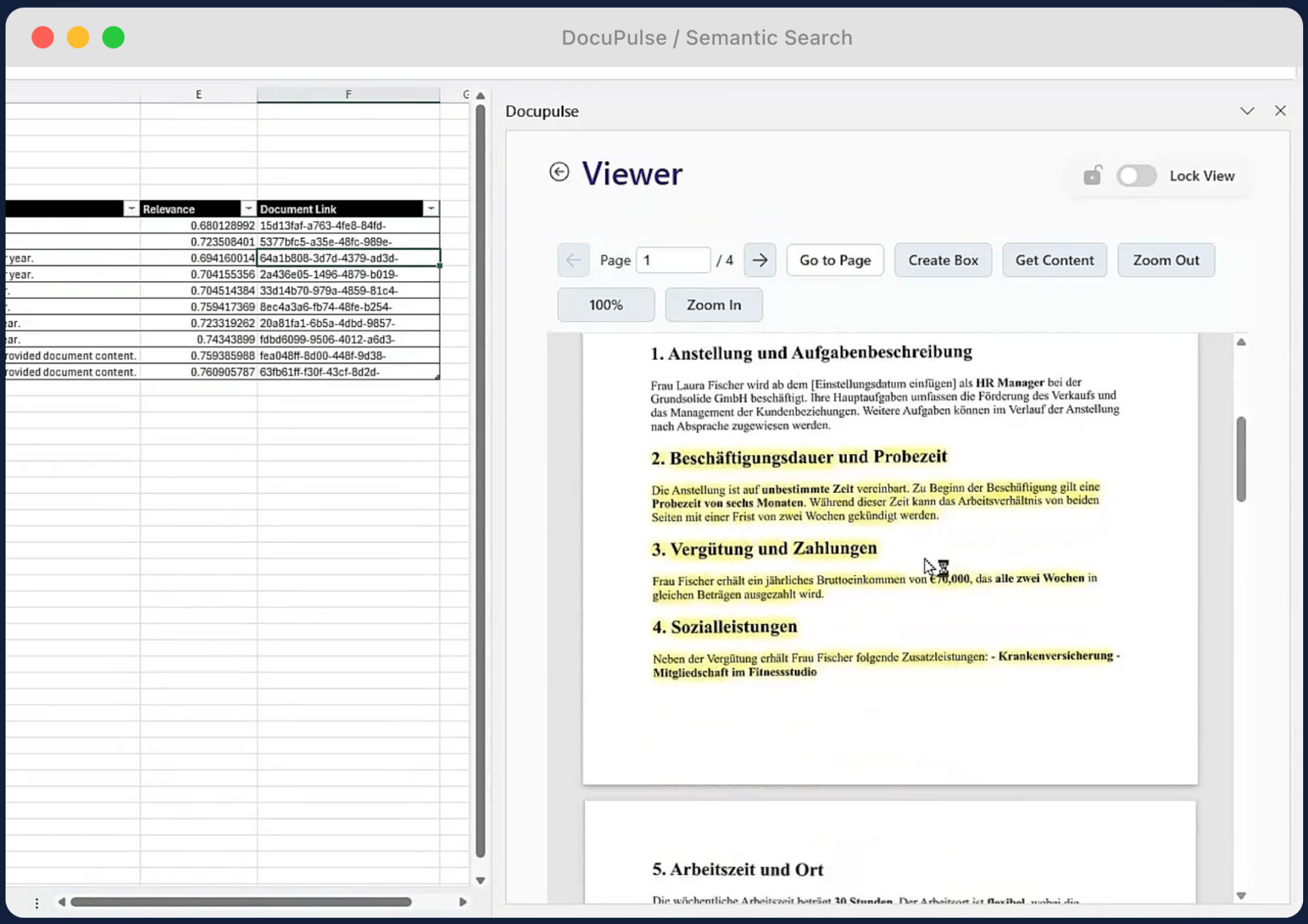
Keyword search missed synonyms and context. Professionals read entire documents to find single clauses.

SOLUTION

Natural language semantic search understands intent and context across the entire document repository.

OUTCOME

Queries like "find debt obligations" or "show revenue recognition clauses" return relevant excerpts ranked by relevance.



