MST
SYSTEMTECHNIK

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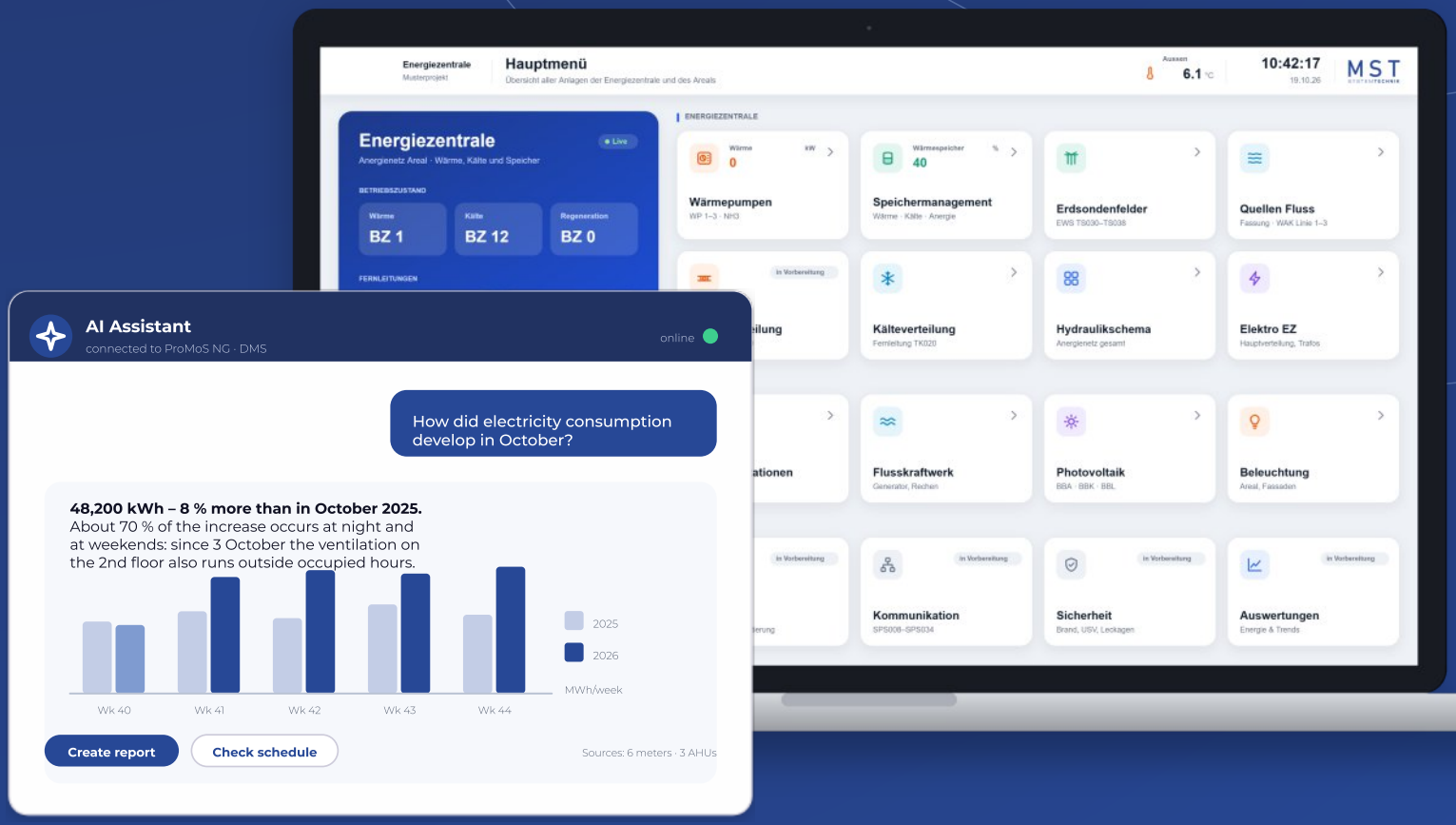
ARTIFICIAL INTELLIGENCE IN THE CONTROL SYSTEM

ProMoS NG

+ AI

The open control system that AI tools work with directly: analysing measurements, explaining faults, writing reports – and, on request, generating data points, graphics and code.

Analyse | Explain | Generate



More than code and graphics: AI that analyses.

