KPI dashboard — the maintenance scoreboard of a site, a line or a machine

Menu: CMMS ▸ KPI Dashboard...

Part 1 — What the function does

What it does. The page is the maintenance scoreboard of a CMMS file. For a date window and a part of the plant, it calculates six key performance indicators (KPI) from the work orders and failure records in the file, marks each against your targets, and draws four plots:

KPI on the page	What ReliaEn calculates
Availability	(hours of the window − total downtime) / hours, with four decimals
MTBF (h)	Mean time between failures (MTBF): (hours − total downtime) / number of failures
MTTR (h)	Mean time to repair (MTTR): total downtime / number of failures
Backlog age — mean (d)	The mean age, in days at the window's end, of the work orders still open
Backlog age — oldest (d)	The age of the oldest of those open work orders
Cost per asset	The total cost of the work orders closed in the window, corrective and preventive

The hours are the window's calendar days, start and end included, times twenty-four. A failure is a closed corrective (CM) order with a failure event, closed inside the window. An open order is one neither Closed nor Cancelled.

From what data. The open CMMS file: its work orders, its failure events, and the targets under Targets.... Each KPI may have a target and a looser caution level; ReliaEn marks it OK, CAUTION or ALERT. For a KPI better when higher, at or above the target is OK, below the target but at or above the caution is CAUTION, below the caution is ALERT; for one better when lower, the other way round.

When an engineer uses it. For the monthly or quarterly maintenance review of a site, a production line or one machine.

Do not use it when

Situation	Use instead
You want the condition and risk of individual assets	CMMS ▸ Asset Health... (chapter 6.12)
You want to fit a life distribution to one asset class's failures	Life Data ▸ Time Dependence ▸ Weibull (2P) distribution...

Part 2 — The example's input data

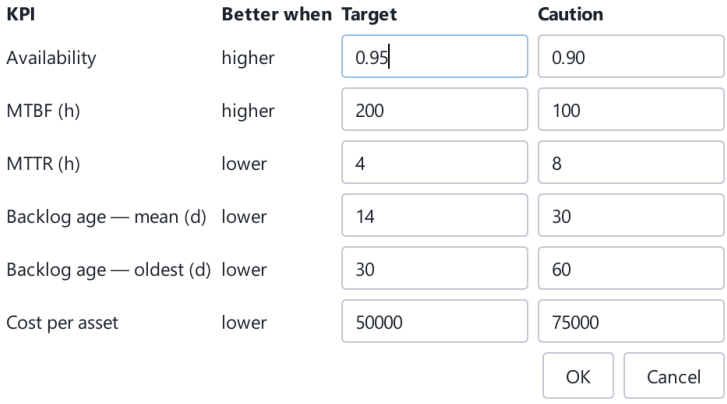
Setting. The maintenance manager's review for August. The plant has SITE-A, with LINE-1 (P-101, P-102) and LINE-2 (C-201), and SITE-B with M-301. The file holds twelve work orders. Their downtime and cost:

Work order	Asset	Type	Status	Requested	Downtime (h)	Cost
WO-000001	P-101	CM	Closed 2026-08-05	2026-08-03	4.0	12,000
WO-000002	P-102	CM	Closed 2026-08-12	2026-08-10	6.0	8,500
WO-000003	C-201	CM	Closed 2026-08-20	2026-08-18	10.0	25,000

WO-000004	M-301	CM	Closed 2026-08-28	2026-08-26	2.0	3,000
WO-000005	P-101	PM	Closed 2026-08-15	2026-08-14	—	1,500
WO-000006	C-201	CM	Closed 2026-07-30	2026-07-28	8.0	9,000
WO-000007	P-102	CM	In Progress	2026-08-10	—	—
WO-000008	M-301	CM	Released	2026-07-25	—	—
WO-000009	C-201	PM	Planned	2026-08-25	—	—
WO-000010	P-101	CM	Cancelled	2026-08-02	—	—
WO-000011	LINE-2	CM	Closed 2026-08-22	2026-08-21	3.0	4,000
WO-000012	P-102	CM	Closed 2026-07-15	2026-07-13	29.22	6,000

File in the worked-example zip	**6-KPI-Page/ReliaEn-KPI-Plant.reliaen - the plant with its work orders and targets**