FEATURE 05 · AI GENERATION

AI-Powered Cross-Reference Generation

Linking financial statements to supporting evidence required manual review of every page. Capital account reconciliation and transaction verification consumed entire workdays.

BEFORE

Linking financial statements to supporting evidence required manual review of every page.

PAIN

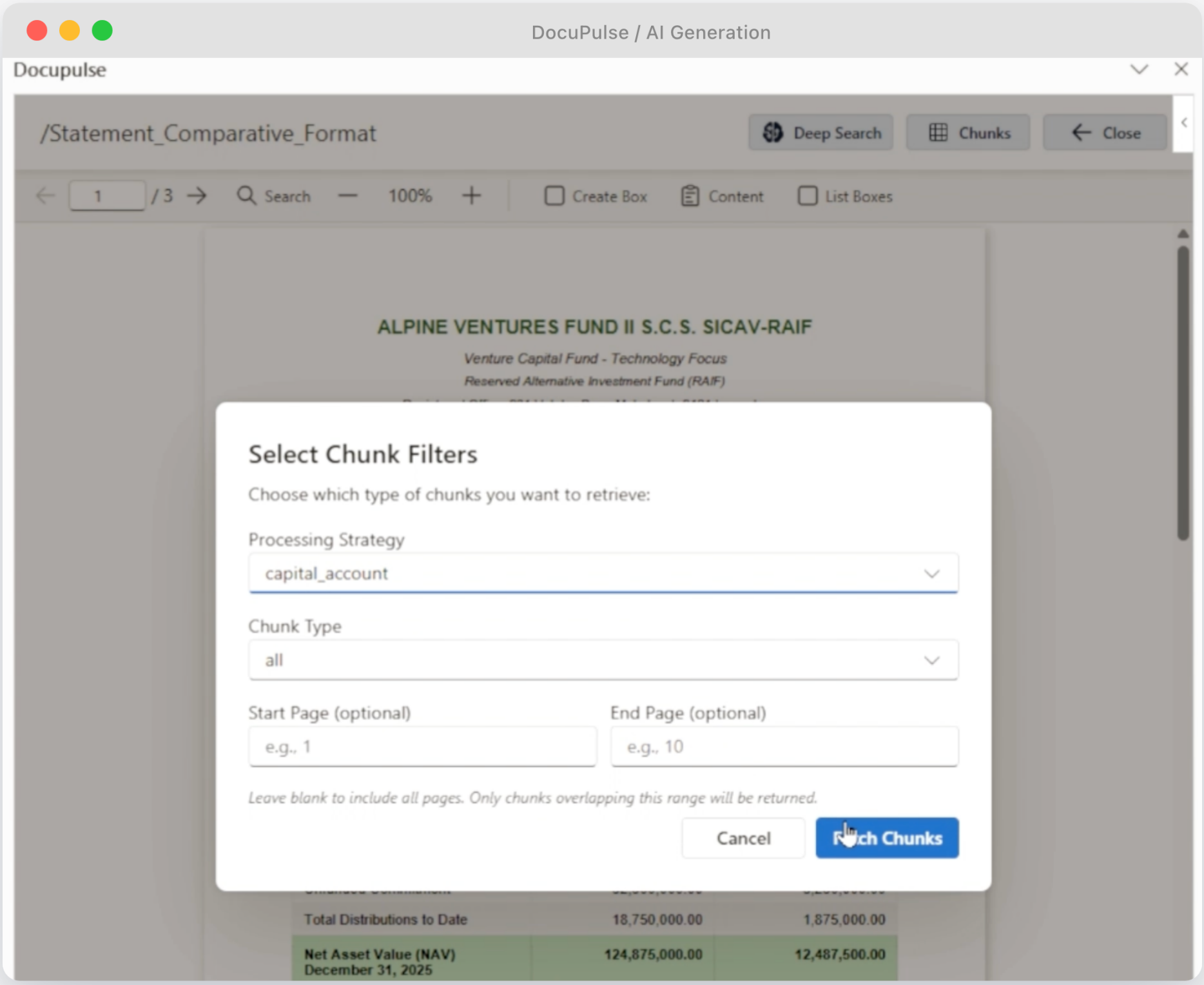
Capital account reconciliation and transaction verification consumed entire workdays.