AI tools generate process graphics and program code – that saves time in engineering. But they deliver the greatest benefit in operation: they read measurements, alarms and logs, recognise connections and provide answers in minutes instead of days.

The data is there – time is not

Control systems collect millions of measurements over the years. Little of it is analysed, because analysis takes time and expertise.

AI as an analyst on the team

AI tools access the DMS directly, combine trends, alarms and plant structure and write up the result in plain language.

Organised, not by chance

Defined access, shared rules and tested analyses instead of one-off attempts with copied exports – that is how AI becomes reliable.

You stay in control

AI tools recommend, people decide. They never trigger switching operations themselves, and every change is logged.

100 %

text-based data – from data points to process graphics and logic

1

data basis for control system, EDL portal and AI tools

MCP

open standard for AI access – already in use today

6+ years

of MST experience with AI – built on our own code

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The right foundation for AI.

AI is only as good as the data it can access. ProMoS NG provides everything AI tools need for reliable results – not retrofitted, but built in from the ground up.

Everything is text

Data points, process graphics, graphic descriptions, scripts and the software in the control system are stored in open text formats. AI tools read, generate and check them directly – with no proprietary binary formats.

One data basis

Real-time values, history, alarms, logs and structure all live together in the DMS. With EDL Portal 4, the control system, the portal and the AI tools work on the same data.

Data with meaning

Thanks to templates, every data point knows what it belongs to: pump, valve, sensor or setpoint. AI tools understand the plant like an engineer.

Open interfaces

Via the DMS JSON interface and existing MCP servers, AI tools search, read and analyse data directly in the control system – including history.

Calculating in the system

JavaScript formulas in the DMS and the logic editor turn an insight into a permanent KPI, analysis or alarm.

Control and data sovereignty

User rights apply to AI tools too. Every change is versioned and traceable. Operated in the MST cloud or on site.

Developed over more than six years

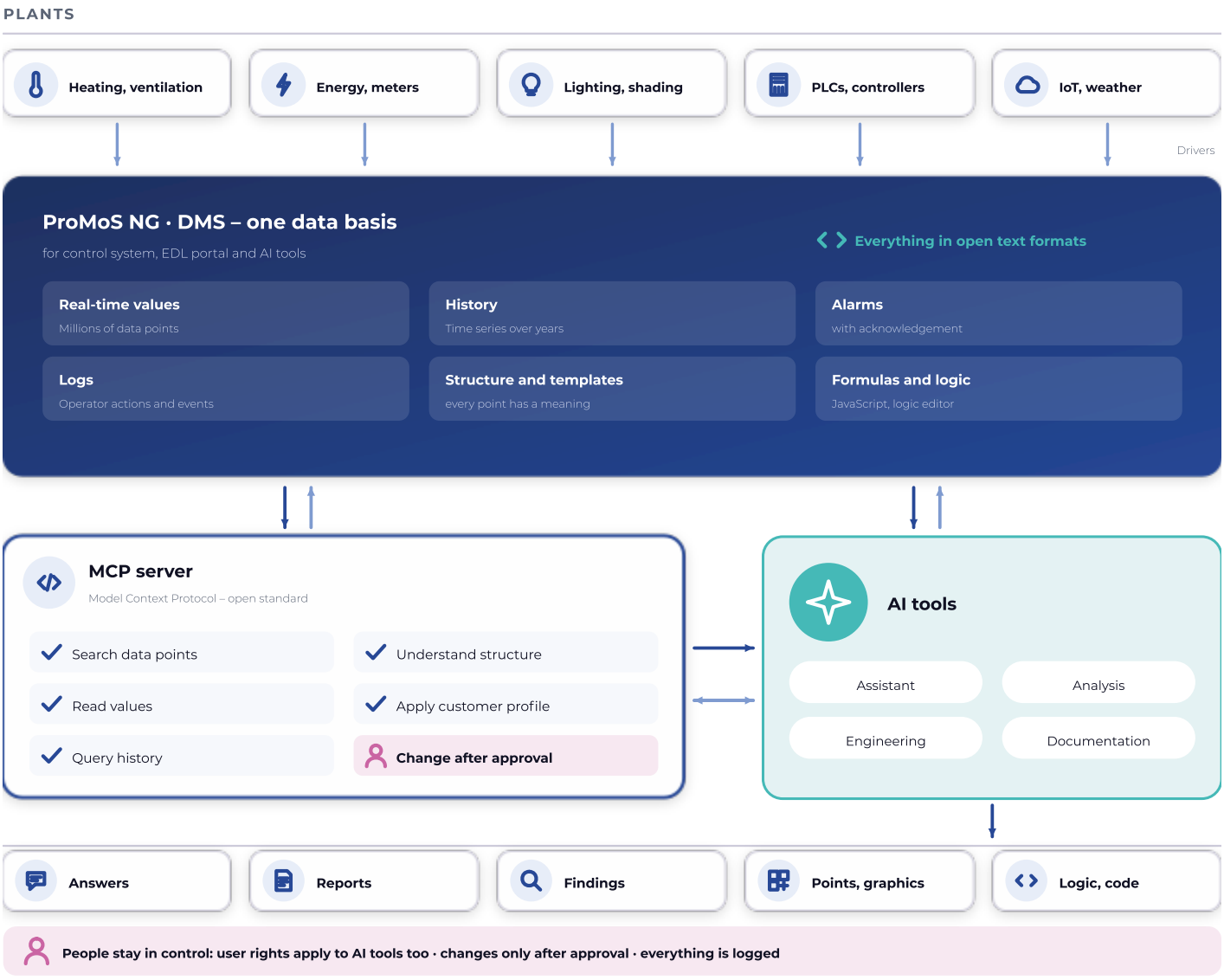
MST has been preparing ProMoS for AI for more than six years. A large body of hand-written code, templates and descriptions forms the basis from which the AI has learnt how ProMoS plants are built and how they work.

