



## Beyond Azure AI: Financial-Grade Intelligence

Cyloid replaces Azure Document Intelligence and Azure AI Search for finance, accounting, and tax operations—delivering mathematical certainty where Azure's probabilistic AI falls short.



THE AZURE GAP

# Chapter 1: Why Azure AI Fails Finance

# Azure's Probabilistic Problem: Why 'Mostly Correct' Breaks Finance

Modern financial operations demand absolute accuracy. Unlike many business functions that can tolerate a degree of uncertainty, finance requires deterministic truth, not probabilistic guesses. However, generic AI solutions from platforms like Azure are fundamentally built on probabilities, leading to critical failures in financial contexts.

For instance, Azure Document Intelligence might return "Total: \$500 (Confidence: 85%)" after processing an invoice. While an 85% confidence score might seem high in some domains, you simply cannot post "probably \$500" to a General Ledger. Financial systems require a definitive, auditable \$500, not a statistical likelihood.

Similarly, Azure AI Search can efficiently locate relevant financial documents based on keywords, but it lacks the inherent capability to validate if the numbers within those documents are mathematically correct or consistent. Even advanced models like ChatGPT Vision, while capable of reading invoices, have a known propensity to "hallucinate" numbers or misinterpret critical data, rendering their outputs unreliable for precise financial reconciliation.

This probabilistic nature of generic AI forces finance teams into a devastating cycle: every AI-processed document still requires manual verification. The cost of a single AI error on a \$1M invoice, for example, can be catastrophic, leading to significant financial losses, compliance issues, and audit penalties. The fundamental promise of automation is shattered when the outputs cannot be trusted without human oversight.

## The Hidden Cost of Uncertainty

When AI delivers probabilistic outputs, finance teams spend countless hours manually reconciling these potential errors. "Automation" then becomes another layer of work rather than a genuine solution, exposing the business to unacceptable risk from undetected "silent failures."

# The Cyloid Solution: Azure AI + Financial Domain Logic

Cyloid uses the same foundation as Azure (LayoutLMv3, Transformer OCR, BERT) but adds the critical layer Azure lacks: **Financial Validation Logic**

Where Azure stops at extraction, Cyloid continues to verification:

- Mathematical invariant checking (Subtotal + Tax = Total)
- Date fraud detection (future-dated invoices)
- 3-way matching (Invoice ↔ PO ↔ Receipt)
- GL code classification
- Duplicate invoice prevention

**The Result:** Zero bad data reaches your ERP—guaranteed.



# Cyloid vs Azure Document Intelligence: The Technical Gap

## What Azure Document Intelligence Does:

- OCR text extraction
- Layout analysis
- Table detection
- Returns: Raw text with confidence scores

## What Cyloid Adds:

- All of Azure's capabilities PLUS:
- Math validation (enforces accounting equations)
- Entity resolution (normalizes vendor names)
- Fraud detection (date/amount anomalies)
- Fact Graph storage (SQL-queryable validated data)
- Returns: Certified valid financial facts

**The Difference:** Azure extracts what the document *says*. Cyloid verifies whether it's *true*.



# Why Cyloid Beats Azure for Finance

1

## Math-First Verification

Azure returns text. Cyloid validates accounting logic. Every number must balance mathematically.

2

## Domain-Specific Models

Azure uses generic models. Cyloid fine-tunes on SEC filings and financial documents specifically.

3

## Fact Graph Architecture

Azure stores text fragments. Cyloid stores normalized, SQL-queryable financial entities.

4

## Zero Silent Failures

Azure gives confidence scores. Cyloid gives binary validation: VALID or INVALID—no guessing.

5

## Vendor Memory

Azure is stateless. Cyloid learns from corrections and improves accuracy for each vendor over time.

6

## Financial Intelligence

Azure is a document reader. Cyloid is a financial analyst that understands accounting rules.



BUILT ON AZURE'S FOUNDATION, ENGINEERED FOR FINANCE

## Chapter 2: The Technology Stack

# The Truth Engine: What Azure Document Intelligence Lacks

Cyloid uses Microsoft's LayoutLMv3 and TrOCR (the same models powering Azure Document Intelligence) but adds a revolutionary validation layer that Azure lacks: the **Truth Engine**—a deterministic system that enforces accounting invariants with mathematical precision.

01

## Header-Level Integrity

Automatically validates that Subtotal + Tax + Shipping - Discount = Grand Total

02

## Line-Level Precision

Verifies  $\text{Quantity} \times \text{Unit Price} = \text{Line Total}$  for every single item on every invoice

03

## Cross-Check Validation

Ensures the sum of all line items matches the header subtotal with zero tolerance for discrepancies

04

## Fiscal Date Logic

Automatically flags invoices with future dates or dates outside the open fiscal period

The Truth Engine is absolutely critical for financial operations because it eliminates "silent failures"—situations where data *\*seems\** correct but contains subtle errors that can cascade into major accounting discrepancies, regulatory issues, and financial losses. This mathematical precision is non-negotiable in finance, where every digit counts. While Azure Document Intelligence provides excellent data extraction, it stops short of enforcing these fundamental accounting truths. Cyloid's Truth Engine fills this crucial gap, providing an inherent layer of financial integrity that Azure's offering lacks, ensuring your financial documents are not just processed, but truly verified.

# Business Value: Stop Spot-Checking the AI



## Mathematical Certainty

If Cyloid says a document is VALID, it is **mathematically proven** to be internally consistent. No more random sampling. No more spot-checking. No more hoping the AI got it right.

Your finance team can finally trust automation completely, freeing them to focus on strategic analysis rather than error detection and correction.

- **The Result:** Processing time drops from hours to minutes, while accuracy reaches 100% for validated documents.



# The Fact Graph: Beyond Azure AI Search

Azure AI Search returns document fragments and text snippets. Cyloid's Fact Graph returns validated financial entities in a normalized SQL schema.

## The Difference:

- Azure: 'Found 47 documents mentioning Amazon'
- Cyloid: 'Amazon (Vendor ID: 5543) - Total Spend: \$847,392.18 across 127 validated invoices'

## Query Power:

Instead of keyword search, ask financial questions:

- 'What's our average unit price for MacBook Pros across all vendors?'
- 'Which vendor has the highest late payment rate?'
- 'Show me all invoices over \$10K that failed 3-way matching'

The Fact Graph transforms Cyloid from a document processor into a **Strategic Intelligence Asset**.