SOLUTION

AI identifies relationships between financial statements, capital accounts, transactions, and evidence, then generates draft cross-references for review.

OUTCOME

Relationship mapping that previously took days now begins automatically within minutes.



FEATURE 06 · VALIDATION

Draft-to-Final Validation Workflow

AI outputs were trusted implicitly or rejected entirely, with no middle ground. Unreviewed AI errors created audit risk. Manual review of every output was impractical.

BEFORE

AI outputs were trusted implicitly or rejected entirely, with no middle ground.

PAIN

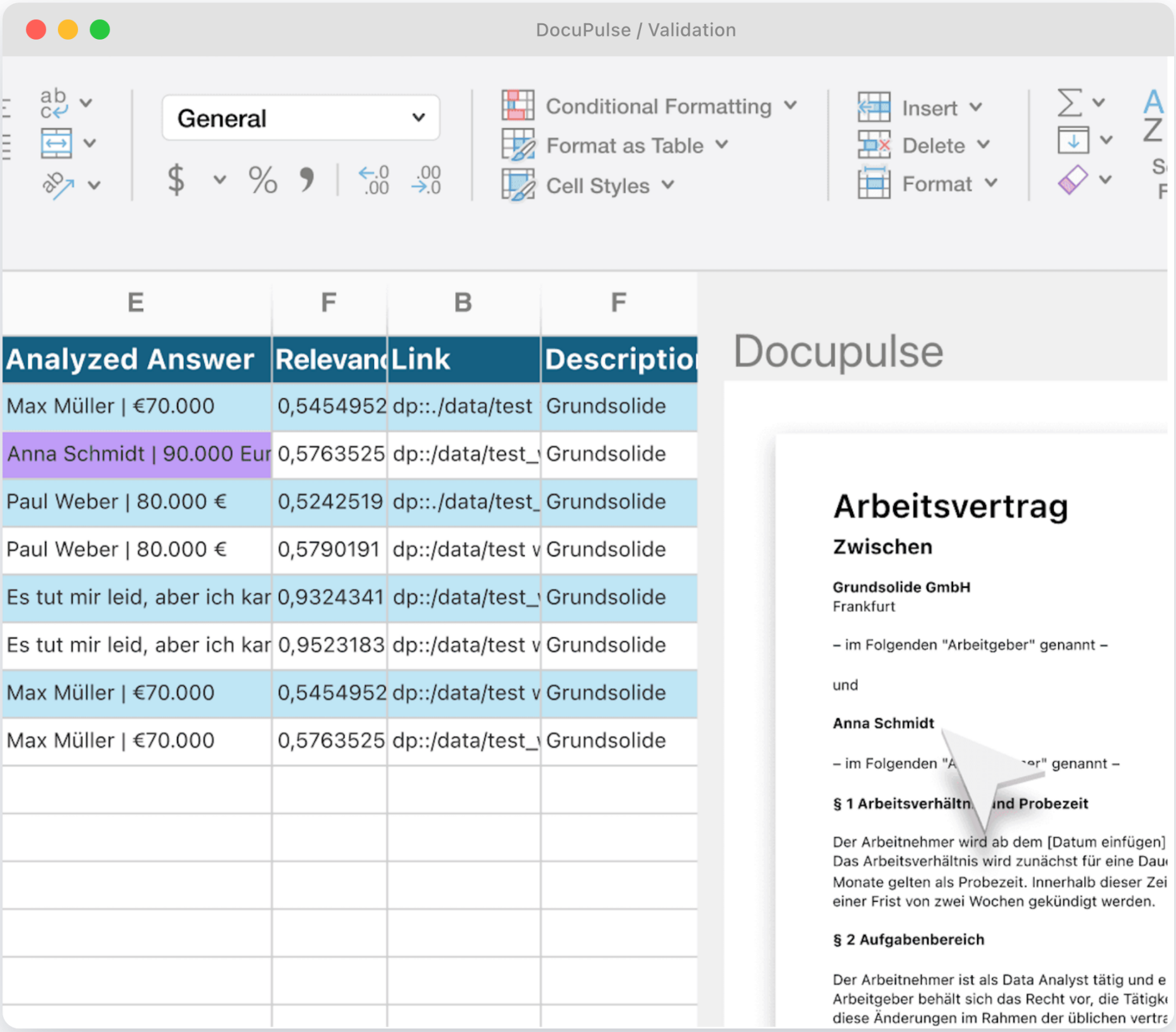
Unreviewed AI errors created audit risk. Manual review of every output was impractical.