The difference

With many control systems, an AI sees only screenshots or CSV exports. In ProMoS NG it works with the original data – complete, structured, up to date and with the rights you define.

How AI works with ProMoS NG.

The AI tools do not go through the user interface but access the DMS directly via a defined interface. You decide what they may do.



Read and analyse

The normal case: AI tools search for the right data points, read values and history, analyse alarms and logs and deliver answers, reports and findings.

Propose and approve

The AI tools propose changes to data points, process graphics or logic. Only after approval by an engineer does the MCP server apply them.

Available today

MCP servers read values and histories, create data points and build process graphics. Signal lists become DMS imports, DMS data becomes panels.

Organised AI instead of ad-hoc prompting.

A chat window and a few copied values – quick to do, but risky. AI only delivers real value when it is used in an organised way: with defined access, shared rules and verifiable results.

	Everyone prompts away	Organised with ProMoS NG
Data basis	Copied values, CSV exports and screenshots – incomplete	**Original data straight from the DMS – complete and up to date**
Data protection	Plant data ends up uncontrolled in any online service	**Approved AI services, with clear rules on which data leaves the company**
Rights	Whoever has an export sees everything – even what is none of their business	**The control system's user rights apply to the AI tools too**
Results	Everyone asks differently and gets different figures	**The same KPIs, methods and report templates for all**
Know-how	Good prompts stay in the heads of individual employees	**Customer profile, templates and analyses as a standard via MCP**
Reliability	The AI guesses where data is missing – and states wrong answers convincingly	**Calculates with real measured values and names sources – checkable**
Traceability	Not documented, not repeatable	**Changes only after approval, logged and versioned**

1 Define access

Which AI services are used and which plant data they may see is agreed with you once – not decided anew by each person.

2 Store the rules

Naming, templates, alarming and report format are defined in the customer profile. Via MCP, the AI tools follow them with every request.

3 Standardise analyses

Proven questions become fixed analyses and report templates – available to everyone, and on request as a KPI in the DMS.

4 Train and support

Operating staff learn to ask good questions and to check answers. MST supports the introduction and keeps developing the tools.

Ask your plant.