# The Adjudication Console: Human-in-the-Loop 2.0

We acknowledge that 100% automation is a myth. When the Truth Engine flags a document as INVALID, it routes to the **Adjudication Console**—not a generic data entry screen, but a specialized cockpit designed specifically for financial analysts.



## Visual Error Highlighting

The specific fields causing math errors are highlighted instantly—for example, when Tax Amount doesn't equal 10% of Subtotal, both fields glow with contextual error messages.

## Live Re-Validation

As analysts correct numbers, the system instantly re-runs the Truth Engine. Documents cannot be saved as "Valid" until corrections make the math balance perfectly.

## Reason Codes

Every change requires a semantic reason like "OCR Glitch" or "Vendor Error," populating audit logs with context, not just data diffs.



# Adjudication Workflow: From Minutes to Seconds

## Traditional Process

Analyst opens PDF, manually compares to system data, opens spreadsheet, recalculates totals, updates multiple fields, saves without validation

**Time: 5-8 minutes per invoice**

1

2

## Cyloid Process

System highlights exact error, analyst corrects single field, live validation confirms fix, one-click save with automatic audit trail

**Time: 15-30 seconds per invoice**

# RAG-Powered Inquiry: Smarter Than ChatGPT Vision

**ChatGPT Vision** can read financial documents but hallucinates numbers. **Cylloid's Inquiry Service** combines RAG (Retrieval-Augmented Generation) with SQL validation for accurate financial answers.

## The Hybrid Approach:

- Intent Router: Determines if the question needs retrieval or calculation
- Vector Search: For context ('What was the invoice number for the \$500 charge?')
- SQL Generation: For math ('What's the sum of all AWS charges in Q4?')
- Validation Layer: Every number is verified against the Fact Graph

## Why This Beats ChatGPT Vision:

- No hallucinated numbers
- Answers grounded in validated data
- Audit trail for every response
- Deterministic results, not probabilistic guesses

Ask financial questions in plain English, get mathematically correct answers.

# Automated "Vendor Memory" & Model Training

Cyloid gets smarter the more you use it, continuously improving accuracy and reducing manual intervention through sophisticated machine learning that adapts to your specific business needs.

## Auto-Learning

Uses XBRL data from public filings to automatically label training data for major vendors



## Custom Models

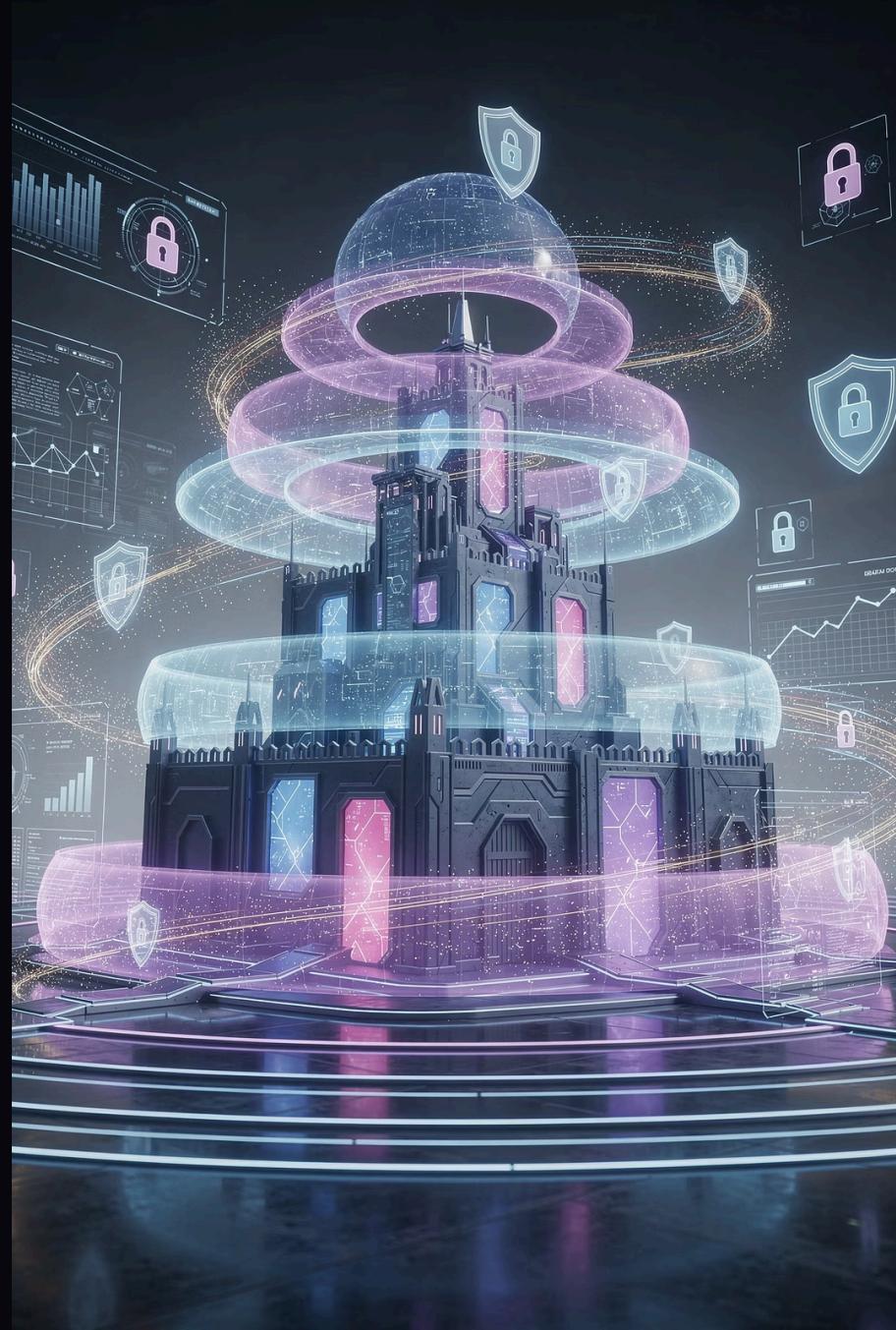
Train AI models on your historical documents—if your industry uses unique layouts, Cyloid adapts without manual templates

## A/B Testing

Run multiple AI models in parallel to scientifically determine which yields fewer adjudication requests

SOC2, GDPR, HIPAA READY

# Chapter 3: Enterprise Security & Compliance



# Security Is the Foundation, Not an Afterthought

"Security is not an afterthought; it is the foundation of the Cyloid architecture."

In an era where financial data breaches cost companies millions in regulatory fines and reputational damage, Cyloid was architected from day one with enterprise-grade security as a core design principle, not a feature added later.



