1.1 Results at a Glance

Maintenance Maturity Assessment

Company A — Plant X

PLANT	Plant X — Food & Beverages industry
ASSESSMENT DATE	September 2026
CMMS	SAP-PM
OEE SYSTEM	Plant Operations Platform
DATA PERIOD	2021–2026
HYPOTHESES	21 across 6 dimensions
PREPARED BY	Analyst C

1.1 Results at a Glance

1. Executive Summary

This assessment concerns Company A Plant B only, using SAP-PM work-order and asset exports alongside site finance and inventory files. The work-order creation range spans 2021–2026; individual measures use their applicable full observed periods and may be incomplete. The six dimensions are Cost Effectiveness, Availability, Maintenance Execution, Inventory, Data Quality and Reliability Engineering. Other-site OEE units and other-site capital rows are excluded.

Eight of the nine Maintenance hypotheses now have a score. Three meet their target: Emergency Work Share (5.6% against ≤10%), Work Order Closing Distribution (27.5% against ≤30%), and Notification Conversion remains Inconclusive due to lack of notification usage. The remaining scored hypotheses fall short of target, including Work Order Lead Time (93.2 days versus ≤60 days), On-Time Completion (53.2% versus ≥90%), Overdue Work Orders (18.4% versus <5%), Compliance Work Documentation (2.6% versus <2%), Reporting Completeness (50.4% versus ≥90%), and Schedule Adherence (76.2% versus ≥85%). Each result links to its detailed calculation and associated caveats.

1.1 Results at a Glance

Hypothesis	KPI	Score	Target	Confidence	Page
Cost Effectiveness (C1)					
C1.1 — Costs – Sufficient Investments in Assets	Sustaining spend / CARV	**5.6%**	≥3.5%	Medium	9
C1.2 — Costs – Budget Stability	Normalized Opex change	**Inconclusive**	±5% YoY	NA	11
Maintenance (M1)					
M1.1 — Emergency Work Share	Priority-1 order share	**5.6%**	≤10%	High	15
M1.2 — Maintenance – Work Order Lead Time	P3 mean lead time	**93.2 d**	P3 ≤60 d	High	17
M1.3 — Maintenance – Work Order On Time (OT)	Before current basic finish	**53.2%**	≥90%	Low	19
M1.4 — Maintenance – Backlog / Work Orders Overdue	Open overdue / closures	**18.4%**	<5%	Medium	21
M1.5 — Maintenance – Compliance Work Orders Overdue	Relief-test documentation	**2.6% decreasing**	<2%	Medium	23
M1.6 — Maintenance WO's reported in full	Cost + text flag	**50.4%**	≥90%	High	25
M1.7 — Maintenance – Notification Conversion Rate	Intake conversion / rejection	**Inconclusive**	1–20% / ≤20%	NA	27
M1.8 — Maintenance – Adherence to Schedule	Current scheduledate proxy	**76.2%**	≥85%	Low	29
M1.9 — Maintenance – Work Order Closing Distribution	Largest weekday share	**27.5%**	≤30%	High	31

Table 1.1 — Per-hypothesis results

1.1 Results at a Glance

Availability (A1)					
A1.1 — Availability -Planned down andUnplanned Down due toMaintenance	Planned /unplanned loss	**Inconclusive**	Each <10%	NA	13
Inventory (I1)					
I1.1 — Inventory – Inventory Value	Inventory / CARV	**2.35%**	<3%	High	35
I1.2 — Inventory – Turnover	Annual MRO turnover	**Inconclusive**	≥1.5× / 0 stockouts	NA	37
I1.3 — Inventory - Obsolete Inventory items	EoS exposure / mitigation	**9.3% / 99.2%**	<5% / 100%	Medium	39
Data Quality (D1)					
D1.1 — Data Quality - Bill of Material	FLOC spread proxy	**8.25×**	2–15×; ≥4 levels	High	41
D1.2 — Data Quality – Lowest Level Assignment	Lowest-level assignment	**Inconclusive**	≥95%	Low	43
Reliability Engineering (R1)					
R1.1 — Reliability - Data Driven Maintenance Strategy	Critical candidate coverage	**2.9%**	≥30%	Medium	45
R1.2 — Reliability – Proactive vs Corrective Maintenance	2025 proactive cost proxy	**21.81%**	≥50%	High	47
R1.3 — Reliability - %Overdue MOC	Approved MOCs overdue	**Inconclusive**	<5% / 0% critical	NA	54
R1.4 — Reliability – Condition Based Maintenance Effectiveness	Actionable PM findings	**Inconclusive**	20–40%	NA	56

