# SAUDI TECH FORM

AWS GenAI Hackthon

AIthar

Intelligence That Makes a Difference

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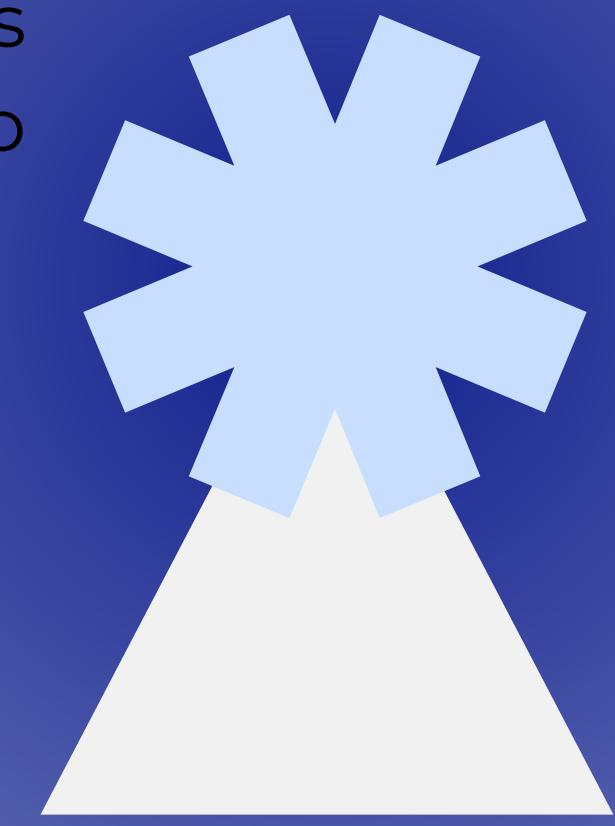
Problem Definition

The Problem

Entities with high levels of spending face difficulties identifying repeated expenses and price discrepancies within their financial data, leading to **invisible financial waste.**

Current Gaps

Reliance on **traditional review processes** and manual tools makes it difficult to compare similar contracts and invoices or detect repeated spending.
(Example: contracting similar services at different prices without early visibility.)

Affected Stakeholders

Financial and internal audit teams within **high-spending** entities, particularly in infrastructure and public service sectors.

Why Existing Solutions Fall Short?

Current approaches focus on post-spending compliance rather than providing **intelligent analysis** that connects data and explains spending patterns.