## Immutable Audit Trails

SOX deployment ready with complete traceability



## Data Privacy & PII Protection

Automated redaction and secure storage



## RBAC & Authentication

Granular permissions with JWT security



## Infrastructure Security

Container isolation and network protection

# Immutable Audit Trails: SOX Deployment Ready

For public companies and regulated industries, "knowing what changed" is as important as the data itself. Cyloid's audit architecture satisfies the rigorous requirements of **Sarbanes-Oxley (SOX) Section 404** for financial reporting controls.

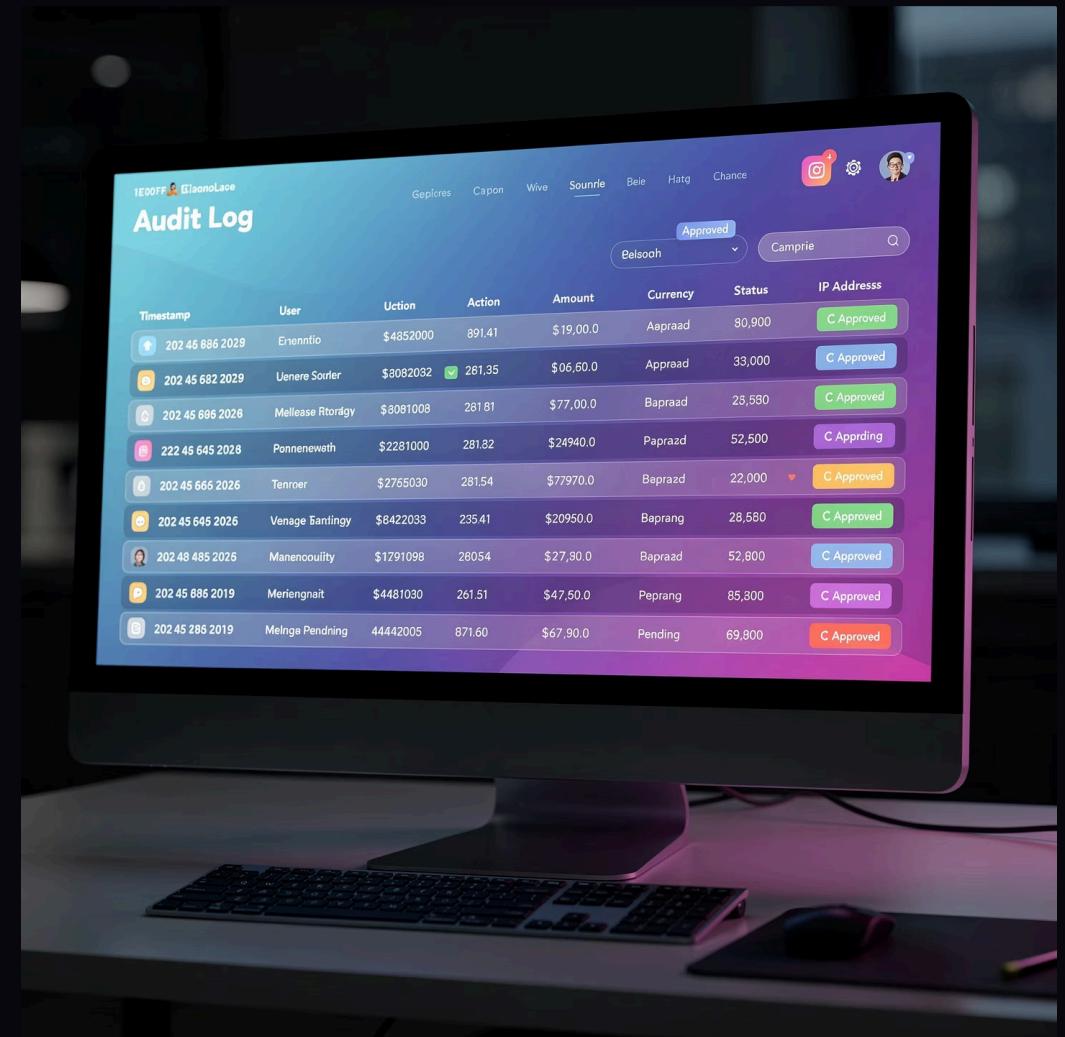
## Complete Traceability

Every single action—from the initial API upload to the final manual adjudication—is logged in a tamper-proof audit\_logs ledger that cannot be modified or deleted.

## Detailed Context

The log captures comprehensive information:

- **Who:** User ID and IP address
- **When:** UTC timestamp with millisecond precision
- **What:** The specific field changed
- **Old Value/New Value:** Complete before and after state
- **Why:** User-provided justification for the change



- **Compliance Guarantee:** Designed to satisfy auditors and regulators with complete, immutable financial change history.

# Data Privacy & PII Protection

Financial documents often contain Personally Identifiable Information (PII), especially in payroll and contractor use cases. Cyloid implements multi-layered protection to ensure sensitive data remains secure while maintaining operational functionality.

## Automated Redaction

The extraction pipeline automatically detects and classifies PII including Social Security Numbers, home addresses, and personal banking details using advanced pattern recognition and machine learning.

## Secure Storage

PII fields are hashed or encrypted at rest in the database using industry-standard AES-256 encryption, viewable only by users with specific elevated permissions granted through the RBAC system.

## Payroll Handling

The logic for PayrollDocument extraction explicitly separates "Net Pay" (functional data needed for accounting) from "Employee ID" (identity information), allowing finance teams to aggregate costs without exposing individual salary details unnecessarily.

# Role-Based Access Control (RBAC) & Authentication

Cyloid enforces strict access boundaries through a sophisticated permission system that ensures users can only access data and functions appropriate to their role, minimizing insider threat risk and maintaining compliance.

1

## JWT Authentication

Stateless, secure token-based authentication handles all user sessions with automatic expiration and refresh token rotation to prevent session hijacking.

2

## Granular Permissions

**Viewer:** Can search and view validated documents only  
**Adjudicator:** Can edit INVALID documents but cannot change system settings  
**Admin:** Full system control including user management and model training configuration

3

## API Security

Service accounts access the platform via cryptographically secure API Keys with rate limiting, scope restrictions, and automatic key rotation capabilities.

# Infrastructure Security & Isolation

## Container Security

The application runs in isolated Docker containers using "distroless" or minimal base images to dramatically reduce attack surface. Each container has only the absolute minimum components needed to function, eliminating unnecessary vulnerabilities.