Table 1.3 — Per-hypothesis results (Table 1.1 continued)

1.1 Results at a Glance

1.2 Key Strengths

- **C1.1 — Costs – Sufficient Investments in Assets, 5.6%.** The combined spending screen gives a starting point for a finance and condition review; the expense and CARV boundaries remain unverified.
- **M1.1 — Emergency Work Share, 5.6%.** Priority-coded emergency work is a small share of the retained order count; coding disagreements and non-labor weighting require sampling.
- **M1.9 — Maintenance – Work Order Closing Distribution, 27.5%.** The pooled actual-finish weekday distribution provides a baseline; it is not a timed posting audit.
- **D1.1 — Data Quality - Bill of Material, 8.25×.** The inferred location-prefix structure provides a navigable starting point; actual BOM depth is unverified.

1.3 Key Gaps

- **M1.4 — Maintenance – Backlog / Work Orders Overdue, 18.4%.** The proxy identifies a review queue, not a verified immutable-deadline backlog.
- **M1.6 — Maintenance - WO's reported in full, 50.4%.** Cost and text indicators do not establish complete hours or quality of feedback.
- **R1.1 — Reliability - Data Driven Maintenance Strategy, 2.9%.** Very limited linked evidence requires reconciliation to programs outside SAP plans; the value is not a verified adoption rate.

Findings (continued)

1.4 Data Maturity Observation

The exports contain substantial site data but lack original required dates, freeze histories, a standalone request universe, full inspection results, supplier lifecycle approvals and reliable posting-period accounting. Current statuses are not dated events; blank completion dates affect several mapped measures. The equipment-to-material and criticality mappings are incomplete, while the meaning of local 3AB labels requires site confirmation. Differences in conservative inclusion rules across analyses are disclosed rather than silently reconciled. The chart compares three illustrative proxies, not the true underlying rates; their denominators and periods differ.

Figure 1.1 — Selected recorded-date and feedback proxies (%)

