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AI Audit and Roadmap

An assessment of AI readiness across business, data, technology and organisation at VYRA Chemicals Pvt Ltd, with a prioritised twelve-month roadmap.

● AI Audit and Roadmap ● Delivered by Woodfrog ● March 2026

● **Confidential**

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Executive Summary

Woodfrog was engaged by VYRA Chemicals to assess AI readiness across business, data, technology, and organizational dimensions, and to deliver a prioritized 12-month roadmap.

The assessment drew on stakeholder interviews across leadership, plant operations at Vapi and Dahej, sales, finance, IT, and quality, alongside a review of core operational and financial systems and the underlying data flows.

Headline findings:

- VYRA has strong operational discipline and clean SAP data, which is a stronger starting position than most mid-market chemical companies. However, plant-level data (SCADA, lab QC, shift logs) is siloed and largely inaccessible to business systems.
- Digital literacy is highly uneven. Leadership and corporate functions are technology-aware. Plant teams operate largely on paper, WhatsApp, and Excel. Any AI intervention that requires plant-side behavior change will need significant adoption support.

- Six AI use cases are viable in the next 12 months. Four are not viable yet due to data or infrastructure gaps that must be addressed first.
- Two clear quick wins can be shipped in 90 days with immediate business impact and minimal organizational friction.

Recommended starting sequence:

1. **Export documentation automation** (Quick win, 60 days)
2. **Customer response drafting assistant for the sales desk** (Quick win, 45 days)
3. **Predictive batch quality assistant for QC labs** (Larger pilot, 4 to 5 months, needs LIMS foundation)

Estimated Year 1 investment across the recommended program: **₹85 lakh to ₹1.4 Cr**, depending on final scope of the LIMS foundation and vendor selections.

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Business Context

Company overview

VYRA operates three specialty and performance chemicals plants across Gujarat, with headquarters in Vapi. The current leadership transition (2019) has been accompanied by a sustained modernization agenda, which forms the context for this engagement.

- **Revenue (FY25):** ₹520 Cr
- **EBITDA margin:** 14.2%
- **Employees:** ~950 (620 at plants, 330 in corporate and sales)
- **Manufacturing footprint:** 3 plants across Vapi, Dahej, and Sarigam
- **Ownership:** Privately held. Second-generation leadership.

Product portfolio

VYRA operates across three business units:

1. **Dyes and Pigments** (~48% of revenue). Reactive dyes, disperse dyes, and organic pigments for textiles, coatings, and plastics.

2. **Agrochemical Intermediates** (~34% of revenue). Custom-synthesized intermediates for domestic and international agrochemical formulators.
3. **Performance Chemicals** (~18% of revenue). Surfactants, specialty additives, and process chemicals for industrial customers.

Markets served

- **Domestic (India):** ~60% of revenue. Sold through a mix of direct sales, distributors, and long-standing OEM contracts.
- **Exports:** ~40% of revenue. Middle East (largest), Southeast Asia, and Europe. European exports face increasing REACH compliance overhead.

Strategic priorities anchoring this assessment

- Grow exports from 40% to 55% of revenue over the next 3 years, with Europe as the primary lever.
- Move from custom-synthesis job work to VYRA-branded specialty products in the agrochemical segment.
- Modernize plant operations to reduce unplanned downtime and improve batch consistency.
- Prepare the organization for a planned equity dilution (private) in 24 to 36 months, which requires stronger data, controls, and process maturity.

Financial and operational context

- CAPEX cycle is ongoing. A fourth plant is under construction in Dahej SEZ (planned FY27 commissioning).
- Working capital is tight due to extended payment cycles from Middle East customers.
- Regulatory overhead is rising (GPCB, ZLD requirements in Gujarat, REACH for exports, growing GHS labeling scrutiny).

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Observations

Findings from our stakeholder engagement, presented as we heard them and what we make of them.

Leadership is ambitious but time-poor

There is genuine executive commitment to modernization at the MD level, evidenced by the SAP upgrade CAPEX in 2023. However, MD bandwidth is heavily consumed by CAPEX decisions on the fourth plant and relationship management for the top 20 export accounts. AI initiatives will need a delegated executive owner. Our recommendation: the CFO, who has both bandwidth and organizational credibility.