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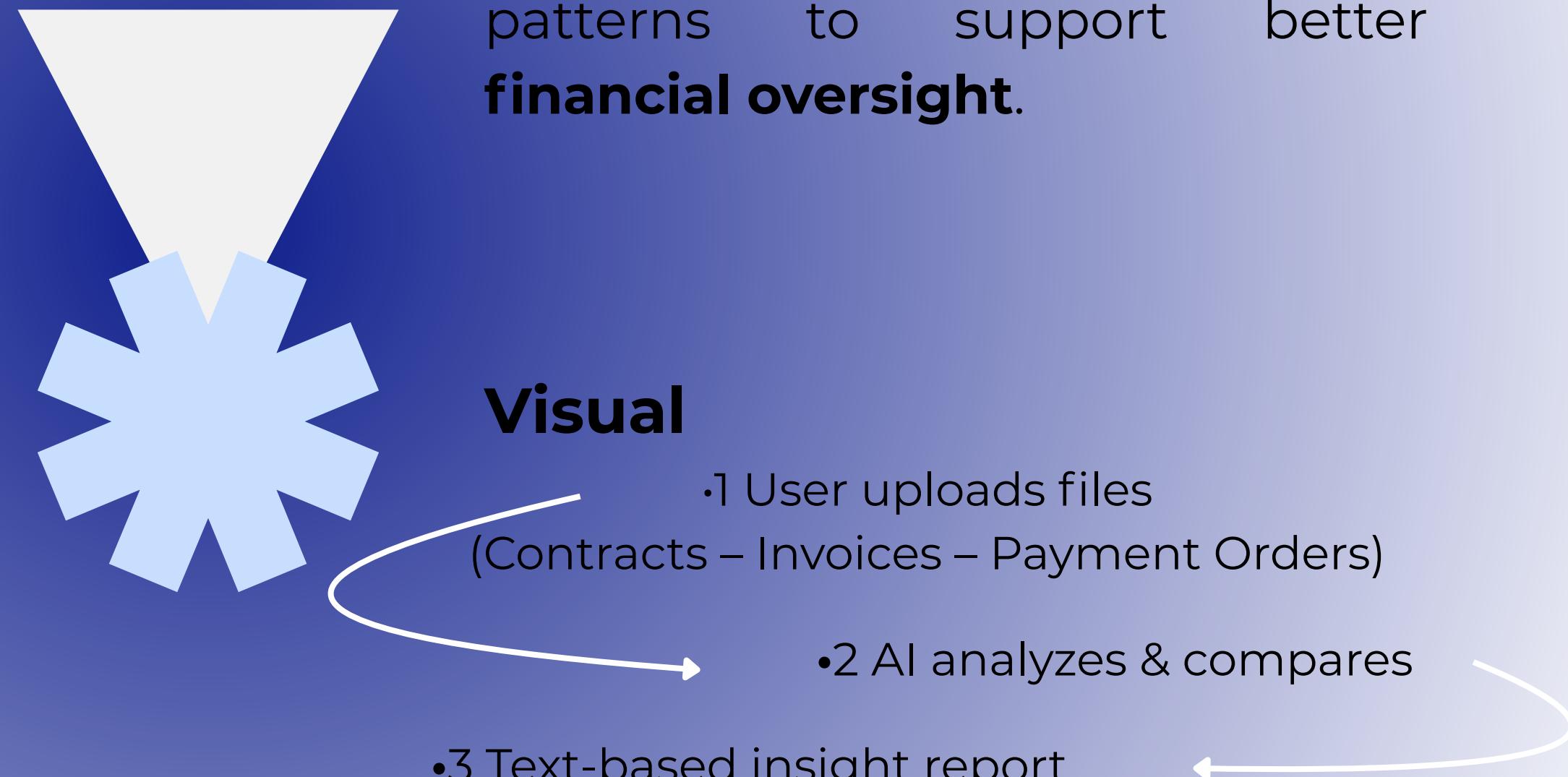
Solution Overview

Proposed Solution

An AI-powered tool that analyzes contracts, invoices, and payment orders to identify repeated spending and price discrepancies within financial data.

Why This Approach?

The solution is designed for environments where financial data exists but **lacks intelligent analysis**, making it suitable for high-spending entities that rely on traditional review methods.

Value Proposition

Clear visibility into spending patterns to support better **financial oversight**.

Visual

•1 User uploads files
(Contracts – Invoices – Payment Orders)

•2 AI analyzes & compares

•3 Text-based insight report

High-level solution flow

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Customer Journey

persona

Name: Salman
Role: Internal Audit Officer
Organization Type: High-spending entity (Infrastructure / Public Services)
salman is responsible for reviewing spending records and ensuring financial efficiency using limited analytical tools.

Current Workflow:

· Reviews contracts, invoices, and payment orders separately
· Relies on spreadsheets and manual checks
· Limited ability to compare similar services or detect repetition

Pain Points:

· Difficult to spot repeated spending across different files
· Time-consuming manual comparisons
· Limited visibility into price variations between similar services

Goals & Success:

· Gain clear visibility into spending patterns
· Identify potential inefficiencies early
· Support audit decisions with clear, explainable insights

• Before (Current State):

· Fragmented data
· Manual reviews
· Limited insights

· During (Using the Solution):

· Uploads contracts, invoices, and payment orders
· AI analyzes and compares data
· Receives a clear text-based report

· After (Outcome):

· Clear visibility into spending patterns
· Faster and more confident reviews
· Data-supported audit decisions

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Generative AI Innovation

AI Models & Tools:

Generative AI models accessed through Amazon Bedrock are used to analyze unstructured financial documents and generate explainable insights.