USE CASE 1 · OPERATION

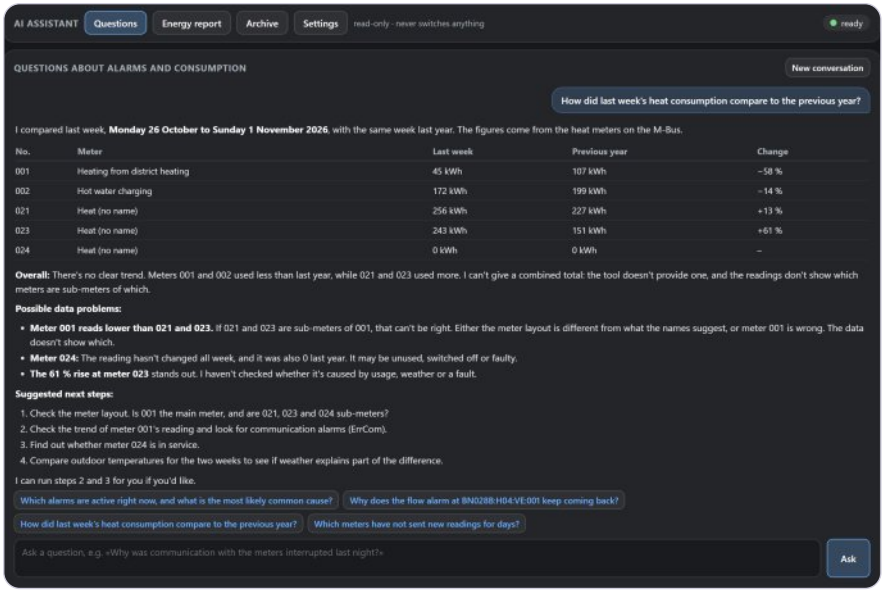
Instead of clicking trends together, operating staff ask questions in plain language. The AI tools find the right data points, analyse the history and answer with figures and charts.



Real data from a residential building
Four data points from the DMS, hourly means 14–20 Oct 2026. The AI finds the anomalies and their likely cause on its own.

Typical questions

- "Why is the 3rd floor too warm?"
- "Which pumps ran unusually long last week?"
- "How much electricity did the ventilation use at the weekend?"
- "Which rooms were below 20 °C in January?"



The AI Assistant in ProMoS NG (prototype)
Real question, real answer from the DMS in about 20 seconds – with a table, anomalies and next steps.

Your benefits

- Answers without specialist knowledge of the control system
- Many questions are resolved without a site visit
- Sources are stated – every claim can be checked

From alarm to cause.

USE CASE 2 · OPERATION

At two in the morning the heating raises an alarm. Before anyone goes out, an assessment is ready: what happened, what is the likely cause, what needs to be done?



Illustration: the AI rules out heat generation and narrows the cause down to the mixing valve.

What the AI tools do

- From the templates they know all the equipment involved in the alarm.
- They compare its trends with normal operation and the control description.
- They name possible causes with reasons, plus next steps.

Your benefits

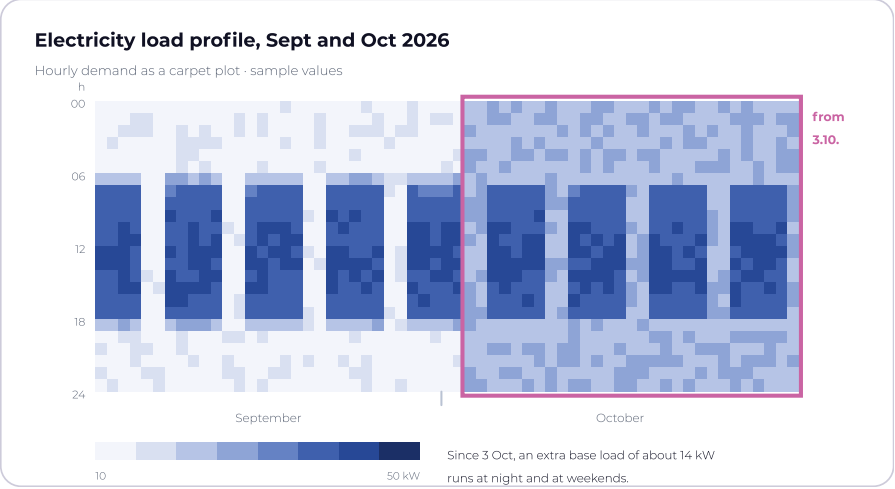
- Faster diagnosis, even for less experienced staff
- Fewer unnecessary call-outs at night
- The knowledge of experienced technicians is available to everyone

