

# adiso

TRANSFORMING INVENTORY, ASSET, AND SUPPLY  
MANAGEMENT ACROSS AFRICA

White Paper

Prepared by WE Org



# Executive Summary

ADISA is a next-generation digital platform built by WE Org Limited to modernize how public and private organizations across Africa manage inventory, assets, and supply-chain operations. Designed for environments with infrastructure and governance challenges such as power instability, limited connectivity, and manual record dependencies. ADISA provides real-time visibility, accountability and analytics across the full logistics lifecycle: procurement, warehousing, distribution, and utilization. The platform's mission is simple, to give every organization the power to know exactly what they have, where it is, and how efficiently it is being used.



# Background and Research

Over the past decade, numerous public and private institutions in Ghana have struggled to maintain consistent inventory visibility. Research conducted by WE Org's technical team between 2023 to 2025 identified recurring challenges across ministries and logistics operators including fragmented manual processes, lack of standard asset registers, and uncoordinated procurement systems. Comparative studies with regional systems in Kenya, South Africa, and Nigeria also revealed the absence of integrated digital tools capable of addressing Africa-specific conditions such as limited connectivity, multilingual operations, and high manual handling. These findings formed the empirical foundation for developing ADISA, a localized data driven solution optimized for African operational realities.





# The Challenge

## Across Ghana and much of Africa organizations struggle with:

- ✓ Manual stock tracking leading to losses, duplication, or fraud.
- ✓ Fragmented records spread across spreadsheets and paper ledgers
- ✓ Poor visibility of inventory movement between regional stores or depots.
- ✓ Lengthy procurement cycles caused by disconnected finance and supply systems.
- ✓ Limited data for decision making on reorder levels, supplier performance, or asset utilization.

The result is operational inefficiency, wasted capital, and slow public-service delivery.



# Proposed Solution: ADISA

In response to the identified inefficiencies, WE Org proposes the deployment of ADISA, an intelligent, cloud-enabled inventory and asset management platform tailored for African contexts. The system consolidates procurement, warehousing, and supply workflows into one cohesive ecosystem, ensuring real time visibility, accountability, and analytics. ADISA directly addresses each challenge identified in the research phase:

- ✓ Manual record dependency: Digital stock capture via mobile and web apps.
- ✓ Procurement fragmentation: Integrated PO to invoice automation.
- ✓ Limited oversight: Centralized dashboard and AI driven alerts.
- ✓ Poor data utilization: Predictive analytics and performance dashboards for decision making

# ADISA Overview

ADISA is an AI enabled inventory and asset management system that unifies all operational layers from procurement and warehousing to reporting and analytics into a single cloud or on premises platform.

## Core Modules:

- ✓ Inventory Management: Track every stock item through receipt, storage, issue, and return cycles with configurable units, SKUs, and categories.
- ✓ Asset Management: Manage fixed and consumable assets, including lifecycle tracking, depreciation, and transfer records.
- ✓ Warehouse Management: Optimize storage with location binning, picking, and stock movement workflows.
- ✓ Supply Management: Integrate suppliers, purchase orders, goods receipts, and invoicing into one workflow.
- ✓ Analytics & Dashboards: Real-time reporting on stock turnover, shrinkage, stock outs, and replenishment trends.
- ✓ AI & Automation Layer: Predictive restocking, anomaly detection for loss/fraud, and demand forecasting based on historical data.



# Intelligent Reporting Engine

ADISA's reporting engine is built to transform raw operational activity into clean, actionable intelligence.

It gives leaders and teams the ability to see beyond daily transactions and understand the deeper patterns shaping performance.

## Why It Matters

ADISA's reporting engine does more than track numbers, it reveals meaning, enabling institutions to:

- ✓ Plan better
- ✓ Spend smarter
- ✓ Manage assets effectively Improve accountability
- ✓ Enhance governance
- ✓ Boost service delivery

With ADISA, leaders finally understand not just what they have... but what it means for their future.