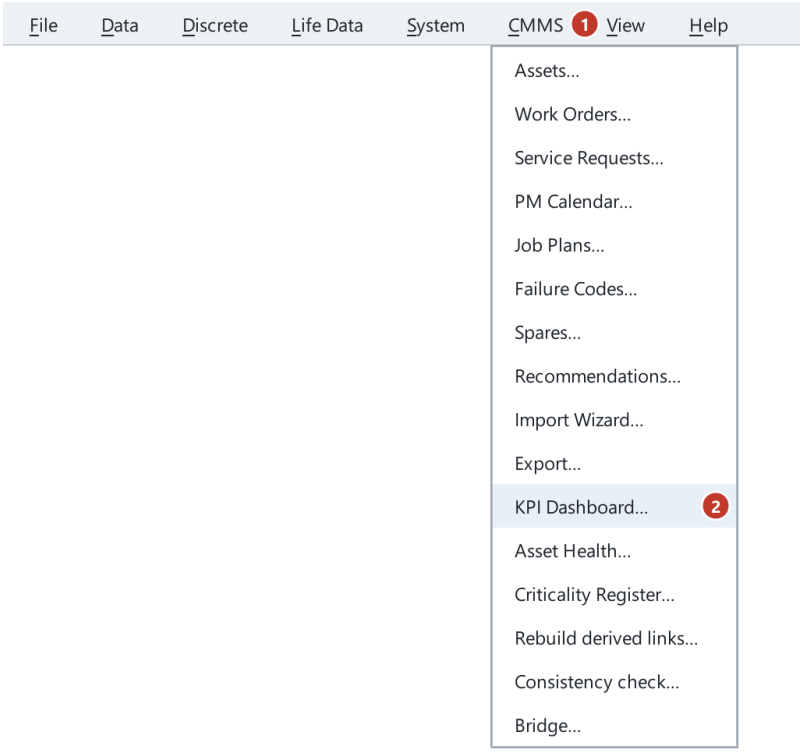
The targets in the file, as Targets… shows them:



The targets window

Part 3 — How to use it, step by step

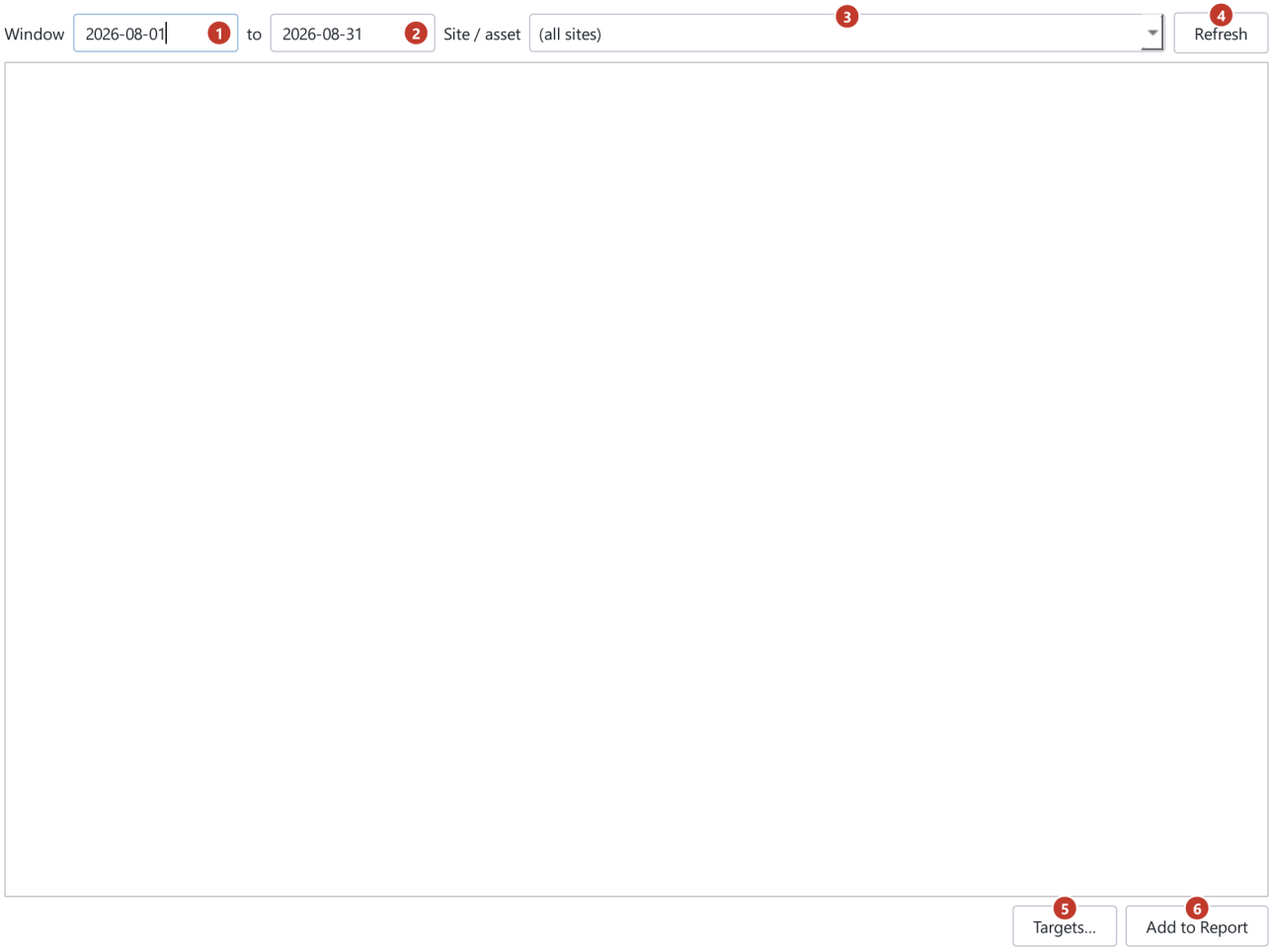
1. **Open the example's CMMS file, then choose CMMS ▸ KPI Dashboard…** in the menu bar. The window CMMS — KPI Dashboard opens.



