

WHITE PAPER

DX Challenges in Manufacturing & Logistics — 3 AI Approaches to Solve Them

3 AI Approaches to Solve DX Challenges in Manufacturing & Logistics

AI POC from USD 6k | Results in 2–3 months | No large upfront investment required

3 Key Challenges Facing Japan's Manufacturing & Logistics SMBs

Labor Shortage & Rising Costs

65% of manufacturers cite labor shortage as #1 business challenge

Labor Shortage & Rising Costs

Chronic labor shortage due to aging population. Skilled worker succession is a growing crisis. Annual minimum wage increases are raising fixed costs year after year.

Quality Control Dependent on Individuals

78% of quality defects traced back to human error

Quality Control Dependent on Individuals

Quality inspection relies on veteran workers' experience and intuition. When they retire, quality cannot be maintained. Standardization and automation are urgently needed.

Inefficient Inventory & Logistics

30% of logistics cost is wasted on inefficient routing and inventory

Inefficient Inventory & Logistics

Poor demand forecasting causes simultaneous overstock and stockouts. Delivery route optimization is still done manually. AI can improve this immediately.

AI Solutions Provided by Exist

End-to-end support from POC to production — results confirmed in as little as 2 months

01

AI Visual Inspection System

AI Visual Inspection

Automates visual inspection using cameras and machine learning. Installs on existing lines — no major modifications required.

POC: USD 8k~

8 weeks

Defect detection rate
+40%
Inspection labor cost
-60%

02

Demand Forecasting & Inventory Optimization AI

Demand Forecasting AI

AI predicts demand from historical sales data. Reduces both overstock and stockouts simultaneously.

POC: USD 6k~

6 weeks

Inventory cost -25%
Stockout rate -35%

03

Route Optimization AI

Route Optimization AI

AI calculates optimal delivery routes in real time. Reduces both fuel costs and driver hours.

POC: USD 7k~

6 weeks

Delivery cost -20%
Driver overtime -30%

04

Predictive Maintenance System

Predictive Maintenance

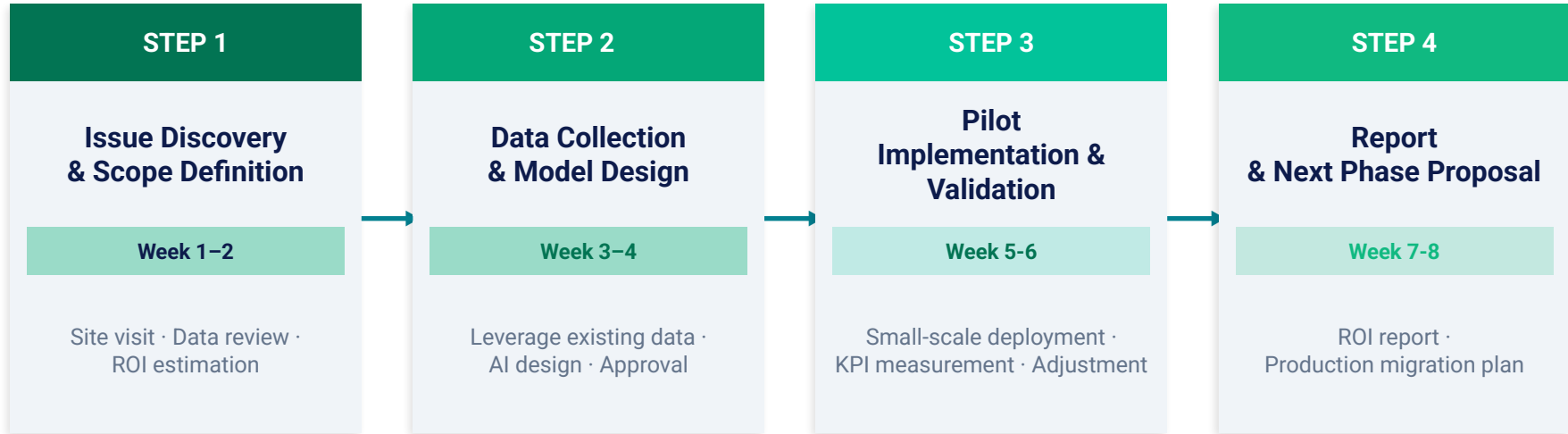
AI predicts equipment failures from sensor data. Targets zero unplanned downtime.

POC: USD 10k~

10 weeks

Equipment downtime -50%
Maintenance cost -30%

“Try First” POC Approach — Verify Results with Zero Risk



Expected ROI — POC Phase

- AI Visual Inspection: USD 8k → annual inspection cost savings USD 40k+
- Demand Forecasting: USD 6k → annual inventory cost savings USD 30k+
- Route Optimization: USD 7k → annual logistics cost savings USD 25k+

Why Choose Exist

- Philippines-based development at 40% lower cost vs. Japan
- Bilingual team: English & Japanese support
- Proven track record in manufacturing & logistics DX

Client Testimonial & Next Steps

Case Study – Manufacturing (Equipment Parts Manufacturer)

"We completed an AI visual inspection POC in just 8 weeks. Our inspection automation rate reached 67%, confirming annual cost savings of JPY 12 million. We are fully satisfied with the technical capability and Japanese-language support of the Philippines team, and have moved to full production."

— Head of DX Promotion, Manufacturing Company (200 employees)

Free Consultation Available

- ✓ On-site issue discovery session (60 min)
- ✓ AI applicability assessment
- ✓ Estimated ROI simulation
- ✓ POC proposal document

Contact Us

Contact: Hiroki Chiba | Email: chiba@exist.com | Languages: Japanese & English