Plants run on tribal knowledge

Plant heads at Vapi and Dahej are deeply experienced (25+ years each) and manage operations largely from memory and daily walk-arounds. Batch parameters, quality decisions, and maintenance schedules live in their heads and in shift-log notebooks. This is a strength operationally but a weakness for any AI initiative that depends on structured historical data.

The corporate-plant divide is real

Corporate functions (sales, finance, HR) are on SAP, use email, and are comfortable with Excel. Plants operate on paper, WhatsApp, and localized Excel workbooks. There is no unified data view between the two worlds. This is the single biggest obstacle to any cross-functional AI use case.

IT is undersized and reactive

IT team of 9 people, mostly infrastructure and SAP support. Two SAP functional consultants, no data engineers, no ML capability. The team is stretched keeping systems running and has no capacity for new initiatives without external support. VYRA hired a "Digital Transformation Lead" in late 2025 but the role is not yet operational.

Regulatory reporting is a growing pain

REACH compliance for European exports currently takes 3 to 4 people days per shipment cycle. GPCB monthly reporting takes another 2 to 3 days. GHS labeling errors have caused two customs holds in the past year. This is a clear pain point cited by multiple stakeholders and a natural AI opportunity.

Sales cycle is faster than the credit decision cycle

The sales team can quote and confirm orders same-day. Credit approval on new or expanding customers takes 5 to 8 working days because it depends on manual review of trade references and CIBIL pulls. Sales cited this as a top-3 revenue leak.

Customers ask for more than the org can currently answer

Increasingly sophisticated customers (particularly European) ask for real-time order status, batch-level quality certificates on demand, and carbon disclosure data. VYRA cannot serve these requests in a self-service manner today. The MD sees this as a strategic vulnerability.

Data Posture

What exists

DATA DOMAIN	SYSTEM OF RECORD	DATA QUALITY	ACCESSIBILITY
Financials, procurement, inventory	SAP ECC 6.0	High	High (within IT)
Sales orders and customer master	SAP + Zoho CRM (partial)	Medium (dual-entry issues)	Medium
Production batch records	Excel workbooks per plant	Medium	Low (siloes)
Lab QC test results	Excel workbooks per plant	Medium (inconsistent formats)	Low
Plant sensor data (temperature, pressure, flow)	Local SCADA (Rockwell/Siemens)	High (raw)	Very Low (not extracted)
Shift logs and maintenance notes	Paper notebooks	Low (unstructured)	Very Low
Regulatory filings	File servers + individual laptops	Medium	Low
Customer emails, complaints	Individual mailboxes	Low (uncatalogued)	Very Low

Data governance

There is no formal data governance function. SAP master data is owned by the SAP functional team but is not documented as a governed asset. Plant data is owned locally by each plant head. No data catalog, no lineage tracking, no formal data quality metrics.

Critical gaps

1. **No LIMS.** Lab data is the most valuable proprietary dataset VYRA generates and it is trapped in unversioned Excel workbooks. This is the single most important data gap.
2. **SCADA data is unextracted.** Plant sensor data is captured continuously but never leaves the local SCADA historians. Extraction into a business data layer would unlock predictive maintenance, batch quality prediction, and energy optimization.
3. **CRM adoption is partial.** Zoho CRM was rolled out in 2024 but sales team adoption is around 40%. Order data is often re-entered manually into SAP.
4. **No unified customer view.** Sales, finance, and quality each have partial views of the customer. There is no single customer 360.

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Tech Posture

Core stack

- **ERP:** SAP ECC 6.0 (on-premise, upgrade to S/4HANA planned for FY27 alongside plant commissioning)
- **CRM:** Zoho CRM (partial adoption)
- **Plant control:** Rockwell PLC/SCADA at Vapi, Siemens at Dahej and Sarigam (no unified platform)
- **Lab systems:** No LIMS. Excel-based.
- **MES:** None.
- **Financial reporting:** SAP with Excel extracts for board and stat reporting
- **Email and collaboration:** Microsoft 365 (rolled out 2023)
- **Cloud:** Minimal. Some file storage on OneDrive. No production cloud workloads.
- **Cybersecurity:** Basic. Firewall, endpoint AV. No SIEM. No SOC.