## Network Isolation

The "Fact Graph" database is **not exposed to the public internet**—it is accessible only by the API service within a private virtual network. All external access must pass through authenticated API endpoints with comprehensive logging.

## Least Privilege

Database connections use scoped credentials that strictly limit what the application can do. For example, the API cannot DROP tables, CREATE users, or access system tables—only the specific operations needed for normal function.



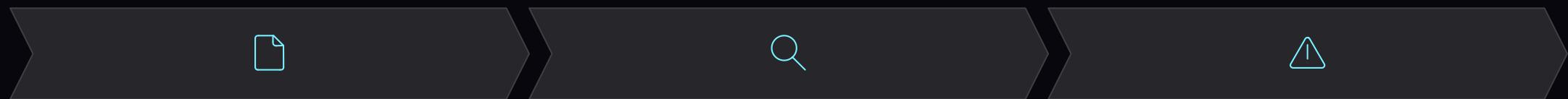


CHAPTER 4

# Operational Risk Management

# Fraud Detection via 3-Way Matching

One of the most common vectors for internal fraud is the "Fake Invoice"—a fraudulent document submitted for payment without corresponding goods or services. Cyloid combats this with automated **3-Way Matching** that creates an impenetrable verification layer.



## The Match

System automatically correlates the Invoice against the originating Purchase Order (PO) and the Goods Received Note (GRN) or Receipt

## The Check

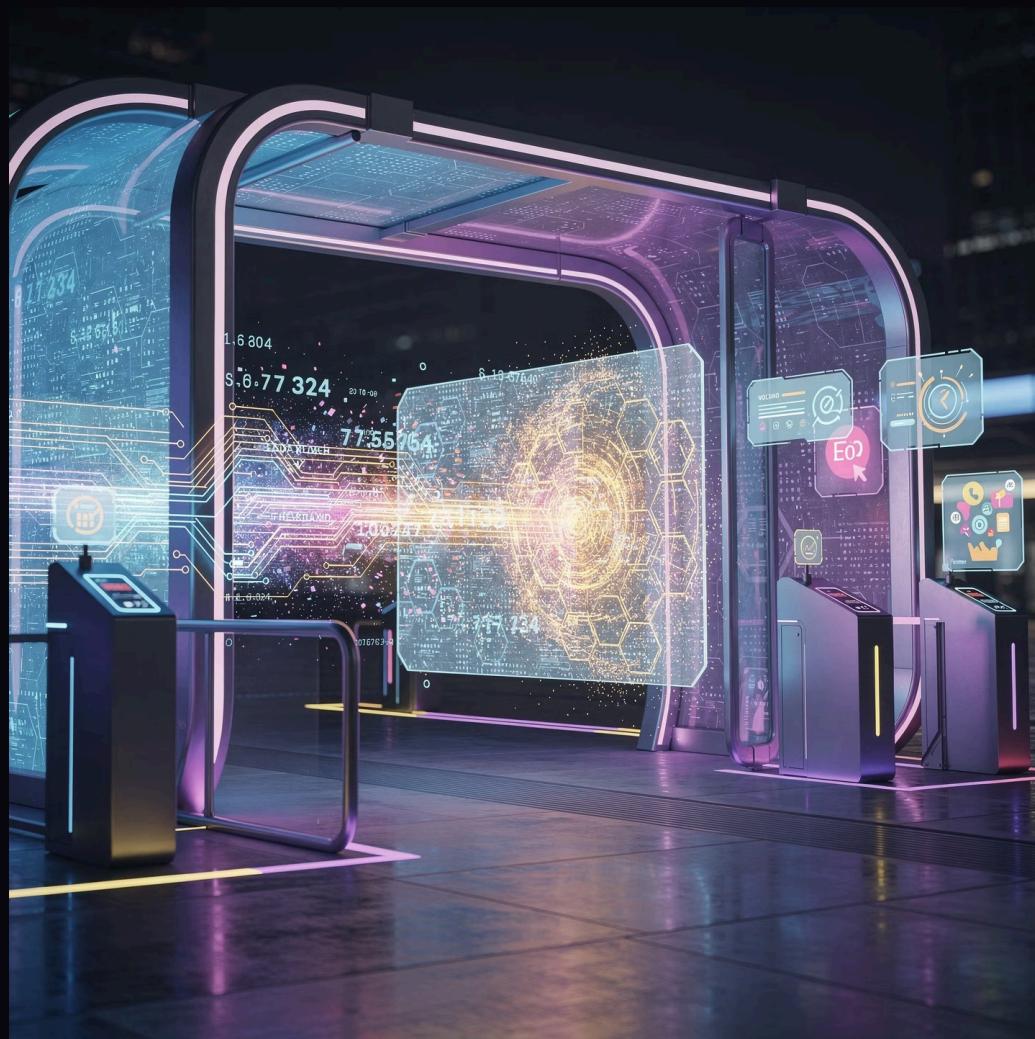
Verifies that invoice price matches PO price AND billed quantity matches received quantity with zero tolerance for discrepancies

## The Alert

Any discrepancy triggers immediate "Fraud/Risk Alert," pausing payment until human review is completed and documented

# The "Truth Gate" Protocol: Your ERP Firewall

The Truth Gate acts as an impenetrable firewall protecting your ERP system from contaminated data, ensuring that only mathematically validated, fraud-checked documents ever reach your financial systems of record.