Step 1 — the menu path

- ① CMMS: the menu.
- ② KPI Dashboard…: the entry to click.

2. **Read the plant, a site and a line in turn**, as steps 3 to 10 do:



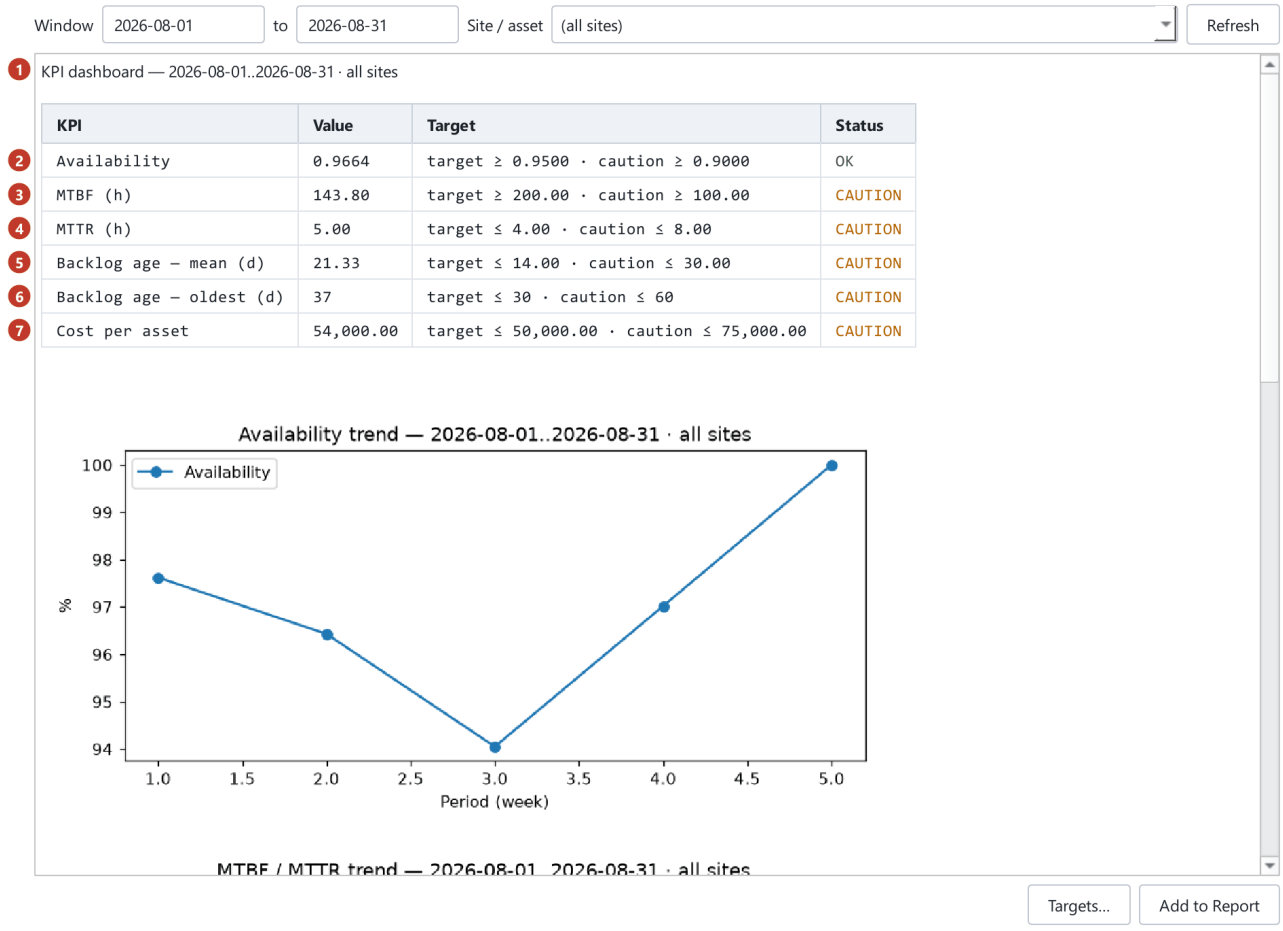
Steps 3 to 10 — the window as it opens

- ① and ② The two dates of Window.
- ③ Site / asset.
- ④ Refresh.
- ⑤ Targets….
- ⑥ Add to Report.

3. ① and ② **Check that Window reads 2026-08-01 to 2026-08-31.**
4. ③ **Check that Site / asset reads (all sites).**
5. ④ **Click Refresh.** Part 4 shows the page.
6. ③ **In Site / asset, choose SITE-A (Site).**
7. ④ **Click Refresh.**
8. ③ **In Site / asset, choose LINE-2 (Area).**
9. ④ **Click Refresh.**
10. ⑥ **Click Add to Report.** The page, as last refreshed, goes to the Report tab.

Part 4 — The result, picture by picture

After Refresh of step 5:



The whole plant in August

- ① The heading: KPI dashboard — 2026-08-01..2026-08-31 · all sites. The window and the scope of every figure below.
- ② Availability 0.9664, OK: August has 744 hours, the five failures 25 hours of downtime: 719 / 744.
- ③ MTBF (h) 143.80, CAUTION: 719 / 5. A failure every 143.80 running hours, below the target of 200.00.
- ④ MTTR (h) 5.00, CAUTION: 25 / 5, one hour over the target.
- ⑤ Backlog age — mean (d) 21.33, CAUTION: the open orders WO-000007, WO-000008 and WO-000009 are 21, 37 and 6 days old on 31 August.
- ⑥ Backlog age — oldest (d) 37, CAUTION: WO-000008.
- ⑦ Cost per asset 54,000.00, CAUTION: every order closed in August, the preventive WO-000005 included.