# Key Functional Architecture

Layer	Description
User Interface	Intuitive web portal and mobile dashboards
Application Layer	Modular microservices architecture for inventory, procurement, finance, and reporting.
Data Layer	Centralized database with audit ready transaction logs and immutable movement history.
Integration Layer (APIs)	REST APIs for integration with ERP (SAP, Odoo, Dynamics 365), eprocurement portals, and finance systems.
AI Layer	Predictive analytics engine for stock forecasting and anomaly detection.
Deployment Model	Cloud, private cloud, or on premises depending on client data sovereignty requirements.
Security Framework	Role-based access control, encryption in-transit and at rest, audit trails for accountability



# Operational Process Alignment

## Inventory & Warehouse Workflow

- ✓ Goods Receipt: Capture supplier delivery, verify PO quantities, auto-update stock.
- ✓ Put-Away & Storage: Assign bin locations using configurable layout logic (FIFO/LIFO).
- ✓ Picking & Issuance: Generate digital pick-lists and issue vouchers; integrate barcode or RFID scanning.
- ✓ Cycle Counting & Reconciliation: System driven variance detection and approval workflows.
- ✓ Returns & Disposals: Controlled processes for damaged or obsolete stock.

## Procurement & Supply Management

- ✓ End-to-end PO workflow: requisition → approval → order → delivery → invoice → payment.
- ✓ Supplier management: lead times, delivery history, performance metrics.
- ✓ Configurable approval hierarchies and segregation of duty controls for transparency.

## Multi-Warehouse & Multi-Store Operations

- ✓ Centralized visibility across national or regional depots.
- ✓ Inter store transfer module with approval and delivery confirmation.
- ✓ Offline sync mode for rural sites with low connectivity



# Implementation in the Ghana / Africa

## ✓ Connectivity Resilience:

Offline caching and synchronization for low-bandwidth zones.

## ✓ Hardware Integration:

Barcode/RFID scanners, label printers, and mobile tablets.

## ✓ Compliance:

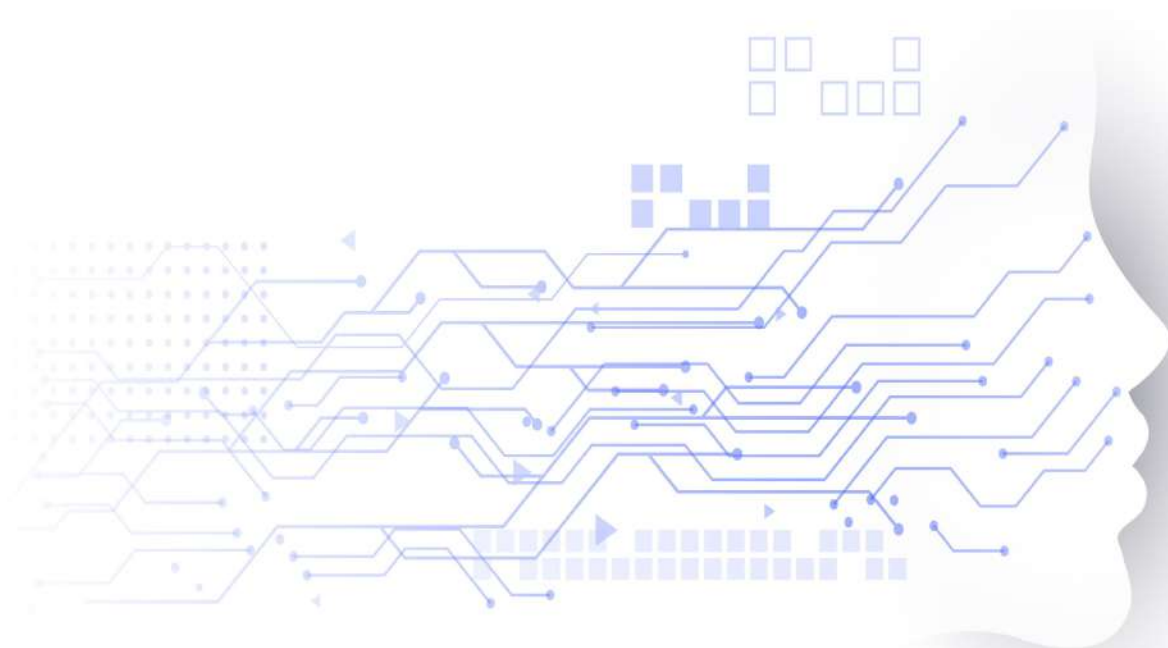
Conforms to Ghana Public Procurement Authority (PPA) process logic; supports audit trails for accountability bodies like the Auditor General and Internal Audit Agency.