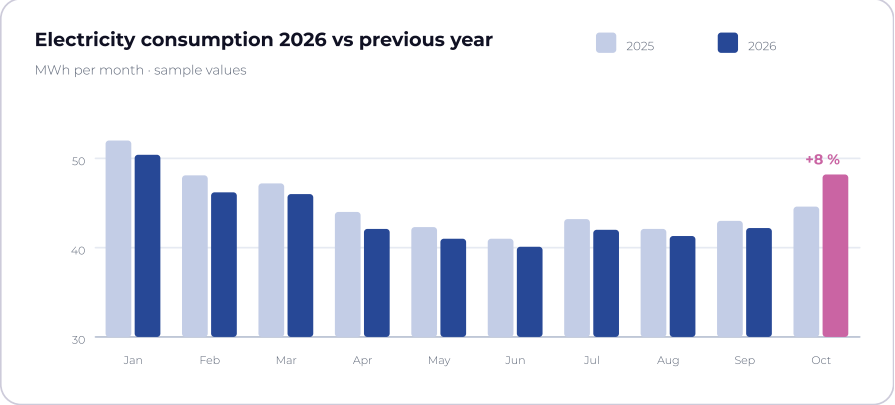
AI tools give recommendations. Switching operations stay with people.

Energy reports that write themselves.

USE CASE 3 · ENERGY

Monthly reports are created from the meter data in the DMS – with figures, charts and a clear explanation of why consumption is what it is.





Sample values. The carpet plot shows every hour of a day as a coloured cell.

What the report contains

- Consumption per medium, building and plant
- Weather-adjusted, compared with last year
- KPIs per m² and base load
- Deviations with causes – in words

Always the same structure

The customer profile defines structure, KPIs and layout. This makes reports for all buildings comparable – as PDF, Word or Excel.

“Electricity consumption in October was 8 % above the previous year. About 70 % of the increase occurs at night and at weekends: since 3 October the ventilation on the 2nd floor has also been running outside occupied hours. Check the schedule.”

Find anomalies before they cost money.

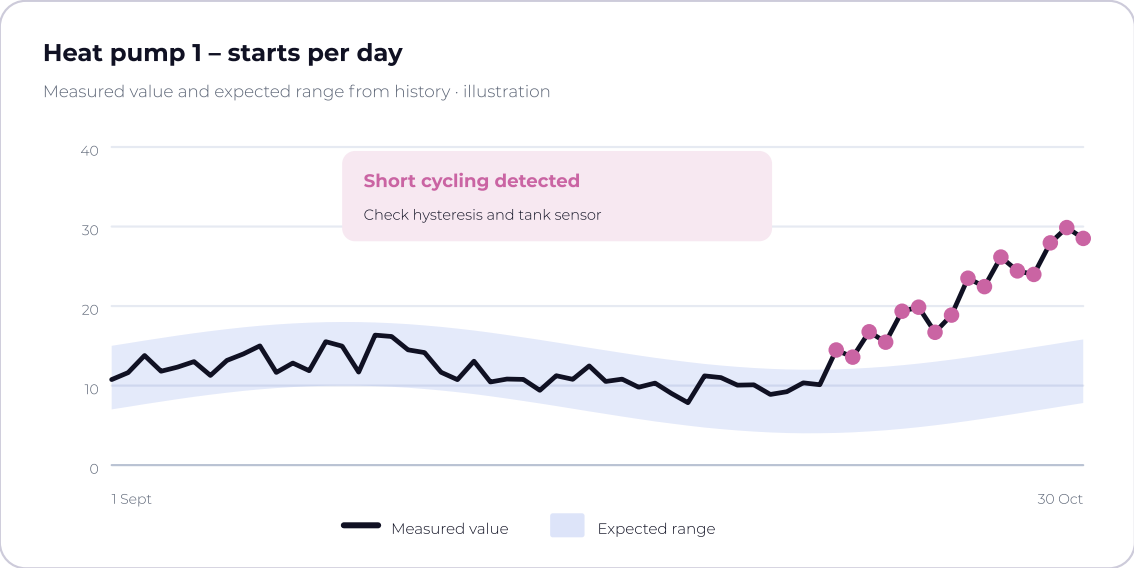
USE CASE 4 · OPTIMISATION AND MAINTENANCE

AI tools search the history of all plants for typical weak points – continuously, not just when an alarm comes in.

