6. Analysis

Hardware manual

www.pinetek-networks.com

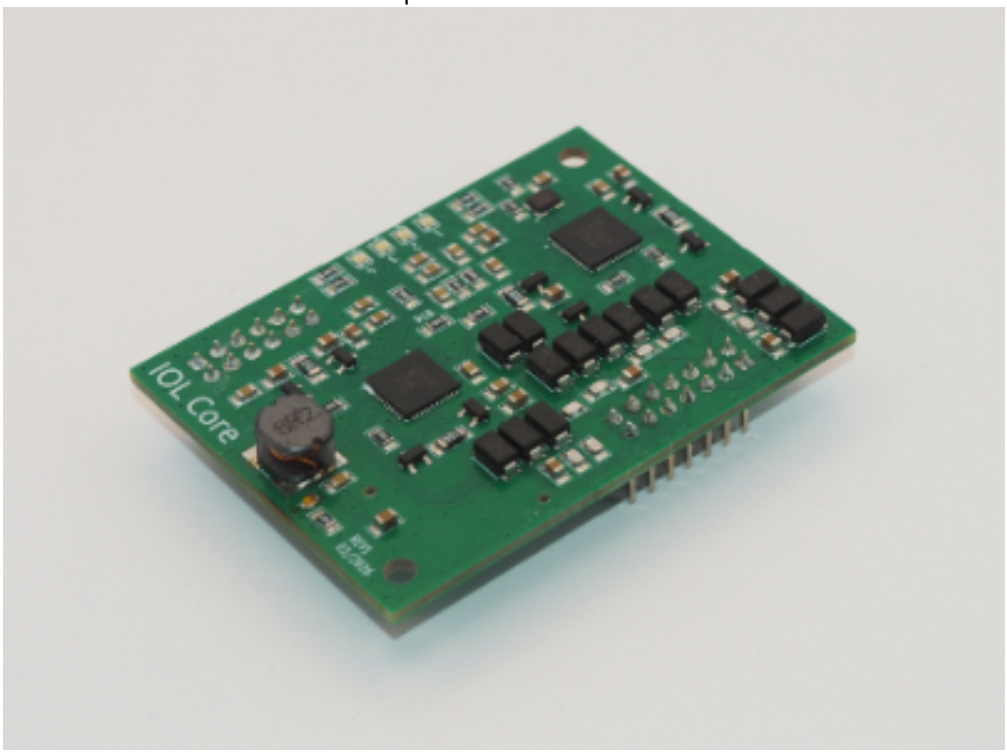


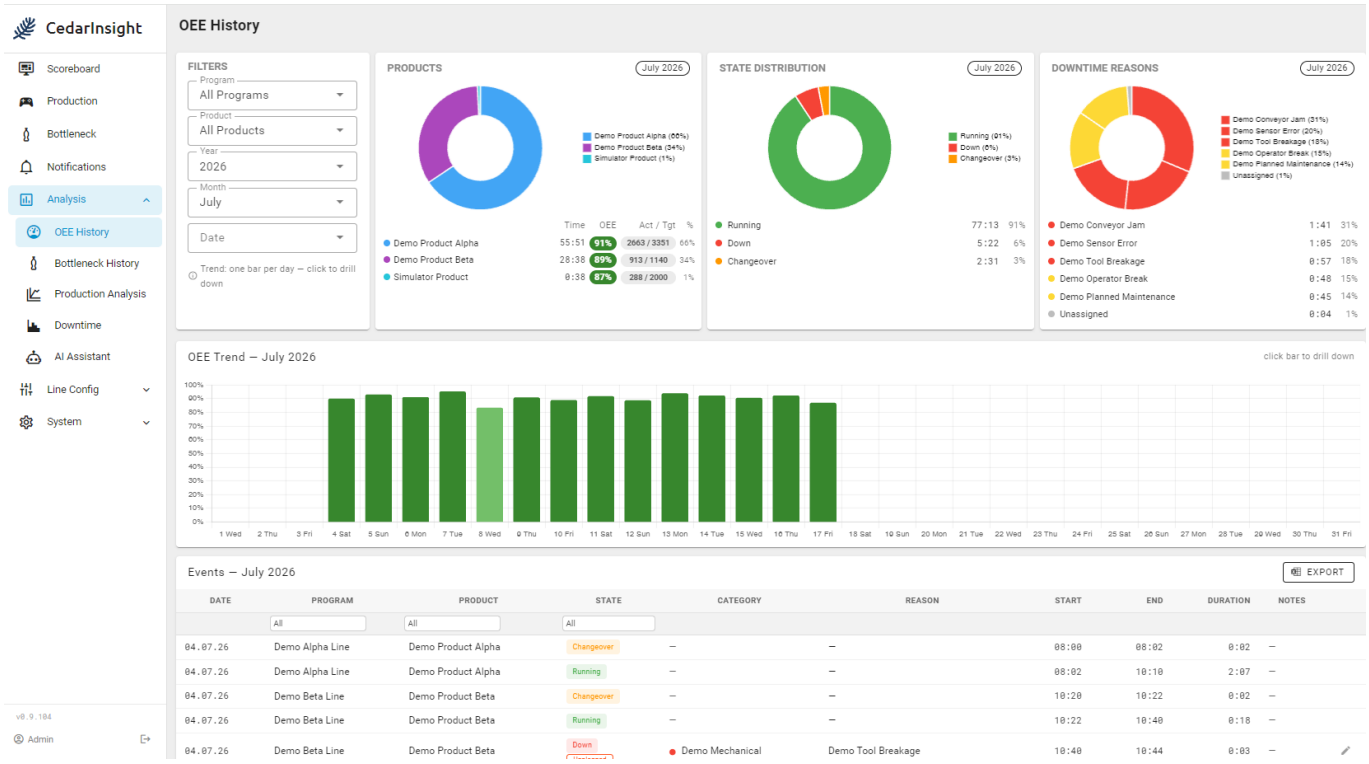
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6. Analysis