Architecture

Everything is on-premise except Microsoft 365 and Zoho CRM. Systems are siloed with limited integration. SAP and Zoho have a partial (buggy) sync built by a local vendor in 2024. SCADA systems have no integration with business systems.

Integration state

- SAP to Zoho: partial, unreliable
- SAP to plant systems: none
- Lab to SAP: none
- Plant to plant: none (each plant is its own island)

What this means for AI

Any AI use case that requires unified data from multiple sources will need integration work first. Use cases that live within a single system (SAP-only, or email-only, or sales-desk-only) can be built now without waiting on integration.

Users and Tech Understanding

Persona map

PERSONA	COUNT	TECH COMFORT	AI AWARENESS	PRIMARY TOOLS
MD and Business Heads	4	High	Medium (curious, ambitious)	Email, SAP dashboards, WhatsApp
Corporate functions (Finance, HR, Compliance)	90	Medium-High	Low	SAP, Excel, email
Sales team	45	Medium	Low	Zoho CRM (partial), Excel, WhatsApp, email
Plant Heads	3	Medium	Low (skeptical)	Paper, WhatsApp, occasional SAP
Shift Supervisors	24	Low-Medium	Very Low	Paper, WhatsApp
Plant Operators and Technicians	500+	Low	None (not exposed)	Physical panels, paper
Lab QC staff	35	Medium	Low	Excel, lab instruments
IT team	9	High (infra), Low (data/AI)	Medium	Their stack
Digital Transformation Lead	1	High	Medium	New role, ramping up

Adoption risk assessment

Low risk (will adopt readily):

- Corporate functions with a clear personal productivity benefit
- Sales team, if the tool actually saves them time and doesn't add reporting overhead
- Lab QC staff, if the tool doesn't disrupt their existing lab flow

High risk (adoption will be slow and require support):

- Plant heads and supervisors. Deeply experienced, skeptical of tools that "tell them how to do their job." Any AI recommendation to plant leadership must come with human override, transparent reasoning, and slow rollout.
- Plant operators. Effectively no digital touchpoint today. Cannot be the first users of an AI tool.

Change management implications

- Corporate-first AI use cases are low-risk and high-return.
- Plant-side AI use cases are high-value but need 6+ months of change management runway, including in-language (Gujarati) training, on-site champions, and MD-visible sponsorship.
- Cross-functional AI use cases require both.

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Current Workflows and Systems

Before recommending AI overlays, we map the workflows the business currently runs on. AI does not replace workflows. It augments them. Understanding what exists is the starting point.

Order to Cash

1. Customer enquiry (email, phone, distributor) received by sales
2. Sales team enters enquiry in Zoho CRM or Excel (inconsistent)
3. Quote prepared manually in Excel using rate cards and margins
4. If new customer or expansion beyond credit limit: credit team pulls CIBIL, contacts trade references, approves in 5 to 8 days
5. Order confirmed. Sales enters SO in SAP.
6. Production planning at plant. Batches scheduled in Excel by plant head.
7. Production run. QC tests. Batch released (manual).
8. Dispatch. Export shipments require REACH, GHS, MSDS, and CoA documentation (manual).

9. Invoice issued from SAP. Payment tracking manual.

Pain points: Credit cycle time. Manual export documentation. Lack of order status visibility to customer.

Procure to Pay

Standard SAP-driven flow. Working reasonably well. Main pain is supplier consolidation and price benchmarking (both manual).

Plan to Produce

1. Sales forecast (monthly, from sales heads, mostly gut-feel with some historical reference)
2. Plant head builds production schedule in Excel
3. Raw material requirements calculated manually
4. Production runs. Batch records maintained in Excel.
5. QC lab tests each batch. Results recorded in Excel.
6. Batch approved or reworked based on QC.

Pain points: Forecast accuracy. Rework rate on out-of-spec batches (currently ~7%, industry benchmark ~3%). No visibility into which parameters correlate with rework.

Quality Management

1. Sampling at defined stages
2. Lab testing (manual instruments and semi-automated where available)
3. Excel entry of results
4. Manual comparison to spec
5. Approve or reject
6. Rejects go for rework or scrap

Pain points: No trend analysis. No root cause tracking. Same rework issues recurring across batches with no systematic learning.