From the history, the AI tools know the normal behaviour of every plant. If it deviates, they explain what stands out and what to do.

An insight becomes a function

A finding can be stored as a formula or logic in the DMS – from then on, the system reports it itself.



Heating and cooling

Heating and cooling valves open at the same time in a room or air handling unit.

Running without demand

Pumps and ventilation run at night, at weekends or during holidays.

Short cycling

Heat pumps and burners start too often – wear, poor efficiency.

Setpoints and curves

Heating curves too high, forgotten manual overrides.

Sensors and valves

Drift, frozen values, valves stuck at 0 or 100 %.

Condition-based maintenance

Operating hours and switching cycles produce a prioritised maintenance list.

Tame alarm floods. Compare your portfolio.

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USE CASE 5 · ALARMS

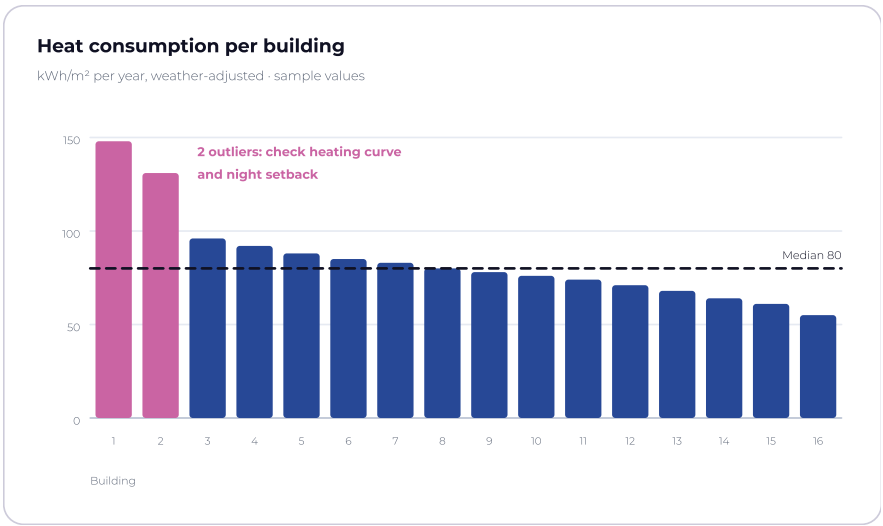


Alarm statistics

Which alarms occur most often, which keep toggling, which stay unacknowledged?

- Adjust limits, delays and priorities
- Write alarm texts in plain language
- Fewer false alarms

USE CASE 6 · PORTFOLIO



Portfolio comparison

In the EDL portal, the AI tools see all buildings and compare them.

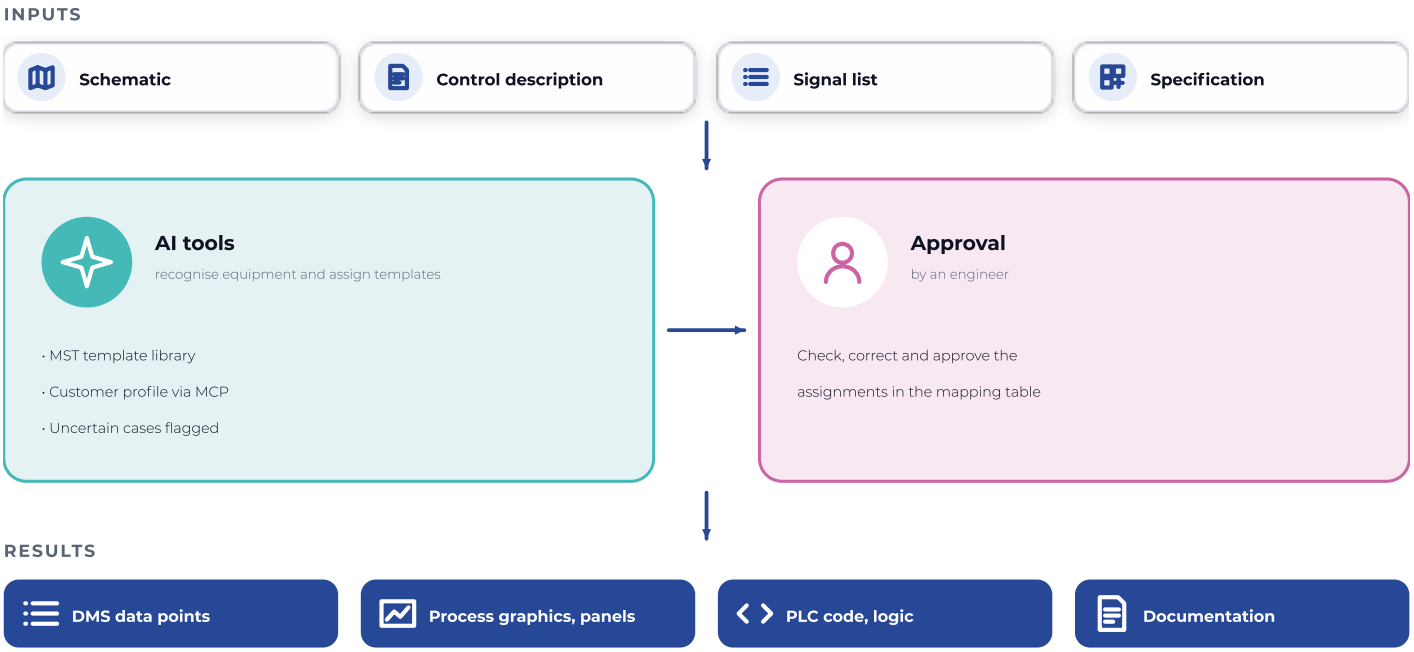
- KPIs per m², use or plant type
- Outliers with reasons and measures
- Ranking for optimisation and refurbishment