SOLUTION

Every AI-generated reference begins as a draft. Professionals review, modify, and approve before statuses advance to Finalized.

OUTCOME

Automation accelerates work while human oversight maintains compliance standards.



FEATURE 07 · AUDIT TRAIL

Complete Audit Trail and Change Tracking

Change history was scattered across file metadata, emails, and personal notes. Regulatory audits required days of preparation to reconstruct what happened and who did it.

BEFORE

Change history was scattered across file metadata, emails, and personal notes.

PAIN

Regulatory audits required days of preparation to reconstruct what happened and who did it.

SOLUTION

A centralized audit trail captures every system action without manual input.

OUTCOME

Organizations remain continuously audit-ready.

Every Action Logged

Every upload, extraction, cross-reference, edit, status change, and approval is logged automatically with timestamp and user attribution.

FEATURE 08 · AZURE INTEGRATION

Azure Tenant Integration

Cloud-based tools created data sovereignty concerns and security review bottlenecks. Enterprises with strict compliance requirements could not adopt SaaS tools that stored data externally.

BEFORE

Cloud-based tools created data sovereignty concerns and security review bottlenecks.

PAIN

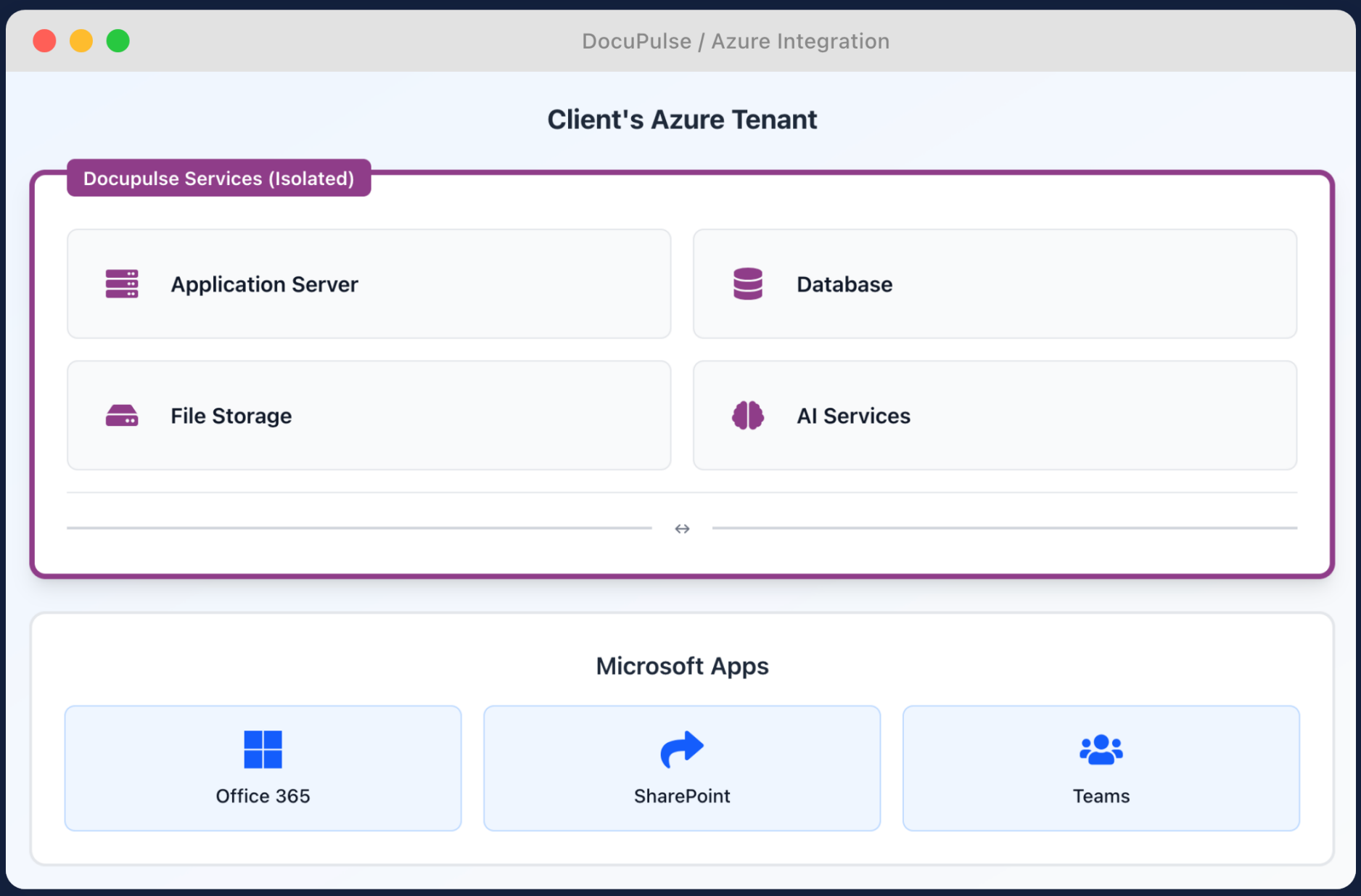
Enterprises with strict compliance requirements could not adopt SaaS tools that stored data externally.