What to decide. Availability meets its target, but the other five rows are CAUTION. Narrow the scope to see where each comes from. Below the table the page draws the four plots; the report below shows them.

After Refresh of step 7:



SITE-A in August

- ① The scope line: Figures include SITE-A and every asset below it.
- ② The heading names SITE-A (Site).
- ③ Availability 0.9691, OK.
- ④ MTBF (h) 180.25, CAUTION: closer to the target than the plant.
- ⑤ MTTR (h) 5.75, CAUTION: longer repairs than the plant as a whole.
- ⑥ Backlog age — mean (d) 13.50, OK.
- ⑦ Backlog age — oldest (d) 21, OK.
- ⑧ Cost per asset 51,000.00, CAUTION.

What to decide. SITE-A's backlog is on target, so the old order of the plant's figures is not here: WO-000008 belongs to SITE-B's M-301. The repair time is SITE-A's own problem.

The report of step 10, for LINE-2. The first card names what it covers:



The Input data card

Window 2026-08-01 – 2026-08-31, Scope LINE-2, Currency THB. If they are not what you meant, refresh again and press Add to Report again.

The six figures:

RESULTS

Availability	0.9825
MTBF (h)	365.50
MTTR (h)	6.50
Backlog age — mean (d)	6.00
Backlog age — oldest (d)	6
Cost per asset	29,000.00

The Results card

Availability 0.9825, MTBF (h) 365.50, MTTR (h) 6.50, Backlog age — mean (d) 6.00, Backlog age — oldest (d) 6, Cost per asset 29,000.00. They come from WO-000003 and WO-000011, 13 hours of downtime in all.

The reading rule:

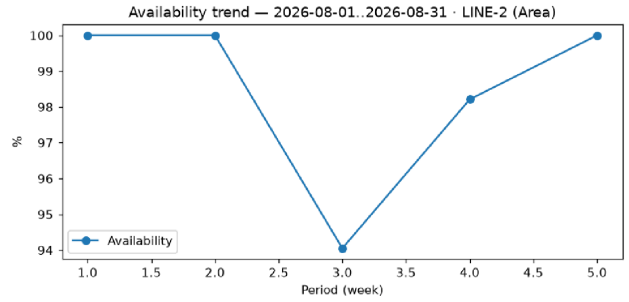
INTERPRETATION

Status compares the unrounded value with the targets set under Targets.... A dash means no data in the window; it is never an alert.