Innovative Application:

The solution uses semantic understanding to identify similar services, compare pricing patterns, and explain findings in natural language rather than raw figures.
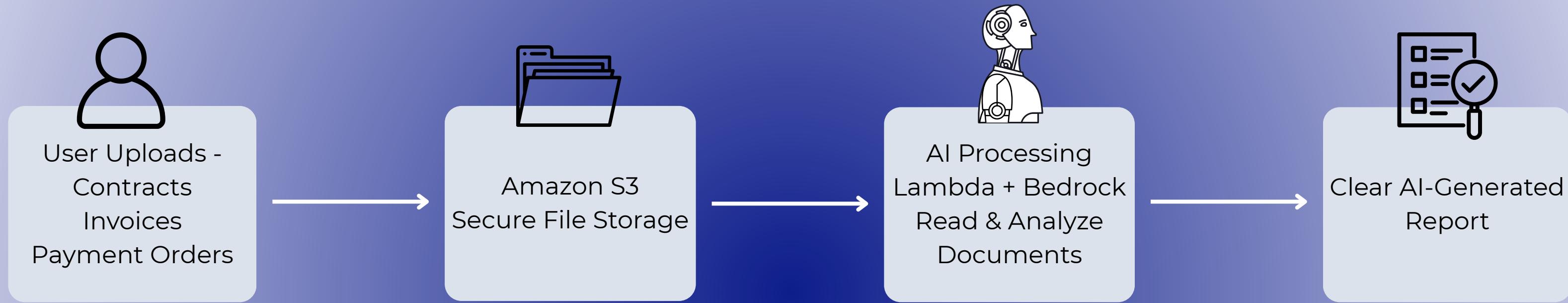
Use Cases:

- Detecting repeated spending across similar services
- Identifying price discrepancies between comparable contracts
- Generating clear, text-based insight reports

GenAI Techniques:

- Prompt Engineering to guide structured extraction and explanation
- Retrieval-Augmented Generation (RAG) to ground analysis in uploaded documents
- Multi-modal AI (optional) to support scanned documents

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AWS Architecture

| User Uploads - Contracts Invoices Payment Orders | → | Amazon S3 Secure File Storage | → | AI Processing Lambda + Bedrock Read & Analyze Documents | → | Clear AI-Generated Report |

Amazon S3
- Stores uploaded contracts, invoices, and payment orders securely.

AWS Lambda
- Triggers on upload to extract text/fields, clean data, and prepare inputs for analysis.

Amazon Bedrock
- Runs the generative AI model to understand document content, detect semantic similarity, compare patterns, and generate an explainable text report.

Why AWS:
- Serverless setup for fast MVP delivery
- Secure, scalable architecture for high-spending environments
- Managed GenAI capabilities via Bedrock

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Business Model & Monetization

Pricing Strategy:

Tiered annual subscription based on data volume and usage level.

- **Basic**: Small-scale analysis (pilot use)

- **Advanced**: Full internal spending analysis

- **Enterprise**: Cross-department insights and reporting

Target Customers:

High-spending entities, including infrastructure and public service organizations, as well as large enterprises with complex procurement operations

Why They Would Pay:

- Reducing invisible financial waste delivers high return on investment

- Faster and more confident financial review processes

- Improved transparency and governance without changing existing systems

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Alignment with Saudi Vision 2030

· **Vision Pillars Supported:**

· A Thriving Economy: Enhancing spending efficiency and reducing invisible financial waste

· An Ambitious Nation: Strengthening transparency, governance, and data-driven oversight

Contribution to Vision Goals:

· Accelerating digital transformation in financial review processes

· Enabling innovation through practical adoption of generative AI

· Improving efficiency in high-spending environments

National Priorities Alignment:

· Adoption of artificial intelligence in decision support

· Data-driven governance and smart infrastructure initiatives

Impact on KPIs:

· Improved spending efficiency

· Reduced operational waste

· Faster, more transparent financial reviews

Future Impact:

Scaling the solution can support local talent development, create AI-focused roles, and position Saudi Arabia as a regional leader in AI-powered financial governance.