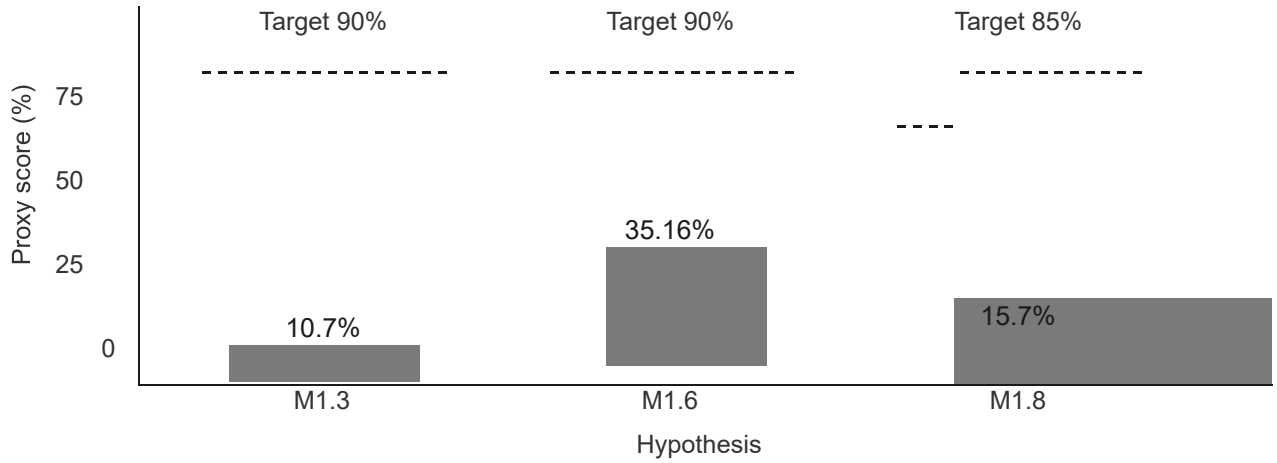

Figure source: M1.3 uses the 2025 basic-finish cohort; M1.6 and M1.8 use their respective trailingyear cohorts ending 27 October 2026. Calculations and limitations are in the linked hypothesis sections.

Findings (continued)

4. Maintenance Execution (M1)

4.2 Work Order Lead Time – example with fictive numbers

Average lead time should be stable and appropriate: priority 1 **93.2 d** ≤2 days, priority 2 ≤14 days and priority 3 ≤60 days. Target: P3 ≤60 d Confidence: High

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Sources & method

> **AUDIT TRAIL**
>
> `CC Work Order History 2021-2026 YTD.xlsx` → `Sheet1` → `Sheet1` fields `Order` , `MaintPlant` , `FunctLocation` , `System status` , `User status` , `Deletion flag` , `Priority` CB, `Created on` AS and date-valued `Actual finish` R. `AC-1.02 Maintenance Planning _ Scheduling.doc` , pp. 3–4 and 7–8, defines priority and workflow. Creation of the order is a downstream proxy for request creation.
>
> 43,219 raw rows less one other-site, one deleted, 63 cancelled, 21,001 outside P1–P3, 5,570 without finish and six negative intervals yields 7,136 accepted orders. The sequential exclusions are mutually exclusive.

Findings

Date-only means are based on all accepted orders, not just notification-driven repairs. The source has a finish time but no usable creation timestamp. The accepted history extends from 2015 to 2026; older and recent cohorts are not necessarily complete.

Table 4.1 — Lead-time proxy by priority

Priority	Orders	Sum (days)	Mean (days)
P1	113	797	7.05
P2	1,445	7,861	5.44
P3	5,372	500,670	93.2

Step 1 — Formula and variables. Mean lead days for each priority = Sum of (actual finish date − order creation date) ÷ Count of accepted orders in that priority. Both fields and exclusions are defined above; differences are in calendar days.

Step 2 — Substitute. P1: 797 ÷ 113; P2: 7,861 ÷ 1,445; P3: 500,670 ÷ 5,372

Step 3 — Result. P1 7.05 days, P2 5.44 days and P3 93.2 days. Their targets are ≤2, ≤14 and ≤60 days respectively.

Findings (continued)

The P1 median is 1 day, indicating that at least half of all Priority 1 work orders are completed within a day of creation. For P90, the 113 accepted P1 date differences were sorted in ascending order. Step 1: rank = 1 + (count − 1) × 0.9. Step 2: rank = 1 + (113 − 1) × 0.9 = 101.8. The values surrounding this rank correspond to 18 and 20 days, resulting in an interpolated P90 of 18.4 days.

The large difference between the median (1 day) and P90 (18.4 days) indicates a highly skewed distribution. Most Priority 1 work orders are completed rapidly, but a small number remain open for extended periods, significantly increasing the average lead time. Review of the longest-duration records suggests that some work orders may have remained open for administrative reasons after physical completion or experienced exceptional scheduling constraints.

P3 work orders include planned and preventive maintenance activities. Consequently, the elapsed time between order creation and completion may reflect planned scheduling lead time rather than response time to an operational event. Therefore, the Priority 3 result should primarily be interpreted as an indicator of maintenance planning and workload management rather than maintenance responsiveness.