The Interpretation card

A figure on the edge of a target is judged unrounded, and a dash is missing data, not a bad score.

The availability trend, one point per week of the window:

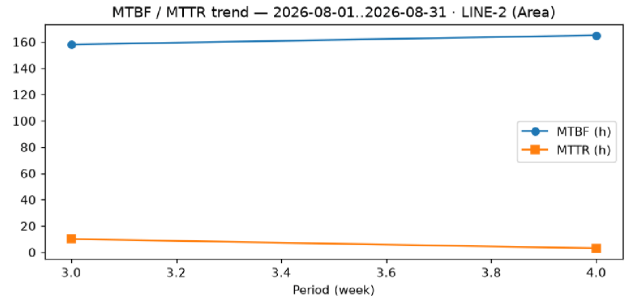


Interactive Plot

The availability trend

Week 3 stands lowest, at about 94 %: the 10 hours of WO-000003 in a week of 168 hours.

The MTBF and MTTR trend, only for the weeks with a failure:

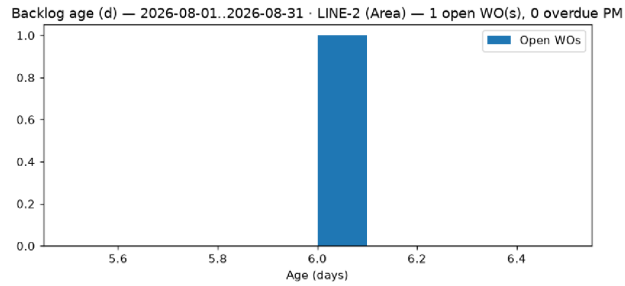


Interactive Plot

The MTBF and MTTR trend

Week 3 has the long repair, 10 hours; week 4 the short one, 3 hours.

The backlog:

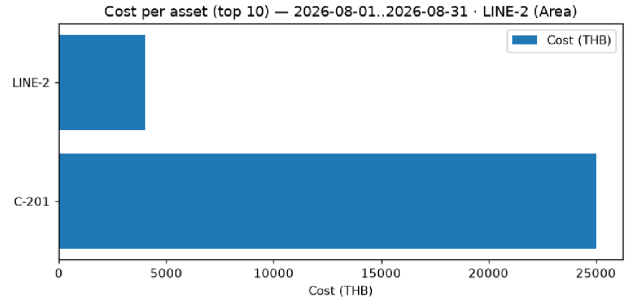


Interactive Plot

The backlog age

One open order, 6 days old: WO-000009. Nothing is ageing on LINE-2.

The cost, one bar per asset, for the ten dearest at most:



Interactive Plot

The cost per asset

C-201 carries 25,000 of the 29,000; the line itself 4,000.

The targets:

KPI TARGETS

KPI	Value	Target	Caution	Status
Availability	0.9825	0.9500	0.9000	OK
MTBF (h)	365.50	200.00	100.00	OK
MTTR (h)	6.50	4.00	8.00	CAUTION
Backlog age — mean (d)	6.00	14.00	30.00	OK
Backlog age — oldest (d)	6	30	60	OK
Cost per asset	29,000.00	50,000.00	75,000.00	OK

The KPI targets card

MTTR (h) 6.50 reads CAUTION against 4.00 and 8.00. The other five read OK.

What to decide. LINE-2's one weak figure is its repair time, and the plots point at WO-000003 on C-201. That is the line's action item for September.

Part 5 — How to interpret the results

Read Status first, then the value. The status uses the unrounded value: an availability shown as 0.9500 can still be CAUTION against a target of 0.95.

Narrow the scope before you act. A plant-wide CAUTION may come from one line. Choose the line, then the machine, and refresh.

A dash is not a good score. — means the window holds no data for that KPI; a line under the table says which data is missing.

Backlog figures look back from the window's end. An order requested after the end does not count, so a past month's backlog is the backlog as it stood on that month's last day.

What counts as a failure. Only a closed corrective order with a failure event. A preventive order adds its cost, never a failure; a cancelled order adds nothing.

Where each number comes from. Hover over a value to see the database query that produced it; computer support staff can run the same query on the file. The report stays in the project file, and File ▸ Export Report writes it out.