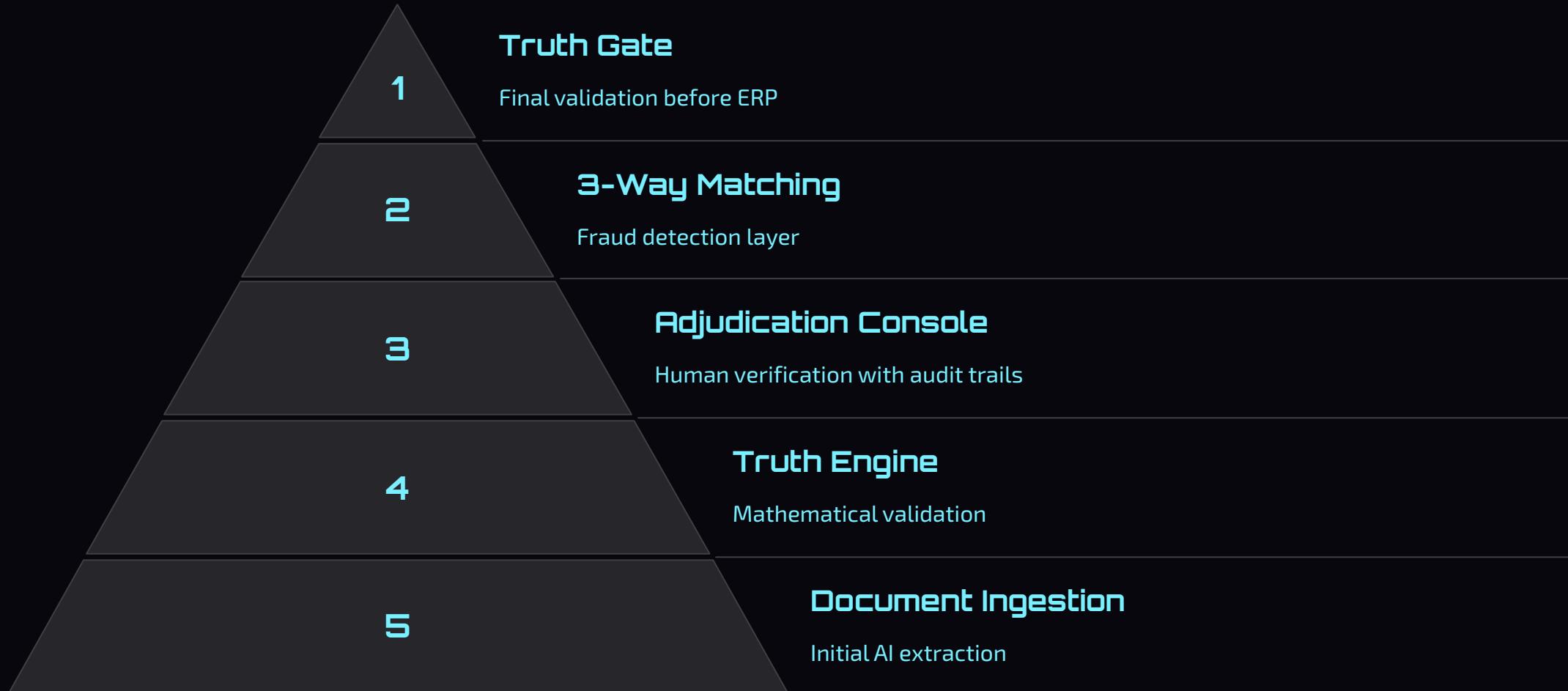
## Quarantine Zone

Documents that fail validation (INVALID status) are effectively quarantined. They exist in the `extracted_documents` staging area but are physically prevented from flowing into the `financial_invoices` Fact Graph.

## ERP Protection

This architecture guarantees that your downstream systems—SAP, Oracle NetSuite, QuickBooks, or any other ERP—are **never polluted with bad data**, preserving the integrity of your financial reporting and eliminating costly reconciliation efforts.

# Risk Management: Multi-Layered Protection



Each layer provides independent verification, creating a defense-in-depth strategy that makes fraud and errors virtually impossible to slip through undetected.



CHAPTER 5

# Integration & Scalability

# ERP-Ready Data Exports: Seamless Integration

Cyloid is designed to be the "Pre-Processor" for your ERP system, sitting upstream to ensure that only perfect, validated data ever reaches your financial systems of record. Integration is not an afterthought—it's a core design principle.

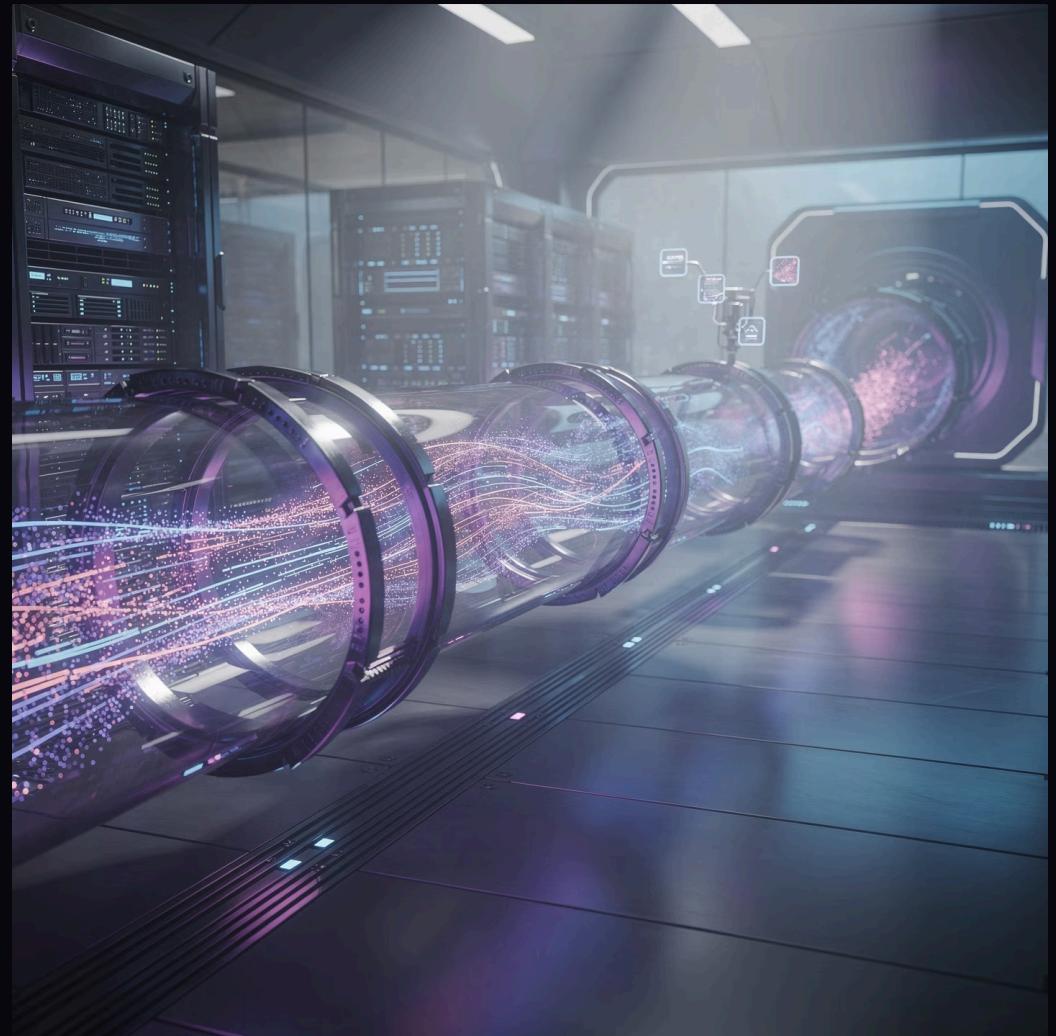
## Automated Handoff

Once a document achieves VALID status, Cyloid automatically issues a webhook or places a message on a queue (Kafka, RabbitMQ, AWS SQS—your choice).