The Analysis views are available to **Supervisor** and **Admin** roles. All views share the same filter pattern: **Program**, **Product** and a time drill-down (year → month → day).

6.1 OEE History

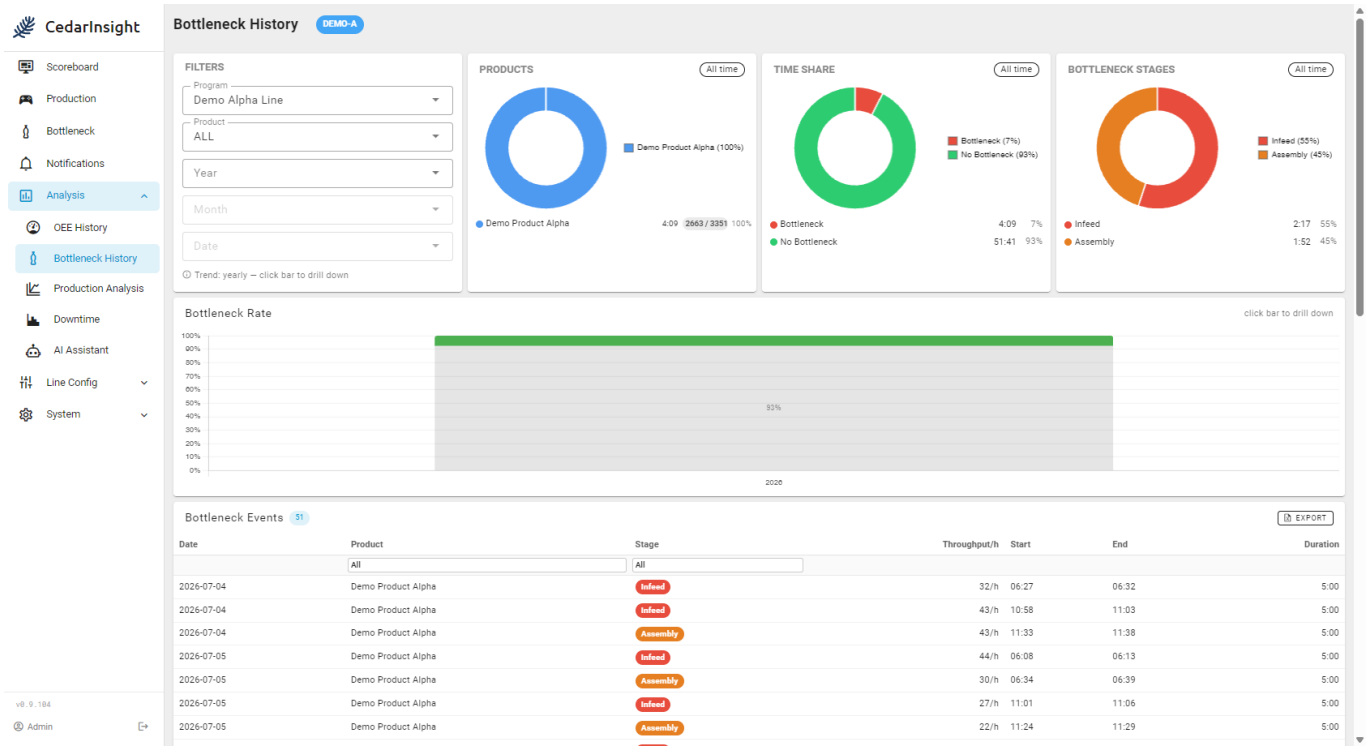


Analysis → OEE History shows the OEE development over time.

