Sensor Battery Replacement Planner

How-to guide: what the workbook does, how to use it and what every number means. mfgcalcs.com

Sensor Battery Replacement Planner

Plan the battery replacements of every group of wireless sensors for the year: batteries due, technician hours by area against the hours allocated, and when they fall due.

For: Instrument and reliability technicians, IIoT and automation engineers, and maintenance planners running wireless sensor fleets.

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Quick start

1. On Setup, type your company and plan year, the closeout allowance and near-capacity threshold, and list your areas with their allocated technician hours.
2. On Groups, give each group of sensors a row: area, type, sensors, cells per sensor, battery life, last replaced, replacement rate and cell price.
3. Fix anything the Check column names.
4. Open the Dashboard: hours by month, and each area's required hours against its allocation.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Company, plan year, the closeout allowance and near-capacity threshold, and the areas with their allocated technician hours.
Groups	One row per group of sensors: count, cells, life and last replacement in; batteries due, hours and cost out.
Dashboard	Battery replacements due in the plan year: technician hours by area against allocation, and by month.
Method	How every number is calculated, with assumptions, limits and sources.
Verify	Self-check: the workbook's formulas recomputed on fixed inputs against an independent reference.

What each number means

Quantity	How it is calculated	Units
Next due and due in plan year	Last replaced + battery life; Yes when on or before 31 December of the plan year.	date, -
Batteries due	Sensors x cells per sensor, when due.	batteries
Base, additional and required hours	Batteries due / replacement rate; x allowance; base + additional.	h

Quantity	How it is calculated	Units
Battery cost	Batteries due x cell price.	currency
Headroom and load by area	Allocated - required hours; required / allocated.	h, %
Status	Over capacity above the allocation; Near capacity from the threshold on Setup; otherwise Under capacity.	-

Assumptions, limitations, sources and the self-check (the Verify sheet, which recomputes the workbook's formulas on fixed test inputs) are in the workbook. The last page shows the Dashboard with the example data for Corran Paper Mill, a fictional business.

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Engineering estimates for planning and improvement work. Verify the results against your own process, data and standards before you rely on them.

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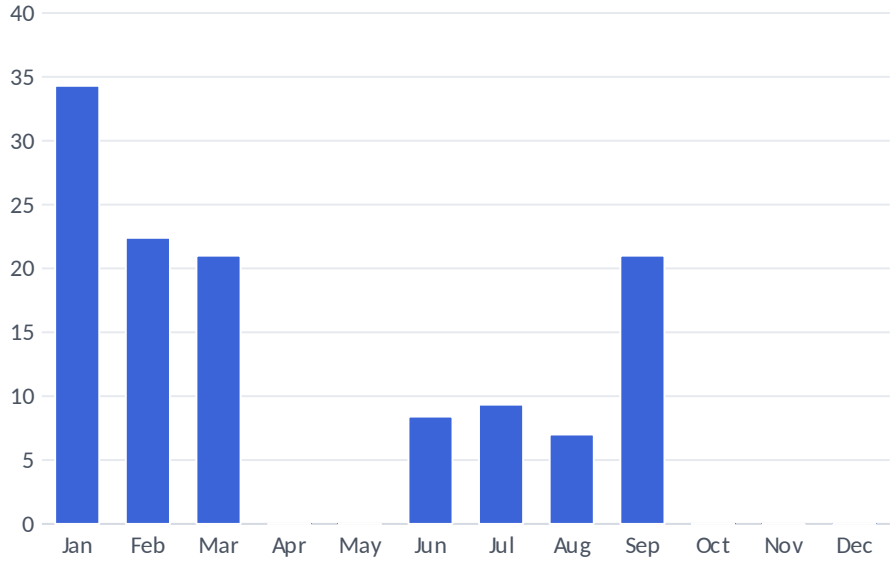
Battery replacements due in the plan year: technician hours by area against allocation, and by month.

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Corran Paper Mill (example): plan year 2027, 10 sensor groups in 4 areas. Closeout allowance 40%. Amounts in USD.

SENSORS	BATTERIES DUE	TECHNICIAN HOURS	AREAS OVER ALLOCATION
659	628	123.4	1
All groups	In the plan year, overdue included	Base + closeout allowance	Required hours above allocated

Technician hours by month



Required against allocated hours by area