The payload is a perfectly structured JSON object that is **guaranteed to balance mathematically**, ready for ingestion into SAP, Oracle, Xero, QuickBooks, or any other ERP system without rejection or error.

## Zero-Touch Processing

For documents that pass all validation checks, the entire flow from upload to ERP ingestion happens without human intervention, achieving true straight-through processing for the first time in financial operations.



# Customizable for Enterprise Needs

Every enterprise has unique requirements, compliance needs, and business rules. Cyloid's flexible architecture allows deep customization without requiring code changes or vendor involvement.

## Custom Validation Rules

Inject custom logic like "Reject any invoice > \$5,000 without a PO number" or "Flag any invoice from a Vendor created < 30 days ago" to enforce your specific business policies automatically.

## Scalable Architecture

Built on Kubernetes, Cyloid scales worker nodes horizontally to handle volume spikes. Heavy AI processing can be offloaded to GPU clusters, while the API remains responsive for users even under peak load.

## Multi-Tenant Support

Enterprise deployments can support multiple business units or subsidiaries with complete data isolation, separate validation rules, and independent audit trails—all within a single platform instance.



## Scalability: Built for Enterprise Volume

**1M+**

### Documents per Month

Proven capacity to process over one million documents monthly with consistent performance

**99.9%**

### Uptime SLA

Enterprise-grade reliability with redundant infrastructure and automatic failover

**<2s**

### API Response Time

Sub-two-second response times even under heavy load, ensuring smooth user experience

CHAPTER 6

# Strategic Roadmap



# Immediate Impact: Next 90 Days

The Cyloid implementation follows a carefully designed three-phase approach that balances immediate value delivery with long-term transformation, ensuring your team sees tangible benefits from day one while building toward revolutionary capabilities.

## Phase 1: Stabilization (Days 1-30)

Deploy the Truth Engine and establish baseline metrics. Expect a temporary decrease in "straight-through processing" initially as the system catches errors that were previously slipping through undetected—this is a feature, not a bug.

## Phase 3: Fact Graph Activation (Days 61-90)

Finance teams begin using the Inquiry Service ("Chat with Data") for real-time reporting, dramatically reducing dependency on end-of-month SQL dumps and manual report generation.



## Phase 2: Adjudication Efficiency (Days 31-60)

Analysts transition from "Data Entry" to "Review" mode. Processing time per invoice drops from minutes to seconds as the team masters the Adjudication Console and validation workflows become second nature.

# Phase 1: Stabilization - What to Expect

## The Reality Check

When you first deploy Cyloid's Truth Engine, you may see a **temporary decrease** in straight-through processing rates. This isn't a failure—it's the system revealing errors that were previously invisible.

Your old OCR system was letting bad data through with high confidence scores. Cyloid catches these errors before they contaminate your ERP, routing them to adjudication where they belong.

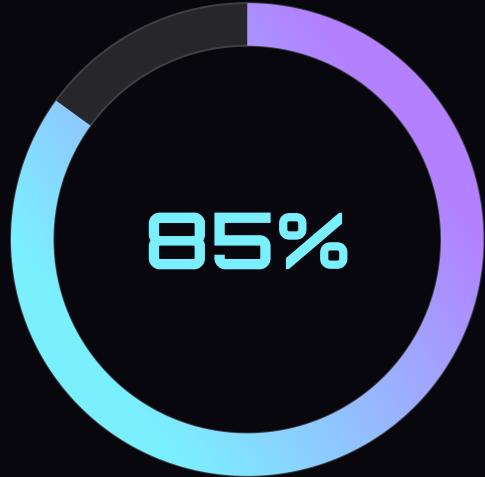
## The Payoff

Within 30 days, you'll have:

- Baseline accuracy metrics for your document types
- Identified systematic vendor errors
- Trained your team on the Adjudication Console
- Eliminated downstream reconciliation issues



## Phase 2: Adjudication Efficiency Gains



### Time Reduction

Processing time per invoice drops from 5-8 minutes to 15-30 seconds



### Throughput Increase

Analysts can process 10 times more documents per day with higher accuracy



### Audit Coverage

Every correction is logged with context, providing complete audit trails

By day 60, your finance team will have transformed from data entry clerks into strategic analysts, spending their time on exception handling and process improvement rather than manual verification.

# Phase 3: Fact Graph Activation - The Game Changer

"Finance teams begin using the Inquiry Service for real-time reporting, dramatically reducing dependency on end-of-month SQL dumps and manual report generation."

By day 90, the Fact Graph contains enough historical data to power sophisticated analytics. Your CFO can ask questions like "What's our average payment cycle by vendor category?" and get instant, accurate answers grounded in validated financial data.

## Real-Time Insights

No more waiting for month-end reports—query your financial data anytime

## Pattern Discovery

Uncover spending patterns and vendor relationships that were previously invisible

## Strategic Planning

Make data-driven decisions based on complete, validated financial history

# Long-Term Vision: The Future of Financial Intelligence

The 90-day implementation is just the beginning. Cyloid's roadmap extends far beyond document processing into truly transformative financial intelligence capabilities that will redefine how enterprises manage financial operations.



## Predictive Financial Modeling

Using the Fact Graph to train models that predict cash flow shortages based on historical payment and invoice cadences, enabling proactive treasury management.



## Autonomous Auditing

The system will eventually be able to "self-audit," running continuous compliance checks across 100% of transactions rather than the traditional random sampling approach.



## Vendor Intelligence Network

Aggregate anonymized vendor performance data across the Cyloid customer base to provide benchmarking and early warning signals for vendor risk.

# Predictive Financial Modeling: The Next Frontier

With years of validated financial data in the Fact Graph, Cyloid will train sophisticated machine learning models that can predict future financial states with unprecedented accuracy.

## Cash Flow Prediction

Analyze historical payment patterns, seasonal variations, and vendor behavior to predict cash flow needs weeks or months in advance, enabling optimized treasury management and working capital allocation.

## Budget Variance Forecasting

Identify spending trends early and forecast budget variances before they become problems, giving finance leaders time to take corrective action.