## ✓ Power Adaptability:

Lightweight deployment supports UPS backed local servers or hybrid cloud setups.

# AI & Automation Use Cases

- ✓ Predictive Reordering: AI forecasts demand using historical issue patterns and lead times.
- ✓ Anomaly Detection: Flags abnormal consumption or asset transfers for audit.
- ✓ Smart Classification: Automatically classifies items by type, usage, or criticality.
- ✓ Performance Dashboards: AI generated summaries for management and regulatory reporting.







# Change Management & Governance

## Successful deployment is reinforced through:

- ✓ Process Mapping & Redesign:
  - ✓ Align system workflows to existing procedures.
- ✓ Data Cleansing & Migration:
  - ✓ Ensure accurate opening balances and asset registers.
- ✓ Training & Capacity Building:
  - ✓ Tiered user programs (warehouse staff, supervisors, management).
- ✓ Governance & Audit:
  - ✓ Full audit trails, role-based responsibilities, and exception reporting.
- ✓ Operational KPIs:
  - ✓ Stock accuracy  $\geq 98\%$ , stock out rate  $< 5\%$ , order cycle time reduction  $> 30\%$

# Business Case & Value Realization

Value Driver	Expected Outcome
Reduced Holding Cost	15 to 25 % inventory cost reduction via optimized reorder points.
Minimized Stock-Outs	Predictive alerts prevent service disruption.
Improved Asset Utilization	Accurate tracking reduces idle assets and theft.
Faster Procurement Cycle	Digital approval workflows cut manual delays by > 40 %.
Compliance & Transparency	Audit-ready logs support anti-fraud initiatives.
Operational Efficiency	35 % improvement in productivity through automation (aligned with WE Org's benchmark figures)

# Technical Deployment Options

## ✓ On Premise:

Deployed in government or private data centers with local database control.

## ✓ Private Cloud:

Hosted on client owned infrastructure (Azure, AWS, Google Cloud or Ghana Data Center).

## ✓ Hybrid:

Central HQ in cloud; regional warehouses in offline sync mode.

## ✓ BYOC:

"Bring Your Own Cloud" for organizations with strict data sovereignty.

Each deployment includes enterprise grade support, redundancy, and 99.9 % uptime.



# Compliance & Security

## ✓ Encryption:

AES-256 bit at rest; TLS 1.3 in transit.

## ✓ Authentication:

OAuth 2.0 / SSO support for institutional users.

## ✓ Audit Trail:

Immutable logs for all stock and financial transactions.

## ✓ Role-Based Access:

Segregation between procurement, warehouse, and finance teams.

## ✓ Disaster Recovery:

Geo replicated backups and automatic fail over.

# Use Cases

## Government Warehousing (Ghana DVLA or Ministry Depot)

- ✓ Track issuance of license cards, forms, and materials across regional offices.
- ✓ Forecast reorder points for high volume consumables (plates, permits, decals).
- ✓ Integrate with national procurement portals and treasury finance systems.