Caveats

1. A substantial share of eligible P1–P3 work orders lacks an actual finish date. Missingness may affect the reported lead times.
2. The exported priority reflects the current priority, and day-level dates cannot establish P1 elapsed hours.
3. Workload, deferrals and historical population coverage do not permit a stability conclusion.

Findings (continued)

8. Interview Context

Interview files used: none. The supplied folder inventory contains no identifiable interview transcript. The supplied findings likewise do not rely on interviews. No stakeholder testimony is attributed or inferred in this chapter.

8.1 Evidence versus intended process

The local `H-A1 Maintenance Planning _ Scheduling.doc` and `B-321 Planning _ Scheduling Best Practices.doc`, and the common Maintenance Policy and WCM documents, are written standards rather than interviews or proof that a practice occurred. Each hypothesis names a specific verification request and its data source.

8.2 Priority visit discussions

- **Finance and engineering:** reconcile direct expense, capital settlements, asset value and physical site boundaries for C1.1 and C1.2.
- **Operations, maintenance and compliance:** walk through frozen schedules, original deadlines, missing completion dates and relief-device records for M1.3–M1.8.
- **Stores, master data and reliability:** verify critical spare links, inventory transactions, actual BOMs and data-driven maintenance decisions for I1, D1 and R1.

8.3 Review standard

Requests for site evidence are prospective questions, not representations of interview answers. Confirm the extract date and compare a sample of original SAP records with physical job packs and source-system histories before consultant sign-off.

9. Methodology & Data Sources

9.1 Approach

Apply the hypothesis-specific target and a reproducible, client-documented mapping where a governed KPI field is absent. Cost is preferred to hours and then order count when the hypothesis permits alternatives; an explicitly order- or asset-based KPI retains its specified unit. Use all available history, including older records present despite a narrower workbook title. Two years can support a score under the project rule; flag spans shorter than three years. Inconclusive is used where no defensible observable measure exists.

Scope is Plant X. Use only units 198x and 231x in the common OEE report and site-labelled Plant X capital rows. Site-folder 3AB references create a genuine ownership ambiguity: individual analyses disclose inclusion or exclusion and site verification is required. Procedure and policy documents describe expected practices; they are not observed performance.

Raw detail, including hidden and filtered rows and sheets, is the starting point; do not use saved subtotal, pivot or cached summary as an observation. Current status and dates are not assumed to reconstruct past status. Currency and signed values are retained where applicable. Every proxy is conditional on its selection and caveats; consultant review is required.

9.2 Data sources used

Table 9.1 — Principal site and common performance sources

File and sheet	Use
R3 Work Order 2021-2026 YTD.xlsx → Sheet1	Order-level timing, status, cost and links
Plant X PM IH01, Plans_Criticality.xlsx → Equipment, Equipment Permits, General, PM Plans	Asset, permit, plan and hierarchy mapping
Maintenance Spend.xlsx → Data	Monthly candidate cost accounts
Balance sheet.xlsx → Q	Replacement-value proxy and siteboundary check
Inventory ABC.xlsx → SAP Spare data, Materials Dashboard Extract	Spare link, readiness and valuation diagnostics
Turnover.xlsx → RECON	Physical-count reconciliation example
CAPEX History.xlsx → Sheet0	Plant X project-month costs
MES Overview.pdf → pages 3 and 5	198x and 231x charts only

9.2 Data sources used (continued)

All performance workbooks above are in `Plant X site specific files` except the historical CAPEX and OEE overview, which are in `Common files for Company A` Common reference documents include

Company A Maintenance Policy_Rev 7.docx, the scheduled and emergency WCM overviews, role cards and scheduling training. Local references include H-3 Maintenance Planning _ Scheduling.doc and Planning _ Scheduling OPL.doc. Relevant pages are identified within each hypothesis. Interview files: none found.