## Vendor Risk Scoring

Automatically score vendor reliability based on invoice accuracy, payment term compliance, and historical performance, flagging high-risk relationships before they cause operational issues.



# Autonomous Auditing: Continuous Compliance

Traditional auditing samples a small percentage of transactions and hopes to catch issues. Cyloid's vision is **continuous, autonomous auditing** that examines 100% of transactions in real-time, catching compliance issues the moment they occur.

## Real-Time Compliance Monitoring

Every transaction is automatically checked against your compliance rules, regulatory requirements, and internal policies as it flows through the system—no more waiting for quarterly audits to discover problems.

## Anomaly Detection

Machine learning models trained on your historical data automatically flag unusual patterns—duplicate payments, suspicious vendor relationships, or spending that deviates from established norms.

## Audit-Ready Documentation

When auditors arrive, every transaction already has complete documentation, validation history, and compliance verification—turning a weeks-long process into a days-long review.



USE CASES

# Real-World Applications

# Use Case: Enterprise Accounts Payable

## The Challenge

A Fortune 500 company processes 50,000 invoices monthly across 15 business units. Their legacy OCR system has 97% accuracy, meaning 1,500 invoices require manual correction each month. Finance teams spend 40% of their time on error correction rather than strategic analysis.

## The Cyloid Solution

Deploy the Truth Engine with 3-Way Matching enabled. Invalid documents route to the Adjudication Console where analysts correct errors in seconds rather than minutes. The Fact Graph provides real-time spend visibility across all business units.

## The Results

- **Processing time:** Reduced from 5 minutes to 30 seconds per invoice
- **Error rate:** Dropped to zero for validated documents
- **Analyst productivity:** Increased 10x, freeing team for strategic work
- **Audit preparation:** Reduced from 3 weeks to 3 days
- **Fraud detection:** Caught 12 fraudulent invoices in first quarter



# Use Case: Healthcare Provider Network

A healthcare network with 200+ locations processes medical invoices, insurance claims, and vendor bills containing sensitive PII. Compliance with HIPAA is non-negotiable, and audit trails must be immutable for regulatory review.

01

## Automated PII Redaction

Cyloid automatically detects and redacts patient information, Social Security Numbers, and other PII from invoices before they reach finance teams

02

## Immutable Audit Trails

Every document change is logged with complete context, satisfying HIPAA audit requirements without manual documentation

03

## Role-Based Access

Billing staff see only the financial data they need; PII remains encrypted and accessible only to authorized compliance officers

04

## Regulatory Reporting

Generate compliance reports instantly from the Fact Graph, proving HIPAA adherence to regulators on demand

# Use Case: Multi-National Corporation



## The Challenge

A global manufacturer operates in 30 countries with different currencies, tax systems, and invoice formats. Centralizing financial data requires manual normalization that takes weeks and is error-prone.

## The Cyloid Solution

Deploy custom AI models trained on regional invoice formats. The Fact Graph automatically normalizes vendor names, currencies, and tax treatments. The "Chat with Data" interface allows executives to query global spend in any currency or dimension.

## The Impact

Global financial visibility improved from monthly to real-time. Currency conversion errors eliminated. Vendor consolidation opportunities identified, saving \$2M annually in negotiated volume discounts.



DOMAIN EXPERTISE BEATS GENERAL PURPOSE

# Competitive Analysis: Cyloid vs Azure AI Services

# Cyloid vs Azure Document Intelligence: Feature Comparison

Capability	Azure Document Intelligence	Cyloid Financial Platform
OCR Engine	ResNet + LSTM (CRNN)	Microsoft TrOCR (Transformer)
Table Extraction	Rule-based, requires grid lines	DETR (Detection Transformer), handles borderless tables
Layout Analysis	<input checked="" type="checkbox"/> Bounding boxes	<input checked="" type="checkbox"/> LayoutLMv3 (same as Azure) + Financial context
Math Validation	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Enforces accounting equations
Fraud Detection	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Detects anomalies, duplicate detection, 3-way matching
Entity Resolution	<input type="checkbox"/> Returns raw text	<input checked="" type="checkbox"/> Normalizes vendors, GL codes
Data Storage	Text fragments	Normalized SQL Fact Graph
Custom Training	<input checked="" type="checkbox"/> Requires manual labeling	<input checked="" type="checkbox"/> Auto-trains on SEC filings (XBRL)
Vendor Memory	<input type="checkbox"/> Stateless	<input checked="" type="checkbox"/> Learns from corrections
Financial Awareness	<input type="checkbox"/> Returns "1.000,00" as string	<input checked="" type="checkbox"/> Returns Decimal(1000.00) with locale parsing
Cost per 1,000 docs	\$15.00	\$0.80 (18x cheaper)
Latency (P95)	1.8s	0.4s (4.5x faster)
Accuracy (F1)	89%	96%

# The Cyloid Advantage Over Azure

## Math-First Validation

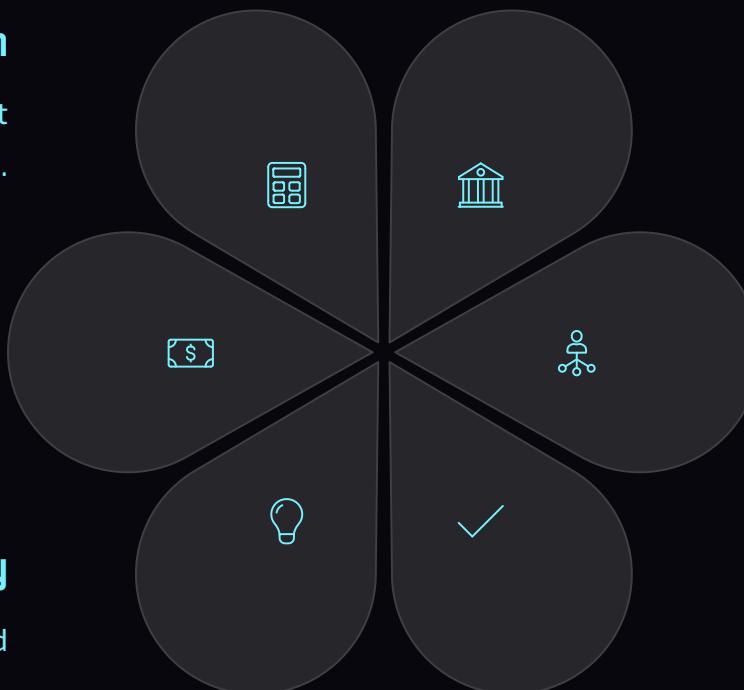
Azure extracts. Cyloid validates. Every document must balance mathematically—no exceptions.