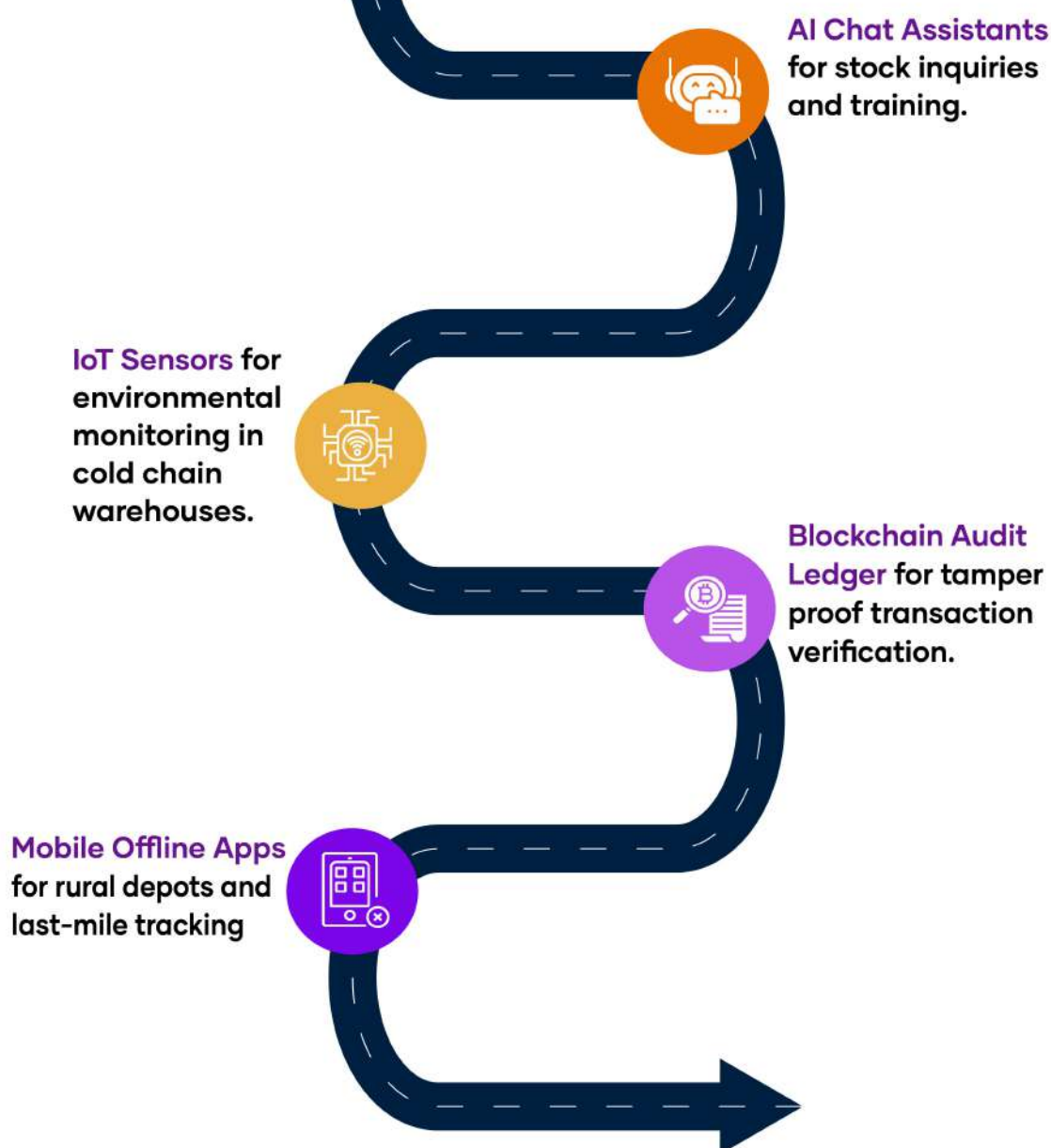
## Health Sector Supply Chain

- ✓ Real time tracking of essential medicines across regional medical stores.
- ✓ Expiry and batch tracking for safety compliance.

## Private Sector Retail & Manufacturing

- ✓ Multi branch stock visibility (Accra, Kumasi, Takoradi).
- ✓ Integrated POS and procurement workflows.
- ✓ Dashboards for turnover ratio and dead stock analysis.

# Roadmap & Innovation





# Conclusion

**ADISA** is purpose-built for Africa's operational realities, bridging the gap between global best practices and local execution challenges. It combines sound inventory management principles with AI-driven intelligence and resilient technology architecture to deliver visibility, efficiency, and accountability across the entire supply chain. By digitizing inventory and asset control, organizations can unlock measurable value: reduced costs, faster service delivery, and stronger governance.

# About WE Org

## **Africa's First Applied AI Research Company**

We Org is a technology and innovation company accelerating Africa's digital transformation through human-centered design, ethical AI, and strategic governance. We work with governments, institutions, and private partners to build secure, scalable, and inclusive systems that redefine national progress. We Org is a subsidiary of VB Capital Partners Ltd, a global consulting and technology firm dedicated to advancing resilient, data-driven economies.

