MANIFOLD
Manufacturing Execution System

MANUFACTURING WORKING RESOURCE

OEE Loss Analysis Worksheet

Evaluate what your OEE score is revealing — a structured measurement review that keeps availability, performance and quality visible as separate components.



Prepared for	Production & Continuous Improvement teams
Scope	One completed run or a comparable shift
Nature	Measurement review — not an automatic calculator or compliance test
Platform	Manifold – MES Platform

PUBLISHED BY
SOFCOM
Let's Sync & Excel

1 Define & Bound the Measurement

Use one completed run or a comparable shift. Gather the original time and output records before calculating. This worksheet supports a measurement review; it is not an automatic calculator, compliance assessment, or proof of root cause.

1 · Define the measurement

Site / line / measured stage: .....

Product / order / batch: .....

Date and start–end window: .....

Reviewer / production representative: .....

Output unit (units, kg, or another consistent unit): .....

Ideal cycle time and evidence for this product: .....

2 · Confirm the boundaries

☐ Confirmed	☐ Needs review	The production window reflects when production was intended.
☐ Confirmed	☐ Needs review	Excluded time and its reason are documented.
☐ Confirmed	☐ Needs review	Planned stops inside the window remain visible.
☐ Confirmed	☐ Needs review	Required processing time is not labeled downtime without reason.
☐ Confirmed	☐ Needs review	Short stops follow one agreed rule and are not counted twice.
☐ Confirmed	☐ Needs review	Overlapping stops are counted once for this measured scope.
☐ Confirmed	☐ Needs review	Counts and ideal cycle time use the same output unit.

Excluded time / stop threshold / evidence:

2 Record Inputs & Calculate

3 · Record the inputs and calculate

Use minutes throughout this page. If using a continuous-output unit, ideal cycle time means minutes per chosen unit. For different ideal rates, review runs separately or apply a documented weighted method. Do not force one cycle time onto unlike products.

Input	Your run	Illustrative run
A · Planned production time (min)		400
B · Stop time within A (min)		40
C · Run time = A − B (min)		360
D · Ideal cycle time (min/unit)		0.5
E · Total count (units)		600
F · First-pass good count (units)		570

Inputs pending or estimated?

Original record locations / sources:

Result	Formula	Your result	Example
Availability	C ÷ A × 100		90%
Performance	D × E ÷ C × 100		83.33%
Quality	F ÷ E × 100		95%
OEE	(C/A) × (D×E/C) × (F/E) × 100		71.25%
OEE cross-check	D × F ÷ A × 100		71.25%

Keep full precision until the final result. Zero denominators make the applicable ratio undefined — do not force a score. Check 0 ≤ B ≤ A, 0 ≤ F ≤ E, consistent units, and performance above 100%. A calculation mismatch requires an input or formula review.

3 Separate Losses & Check Reliability

4 · Separate the loss picture

Record an observation and its evidence. A low component indicates a review area, not a confirmed cause. Do not add the three percentage losses as if they were independent portions of planned time.

Area	Observed event or condition	Evidence / unresolved question
Availability: stopped time		
Performance: pace / short stops		
Quality: first-pass losses		

For any event reviewed, note order or batch, stage, equipment, start/end or count, responsible user, and where the original record can be found.

5 · Check the reliability of the result

☐ Yes	☐ Uncertain	☐ No	Ideal pace matches the product and has a stated basis.
☐ Yes	☐ Uncertain	☐ No	Quality counts are confirmed, or clearly marked pending.
☐ Yes	☐ Uncertain	☐ No	No-production time is distinct from stops within planned time.
☐ Yes	☐ Uncertain	☐ No	Stop duration and output counts describe the same scope.
☐ Yes	☐ Uncertain	☐ No	Comparable periods use the same definitions and units.
☐ Yes	☐ Uncertain	☐ No	Different product rates and production windows are handled explicitly.

Data source(s): ☐ Operator entry ☐ Machine-generated record ☐ Configured integration ☐ Other

4 Compare & Convert to Questions

6 · Compare without hiding the components

Period / comparable run	Availability	Performance	Quality	OEE
Current				
Comparison				

Product mix / boundary differences: .....

Can these periods be compared fairly? Why? .....

7 · Turn the measurement into review questions

These two profiles both produce 68.4% OEE: 80% availability × 90% performance × 95% quality; and 90% availability × 80% performance × 95% quality. Their first review questions differ. Your score should always travel with its component breakdown.

Which component needs the first review, and why? .....

Which records support that choice? .....

What is observed, and what is still an assumption? .....

What information is missing? .....

Who will verify it, and by when? .....

8 · Assign the next evidence checks

Question or input gap	Evidence to obtain	Owner	Due

Follow-up review date: .....

Correction made and reason: .....

Make the score trustworthy, then investigate

Resolve measurement gaps before interpreting a trend. Keep the original definitions alongside any corrections. Once the score is trustworthy, use the component and event records to frame a focused investigation. Avoid treating a higher OEE score as proof of better delivery, profit, or quality release.

Return to the practical OEE guide, or explore Manifold – MES Platform for structured execution records behind every OEE component.

Explore Manifold MES

Request a Manifold walkthrough

A SOFCOM PLATFORM

SOFCOM
Let's Sync & Excel

MANIFOLD
Manufacturing Execution System