Regulatory Reporting

1. GPCB monthly report: compiled manually from plant records and lab data
2. REACH dossier updates: prepared per SKU per export destination
3. GHS labeling: manual per product per market
4. Environmental compliance: manual submissions per plant

Pain points: Time-intensive. Error-prone. Two customs holds in past year due to labeling errors.

Customer Service

1. Customer email or call received
2. Sales rep or CSR looks up order in SAP or Zoho
3. Manually crafts response
4. If information gap (batch details, dispatch status, quality certificate), coordinates with plant or QC
5. Response sent

Pain points: Response time. Inconsistent quality of responses. No knowledge base.

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AI Opportunities Assessment

We assessed 10 candidate AI use cases across VYRA's operations. Six are viable in the next 12 months. Four are not viable yet due to specific readiness gaps.

Scoring rubric (1 to 5):

- **Impact:** Estimated annual business value (revenue, cost, or risk reduction)
- **Feasibility:** How ready VYRA's data, tech, and people are to build this today
- **Speed:** How quickly a working version can ship
- **Complexity:** Inverse of Speed. Low is better.

Ready to build (viable in the next 12 months)

#	USE CASE	IMPACT	FEASIBILITY	SPEED	COMPLEXITY
1	Export documentation automation	4	5	5	Low
2	Customer response drafting assistant (sales desk)	4	5	5	Low
3	Credit decision assistant	4	4	4	Low-Medium
4	Regulatory reporting drafts (GPCB, REACH)	4	4	3	Medium
5	Predictive batch quality (initial version on Excel data)	5	3	3	Medium
6	Sales forecasting improvement assistant	3	4	4	Low-Medium

Details:

#1. Export documentation automation. LLM-driven generation of MSDS, CoA, REACH dossiers, and GHS labels from SAP data and product master. Human review before dispatch. Estimated 60 to 70% reduction in documentation time. Ships in 60 days.

#2. Customer response drafting assistant. LLM assistant integrated with sales team's email and Zoho CRM that drafts responses to routine customer queries (order status, product info, quotation requests) using SAP data. Sales rep reviews and sends. Estimated 40% reduction in response time. Ships in 45 days.

#3. Credit decision assistant. LLM plus rules engine that pulls CIBIL, cross-references trade references, and generates a credit recommendation for the credit team to approve. Cuts decision cycle from 5–8 days to 1–2 days. Ships in 90 days.

#4. Regulatory reporting drafts. LLM-driven first-draft generation of GPCB monthly reports, REACH dossier updates, and internal compliance reports. Compliance team reviews and finalizes. Estimated 50% reduction in reporting time. Ships in 4 months.

#5. Predictive batch quality assistant. ML model trained on historical batch and QC data (initial version from Excel workbooks) to predict likelihood of rework before batch runs. Ships in 4 to 5 months. Depends on cleaning and unifying Excel lab data first. Longer-term value depends on LIMS.

#6. Sales forecasting improvement. AI-augmented forecasting using historical SAP order data plus sales team qualitative input. Improves on gut-feel baseline. Ships in 3 months.

Not ready yet (blocked by gaps)

#	USE CASE	IMPACT	FEASIBILITY	SPEED	BLOCKING GAP
7	Predictive plant maintenance	5	2	2	SCADA data not extracted; no historian in cloud
8	Real-time supply chain optimization	4	2	2	Supplier data not integrated
9	Autonomous plant control loops	5	1	1	Digital maturity gap of 3+ years
10	Customer 360 with AI recommendations	4	2	2	No unified customer view across SAP, Zoho, QC