Impact & Outcomes

Expected Impact:
- Clear visibility into spending patterns
- Faster detection of repeated spending and price discrepancies
- Improved confidence in financial review decisions

Measurable Outcomes:
- Reduced manual review time
- Identified cases of repeated or inconsistent spending
- Improved pricing consistency across similar services
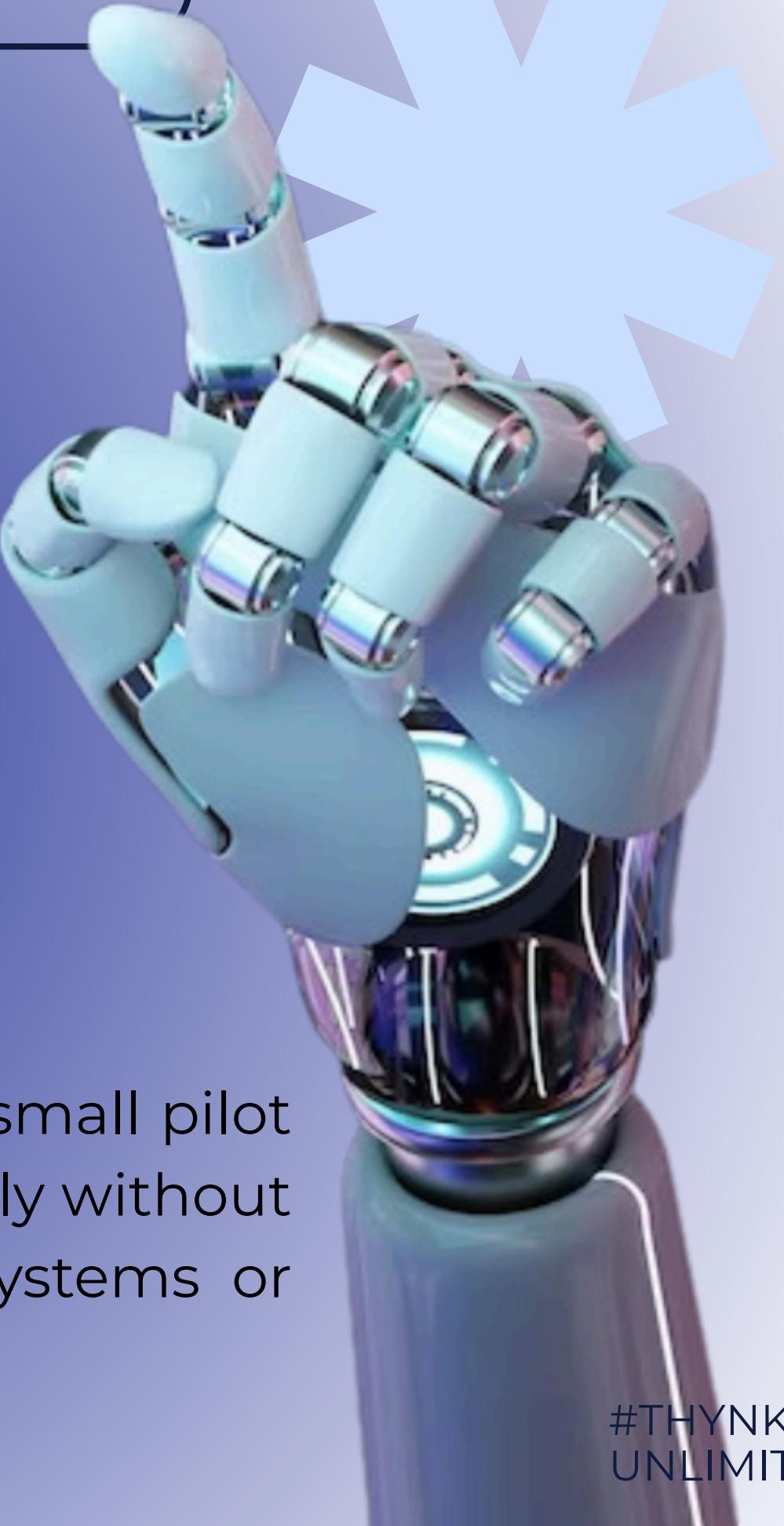
Scalability:
Designed to scale across high-spending entities in the region due to its document-based, non-intrusive approach.

Real-World Adoption:
Can be deployed as a small pilot and expanded gradually without changes to existing systems or workflows.

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Future Vision & Thank You

Next Steps:
- Expand analysis scope and supported document volumes
- Enable multi-department insights
- Enhance reporting and visualization

Future AWS Integrations:
- Amazon QuickSight for dashboards
- Amazon Textract for scanned documents
- Enterprise-scale security and access controls

Enhanced GenAI Capabilities:
- Deeper contextual analysis
- More advanced natural language explanations
- Proactive insight generation

Thank you to the judges and organizers for the opportunity.

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