Same names, directly comparable

Uniform templates and customer profiles are the prerequisite for AI analyses that work across many buildings.

Data points, graphics, code and docs.

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Engineering new plants

From the schematic, control description and specification, AI tools recognise the equipment and assign templates. After approval, they generate the DMS, process graphics and PLC code, e.g. for CODESYS, or the logic directly in the control system.

Migration NT → NG

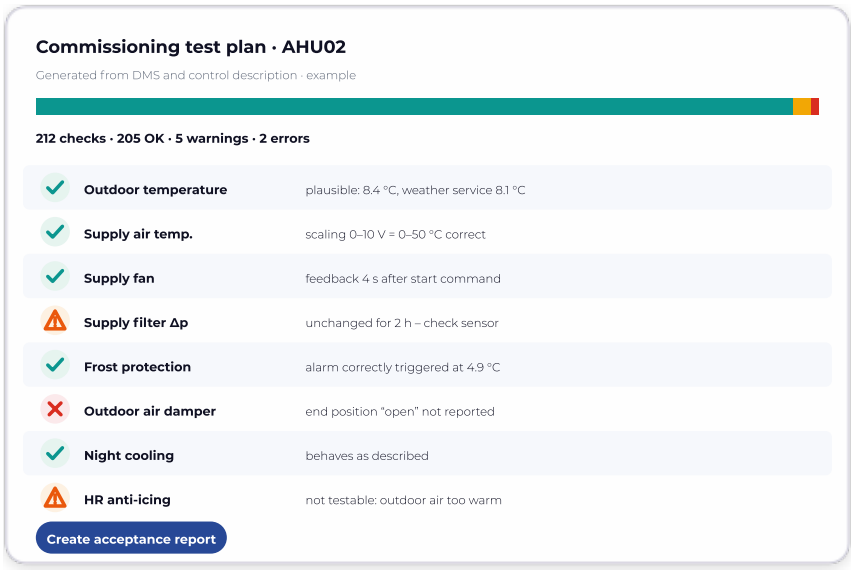
The MST converter transfers the plant; AI tools analyse, standardise and check the result with a migration report.

Commissioning

The AI tools know every data point from engineering. From this they generate the test plan, check values for plausibility and scaling, compare the behaviour with the control description and create the acceptance report.

Documentation at the push of a button

Plant description, data point and alarm lists and quick guides are created from the same data as the plant – always up to date.



Commissioning test plan
Generated from DMS and control description: every data point, control function and alarm is checked. Warnings and errors are visible at once (example).

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CONTACT

Ready for the next step?

We will be happy to show you in a personal demo how AI tools work with the data from your own plants – and how to introduce AI in your organisation in a structured way.

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