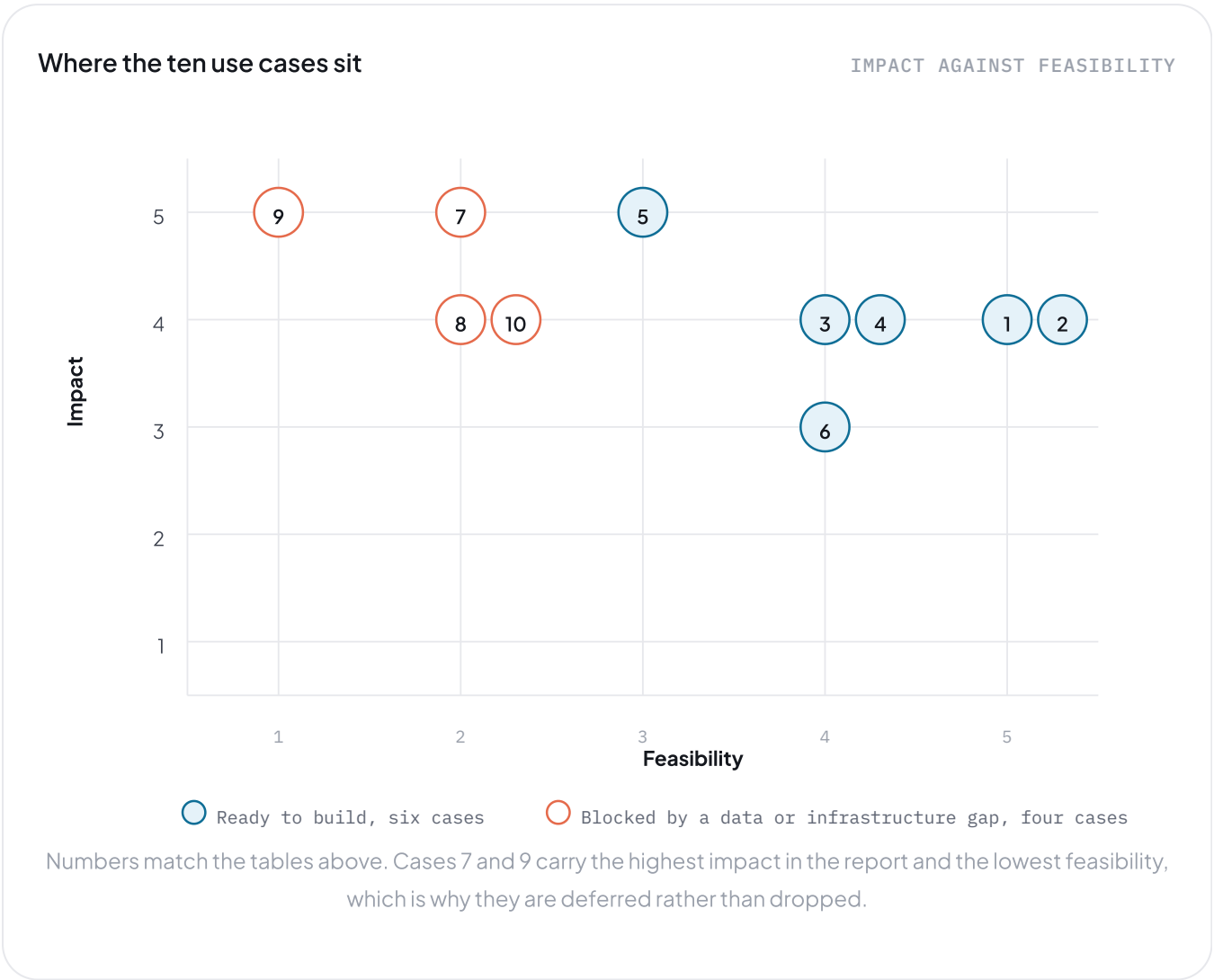
Details on why each is blocked:

#7. Predictive maintenance. Requires plant sensor data (temperature, vibration, pressure) to be extracted from SCADA, historized in a time-series data platform, and enriched with maintenance event data. VYRA has none of this infrastructure today. Estimated 6 to 9 months of data engineering work required first.

#8. Supply chain optimization. Requires supplier lead times, quality history, and pricing benchmarks to be integrated. Today this data is either not captured or lives in individual buyer's heads.

#9. Autonomous plant control. VYRA is 3+ years away from the digital maturity needed for this. Deliberate not-now recommendation.

#10. Customer 360. Requires SAP and Zoho to be reliably synced (which they currently are not) and quality/batch data to be linked to customer orders (which is not the case today).



Cross-cutting foundation: LIMS

An out-of-scope but foundational recommendation: VYRA should evaluate and implement a Laboratory Information Management System (LIMS) in FY26 or FY27. This unlocks not only #5 (predictive batch quality) at full potential, but also strengthens customer trust (real-time batch certificates) and regulatory posture (auditable lab data trail). LIMS is not an AI project but it is the single highest-leverage data foundation investment VYRA could make.

