

OpsPilot

Production Loss Analysis — User Manual

OEE & Downtime Recovery · AI Engineering Co-Pilot

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What this guide covers — what production loss analysis is, how the OpsPilot module breaks losses down with OEE, what to have ready, and the report you receive.

1. What is production loss analysis?

Production loss analysis explains the gap between what a line could produce and what it actually did — and, crucially, where that lost production went. It uses the OEE framework, which splits total loss into three components so you stop guessing and start targeting:

Component	The loss it captures
Availability	Time the line was meant to run but didn't — planned and unplanned downtime.
Performance	Time it ran but slower than design — speed losses and minor stoppages.
Quality	Output that was made but unsellable — rejects, rework and off-spec.

OEE = Availability × Performance × Quality. A single OEE number is only useful once it's broken into these three — because the fix for an availability loss is nothing like the fix for a quality loss.

2. What the OpsPilot module does

Role	Responsibility
AI Coach (OpsPilot)	Breaks total loss into availability, performance and quality, ranks the losses by impact, identifies the root causes of the top losses, and recommends actions with quantified recovery.
Production / Operations Lead (you)	Provide the production data, downtime records and operational context — you know which losses are real and which are data artefacts.

3. How it works — the process

#	Stage
1	Production system context — design capacity, actual throughput
2	OEE framework — Availability × Performance × Quality
3	Availability loss — planned and unplanned downtime

#	Stage
4	Performance loss — speed and minor stoppages
5	Quality loss — rejects, rework, off-spec
6	Loss Pareto — ranked by volume and \$ impact
7	Root cause and recovery actions for the top three losses
8	Word report

4. What you will be asked — have this ready

- The production system — what it produces, the design capacity and the current actual throughput.
- Downtime records — planned and unplanned, with reasons where you have them.
- Speed/minor-stoppage data and the reject/rework/off-spec figures.
- Which numbers are real and which are known data artefacts.

5. What you receive — the output

A Production Loss Analysis report (Word): the OEE breakdown, the availability/performance/quality loss analyses, a loss Pareto ranked by volume and dollar impact, and root-cause and quantified recovery actions for the top three losses.

6. Worked example (illustrative)

A line is running at 60% OEE. Broken down, availability is the culprit — long, frequent changeovers — while performance and quality are fine. That immediately rules out chasing speed or rejects. The Pareto by dollar impact confirms changeover loss dwarfs everything else, so the recovery action targets changeover reduction (a SMED-style quick-changeover effort), with the recovery quantified — cut changeover from 45 to 20 minutes and you recover a stated number of production hours a month. The whole point: the breakdown tells you the 60% is an availability problem, not a vague “be more efficient” one.

7. Getting the best result

- **Always break OEE into three.** The single number hides which problem you actually have.
- **Pareto by dollars, not just count.** A frequent tiny loss can matter less than a rare big one.
- **Fix the top three only.** Recovery effort spread across twenty losses recovers nothing.
- **Flag data artefacts.** A “loss” that’s really a recording error wastes the analysis.

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