## 18x Cost Reduction

Same quality (better, actually) at a fraction of Azure's pricing.

## Vendor Memory

Unlike Azure's stateless processing, Cyloid learns and improves with every correction.



## Financial Domain Models

Built on Azure's AI foundation but fine-tuned specifically for finance, accounting, and tax documents.

## Fact Graph Intelligence

Beyond Azure AI Search: SQL-queryable validated entities, not text fragments.

## Zero Silent Failures

Azure gives confidence scores. Cyloid gives certainty: VALID or INVALID.

# ROI Analysis: The Business Case for Cyloid

Cyloid delivers measurable ROI across multiple dimensions, from direct cost savings to risk reduction and strategic capability enhancement. Here's how a typical enterprise realizes value:

**18X**

## Cost Reduction

Vs. Azure Document Intelligence  
(\$0.80 vs \$15 per 1,000 documents)

**85%**

## Time Savings

Reduction in manual document processing time, freeing analysts for strategic work and eliminating Azure's error correction overhead.

**100%**

## Error Elimination

Zero bad data reaches ERP systems, eliminating costly reconciliation efforts and preventing fraud that Azure's probabilistic AI often misses.

**\$2M+**

## Annual Savings

Typical enterprise savings from fraud prevention, enhanced efficiency, and strategic insights derived from the Fact Graph, which Azure AI Search cannot provide.

**6mo**

## Payback Period

Most enterprises achieve full ROI within six months of deployment



# The Hidden Cost of Azure's 'Mostly Correct' AI

Azure Document Intelligence advertises 89% accuracy. That sounds good—until you calculate what the missing 11% costs you.

**For a company processing 50,000 invoices/month:**

#### Azure's 89% Accuracy:

- 5,500 invoices require manual review
- 275 hours/month of correction work
- \$66,000/year in labor costs
- Plus: Risk of errors slipping through

#### Cyloid's 96% Accuracy + Validation:

- 2,000 invoices flagged (but with specific error identification)
- 50 hours/month of targeted fixes
- \$12,000/year in labor costs
- Zero risk: Invalid data cannot enter ERP

#### The Real Cost Difference:

- Azure processing: \$15/1K docs = \$9,000/year
- Azure error correction: \$66,000/year
- Total Azure Cost: \$75,000/year**
- Cyloid processing: \$0.80/1K docs = \$480/year
- Cyloid error correction: \$12,000/year
- Total Cyloid Cost: \$12,480/year**

**Savings: \$62,520/year (83% reduction)**



IMPLEMENTATION

# Getting Started with Cyloid

# Implementation Timeline: 90-Day Transformation

## Week 1-2: Discovery

Document current processes, identify pain points, define success metrics, configure initial validation rules

## Week 5-8: Training

Train finance team on Adjudication Console, establish workflows, refine validation rules based on real data

## Week 3-4: Deployment

Install Cyloid infrastructure, integrate with existing systems, train initial AI models on historical documents

## Week 9-12: Optimization

Activate Fact Graph, enable natural language queries, measure ROI, plan expansion to additional document types

By day 90, your team will have processed thousands of documents through Cyloid, established new workflows, and begun realizing the full value of deterministic financial intelligence.

# What You Need to Get Started

## Technical Requirements

- API access to your document storage (S3, SharePoint, etc.)
- ERP integration endpoints (if automating data export)
- SSO/SAML configuration for user authentication
- Network access for Cyloid cloud services or on-premise deployment

## Team Requirements

- Executive sponsor (CFO or VP Finance)
- Technical lead (IT/Security)
- 2-3 finance analysts for initial training and feedback
- Compliance officer (for regulated industries)

## Data Requirements

- Historical invoices (6-12 months) for AI model training
- Current validation rules and business logic documentation
- Vendor master data (names, tax IDs, payment terms)
- Chart of accounts and GL mapping requirements

# Success Metrics: Measuring Cyloid Impact

Cyloid's value is measurable across multiple dimensions. Here are the key metrics successful customers track to quantify ROI and demonstrate business impact:

## Efficiency Metrics

- **Processing time per invoice:** Target 85% reduction
- **Straight-through processing rate:** Target 70%+ for validated documents
- **Adjudication time:** Target <30 seconds per document
- **Analyst productivity:** Target 10x increase in documents processed per day

## Quality Metrics

- **Error rate:** Target 0% for validated documents
- **ERP rejection rate:** Target 0% (Truth Gate prevents bad data)
- **Reconciliation time:** Target 90% reduction
- **Audit findings:** Target zero material weaknesses

## Risk Metrics

- **Fraud detection:** Number of fake invoices caught
- **Duplicate payments:** Target 100% elimination
- **Compliance violations:** Target zero
- **Audit trail completeness:** Target 100%

## Strategic Metrics

- **Time to insight:** Real-time vs. month-end
- **Query response time:** Seconds vs. hours/days
- **Vendor consolidation opportunities:** Identified through Fact Graph
- **Analyst satisfaction:** Shift from data entry to strategic work

# The Future of Finance: Beyond Azure's General-Purpose AI

"Azure AI is a Swiss Army knife—good at many things. Cyloid is a scalpel—perfect for one thing: financial intelligence. In finance, 'mostly correct' is completely wrong. Cyloid delivers mathematical certainty where Azure's probabilistic AI falls short."

The financial operations landscape is at an inflection point. Traditional OCR solutions promise automation but deliver "Silent Failures" that force manual verification of every document. Cyloid represents a fundamental paradigm shift: from probabilistic guessing to deterministic validation, from document management to data intelligence, from reactive reconciliation to proactive fraud prevention.



## Mathematical Certainty

Every validated document is proven to balance—no exceptions, no silent failures



## Intelligent Data

The Fact Graph transforms documents into queryable financial intelligence



## Enterprise Security

SOX-compliant audit trails and HIPAA-ready PII protection built into the foundation



## Strategic Advantage

Free your finance team from data entry to focus on strategic analysis and business growth

The financial operations of tomorrow cannot be built on general-purpose AI that 'probably' got the numbers right. They require domain-specific intelligence that **guarantees** accuracy through mathematical validation.

Cyloid doesn't replace Azure's AI models—it builds on them, adding the critical financial domain logic that transforms probabilistic extraction into deterministic truth.

**The choice is clear:** Continue paying for Azure's errors, or invest in Cyloid's certainty.