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Recommended Sequence

We recommend VYRA start with two quick wins that build organizational confidence, then move to a larger pilot that begins to unlock plant-side value.

Why this order

- **Start with corporate-side AI, not plant-side.** Adoption risk is lowest, feedback loops are fastest, and success builds internal advocacy for later plant-side initiatives.
- **Start with well-defined, contained use cases.** Export docs and customer response drafting each live within a single system boundary. No integration blockers.
- **Choose visible pain points.** Both quick wins solve problems that leadership and operators openly acknowledge. Wins are self-evident. No skeptics to convince.
- **Sequence the LIMS foundation in parallel.** LIMS procurement and implementation should begin in Month 2 so that the batch quality pilot can graduate to a full solution in Month 6.

Positive momentum principle

For an organization new to AI, the first 90 days matter more than the next 9 months. Two ship-fast, visible-win pilots in the first quarter create the internal narrative that AI works at VYRA. Without that narrative, every subsequent initiative faces uphill skepticism, regardless of technical merit.

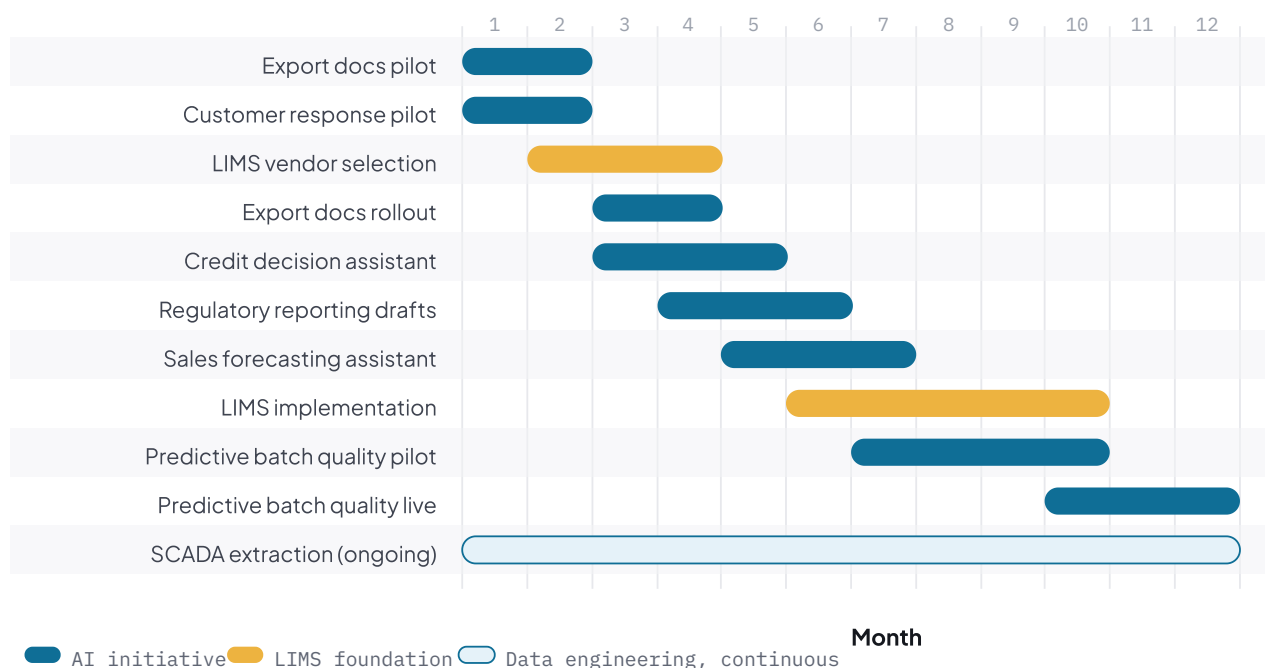
12–Month Roadmap and 90–Day Quick–Win Plan