SOLUTION

DocuPulse deploys entirely within the organization's Azure tenant, integrating with Azure SQL, Blob Storage, OpenAI Service, Office 365, SharePoint, and Teams.

OUTCOME

Data never leaves the tenant boundary. Single sign-on and residency compliance are guaranteed.



What the Research Shows

Independent benchmarks for AI-powered document processing confirm the operational and financial impact that platforms like DocuPulse deliver.

CONTRACT REVIEW
94%
Cost reduction

PROCESSING TIME
90-99%
Time reduction

DATA ACCURACY
88-99%
AI vs. 51-60% manual

METRIC	MANUAL	AI-AUTOMATED	IMPROVEMENT
Processing time per document	**5-10 min**	**<1 sec**	**90-99%**
Invoice processing	**6 min**	**3 min**	**50%**
Bank reconciliation	**4-8 hrs/mo**	**<1 hr/mo**	**75-87%**
AP data review / error checking	**Baseline**	**10%**	**90%**
Cost per invoice	**$12-40**	**$3-5**	**60-80%**

Sources: The Humans AI, The Coder Spot, Felix Solutions, Docsumo, Lightyear, Neurons Lab.

Real-World Financial Outcomes

Published case studies from financial services, logistics, and insurance demonstrate the scale of savings achievable with intelligent document processing.

COMPANY / INDUSTRY	ANNUAL SAVINGS	KEY METRIC
Financial services firm	**$2.9 million**	Cut manual extraction team by 50%
Logistics company (50K docs/month)	**$1.3 million**	Cost per document reduced from EUR 3 to EUR 1
Finance team (40 staff)	**$878,000**	25,000 hours saved per year
Insurance firm (contract review)	**$846,435**	60 min contract review to AI-assisted
AP department (5,000 invoices/month)	**$40,000-50,000**	$12-15 per invoice down to $3-5

Sources: Docsumo, The Coder Spot, Neurons Lab, The Humans AI.

<6 mo
Typical ROI payback period

30-200%
First-year ROI range

3,100+
Hours saved per user / year

TECHNOLOGY

Built for Scale, Security, and Speed

A modern stack engineered for document processing, semantic search, and enterprise deployment.

React

Node.js

TypeScript

AWS

ElasticSearch

PostgreSQL

Docker

File Processing

BUSINESS IMPACT

Measurable Operational Transformation

80%
Manual effort reduction

100%
Audit readiness

Zero
Transcription errors

5x
Faster financial analysis

RESULT

From Document Chaos to Controlled Intelligence

DocuPulse transforms document-heavy business operations into fast, intelligent, and audit-ready workflows directly inside Excel. Financial and legal teams no longer choose between speed and accuracy. They operate with both.

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