12–Month Roadmap

MONTH	INITIATIVE	OWNER	OUTCOME
1 to 2	Export documentation automation (Pilot)	Compliance + Woodfrog	Live for one product line, Europe exports
1 to 2	Customer response assistant (Pilot)	Sales + Woodfrog	Live for top 20 customers
2 to 4	LIMS vendor evaluation and selection	IT + Quality + Woodfrog advisory	Vendor selected, contract signed
3 to 4	Export documentation automation (Full rollout)	Compliance	All product lines, all export markets
3 to 5	Credit decision assistant (Pilot to full)	Finance + Woodfrog	Reduces cycle from 5–8 days to 1–2
4 to 6	Regulatory reporting drafts (GPCB + REACH)	Compliance + Woodfrog	50% time reduction
5 to 7	Sales forecasting AI-augmented assistant	Sales + Woodfrog	Rolled out to business heads
6 to 10	LIMS implementation	IT + Quality + LIMS vendor	Live at Vapi plant
7 to 10	Predictive batch quality (Pilot on cleaned Excel data)	Quality + Woodfrog	Model in shadow mode for Dyes BU
10 to 12	Predictive batch quality (Full rollout on LIMS data)	Quality + Woodfrog	Live for Dyes BU
Ongoing	SCADA data extraction and historization	IT + Plant Ops + Woodfrog	Foundation for FY27 predictive maintenance

Twelve-month roadmap

MONTH 1 TO 12



The two quick wins start immediately and independently of everything else. Predictive batch quality is the only initiative that waits on another, which is what makes LIMS the critical path.

90-Day Quick-Win Plan (Detailed)

Pilot 1: Export Documentation Automation

- **Weeks 1 to 2:** Requirements finalization. Access to SAP product master, existing MSDS/CoA/REACH templates.
- **Weeks 3 to 5:** Build LLM pipeline with human-review workflow. Integrate with SAP for product and batch data.
- **Weeks 6 to 7:** UAT with Compliance team on one product line.
- **Week 8:** Go-live for Europe exports of Dyes BU.
- **Weeks 9 to 12:** Iterate based on real usage, expand to Middle East exports.
- **Success metric:** 60% reduction in documentation preparation time. Zero customs holds due to labeling errors.

Pilot 2: Customer Response Drafting Assistant

- **Weeks 1 to 2:** Requirements. Access to representative customer email history, SAP order data, Zoho CRM.
- **Weeks 3 to 4:** Build LLM assistant integrated with sales desk email workflow.
- **Weeks 5:** Small-group UAT with 5 sales reps handling top 20 customers.
- **Week 6:** Expand to full sales team.
- **Weeks 7 to 12:** Iterate on quality, add knowledge base from historical Q&A.
- **Success metric:** 40% reduction in average response time. Sales team NPS on the tool >50.

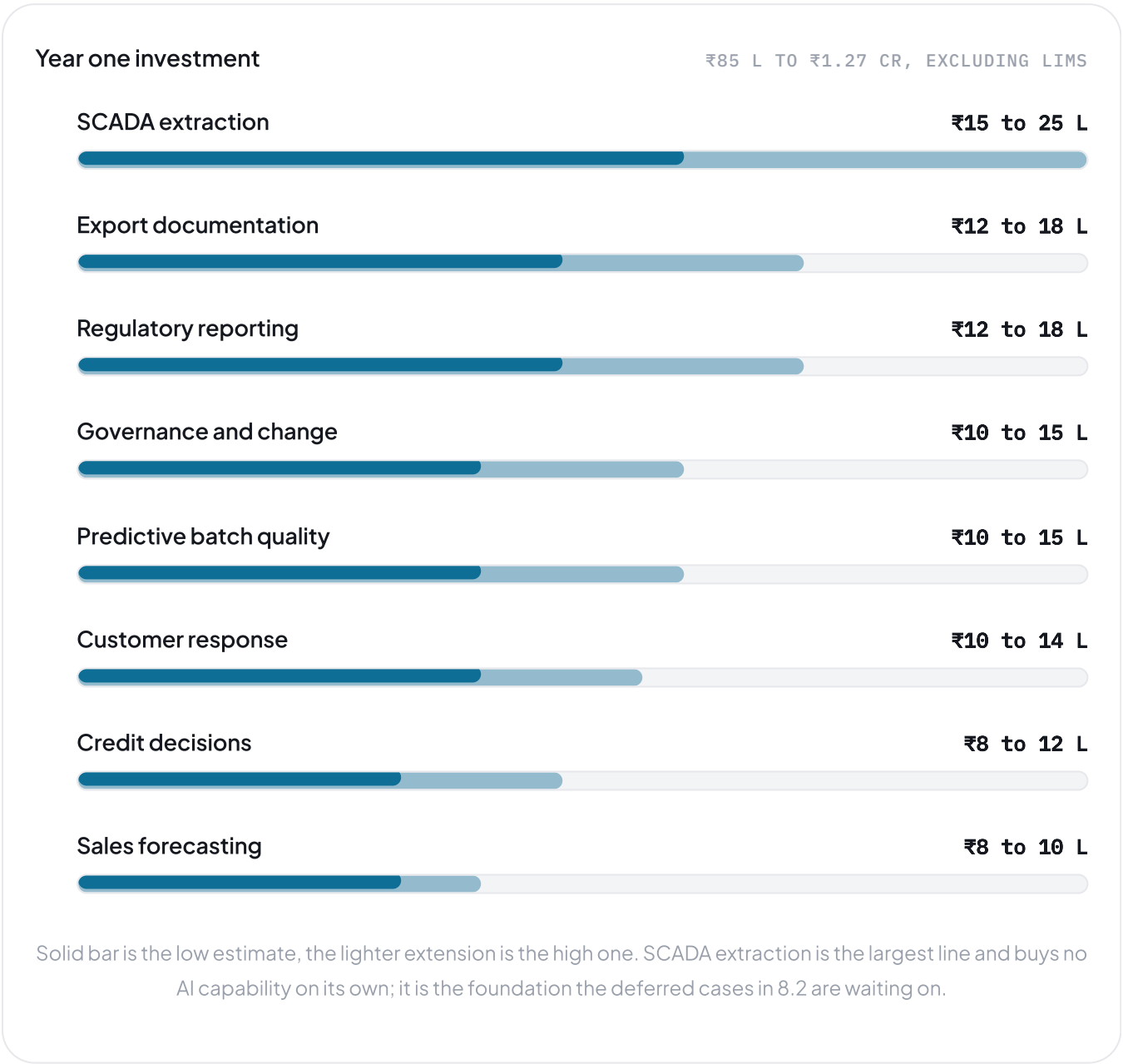
Governance:

- Bi-weekly steering with CFO (executive sponsor), IT lead, and Woodfrog delivery lead.
- Monthly readout to MD.
- Success/kill criteria defined at Week 6 for each pilot. If not tracking to metric, adjust or stop.

Investment estimate (Year 1)

INITIATIVE	ESTIMATED COST (INR)
Export documentation automation (build + first year run)	₹12 to 18 lakh
Customer response assistant (build + first year run)	₹10 to 14 lakh
Credit decision assistant	₹8 to 12 lakh
Regulatory reporting drafts	₹12 to 18 lakh
Sales forecasting assistant	₹8 to 10 lakh
Predictive batch quality pilot (pre-LIMS)	₹10 to 15 lakh
SCADA data extraction (foundational)	₹15 to 25 lakh
Program governance and change management	₹10 to 15 lakh
Total (excluding LIMS)	₹85 lakh to ₹1.27 Cr

LIMS implementation is a separate CAPEX decision (₹40 lakh to ₹1.5 Cr depending on vendor and scope).



Appendix A. Stakeholders Interviewed

- Managing Director
- Chief Financial Officer
- Head of Sales
- Head of Exports
- Plant Head, Vapi

- Plant Head, Dahej
- Head of Quality
- IT Manager
- Digital Transformation Lead

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Appendix B. Systems and Data Assets Reviewed

- SAP ECC 6.0 (structural review, sample master data)
- Zoho CRM (usage patterns and sync integrity)
- Sample lab QC workbooks from Vapi and Dahej (last 6 months)
- SCADA architecture documentation
- 12 months of export documentation samples
- GPCB monthly reports (last 3 filings)

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Appendix C. Assumptions and Caveats

- Estimates are based on stakeholder-provided information and Woodfrog's benchmark data from comparable engagements. Actual costs and timelines will vary with vendor selection and scope changes.
- The report reflects VYRA's state as of March 2026. Recommendations should be revisited if major changes occur (new plant commissioning, ERP upgrade, leadership transitions).
- AI use case impact estimates are directional. Detailed business case validation is recommended before each pilot.

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Data that decides. Engineered.