- **KPI cards**: OEE per product, states, downtime reasons for the selected period.
- **OEE Trend:** one bar per year, month or day; click a bar to drill down to the next level. At day level, an **Hourly OEE** table shows OEE, actual/target and events per hour; click a row to filter the pies and event list.
- **Events**: the downtime events of the selection, with duration, planned/unplanned flag, category, reason and notes.

Editing downtime reasons: in the events list you can **assign** a reason to a pending event or **edit** an already assigned one (pencil icon): select category, reason and optional notes. This is the place to clean up unclassified stops after the shift.

6.2 Bottleneck History

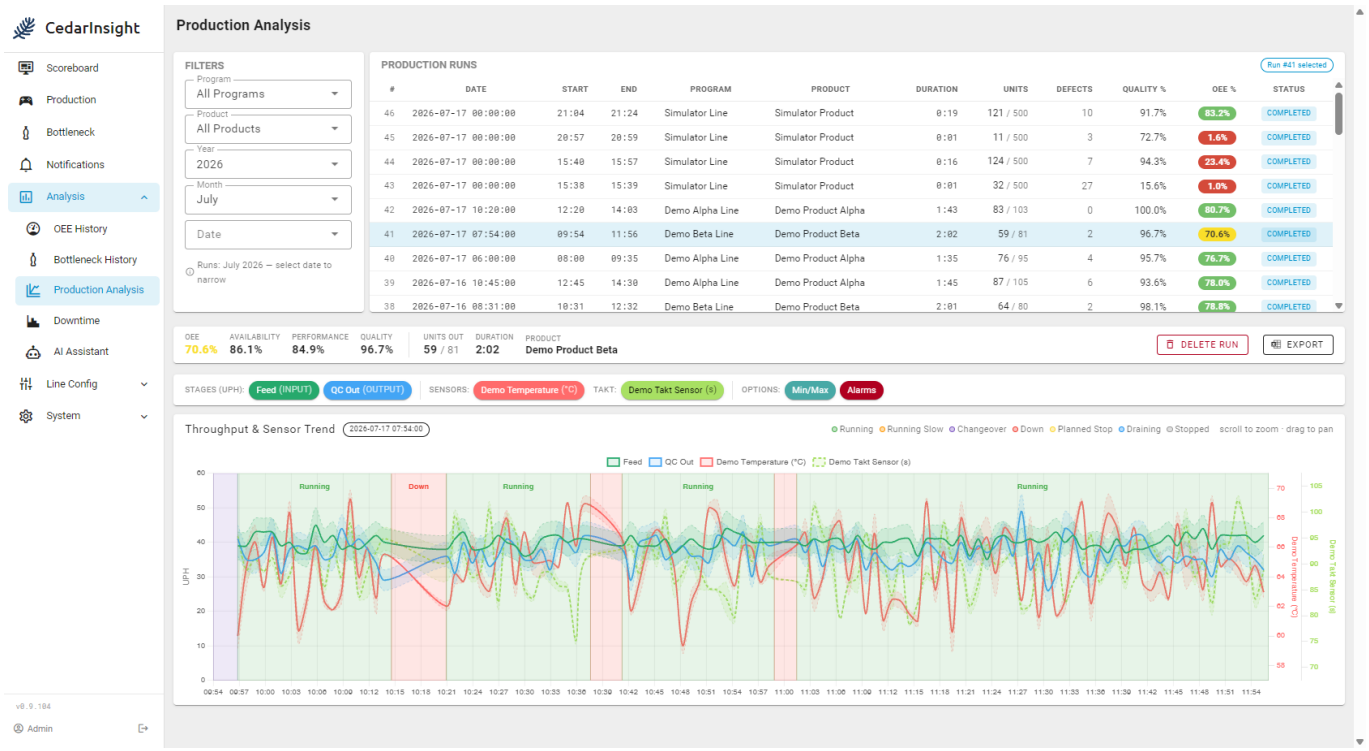


Analysis → Bottleneck History aggregates the bottleneck events (chapter 5.3) across runs.

1. Select a **Program** (mandatory as stages/stations are program-specific).
2. The trend chart shows bottleneck time per year/month/day; click a bar to drill down or, at day level, to filter the event list.
3. The **Bottleneck Events** table lists each event with date, product, stage, throughput/h, start, end and duration.

Use this view to find the chronically limiting stage of a line: the prime candidate for improvement measures.

6.3 Production Analysis



Analysis → Production examines individual production runs.

The graph data shows data for a production run: throughput of the single stations and the takt and sensor data connected with the program. The takt and sensor data is used to correlate events and data with the throughput, e.g. throughput goes down when temperature goes up.

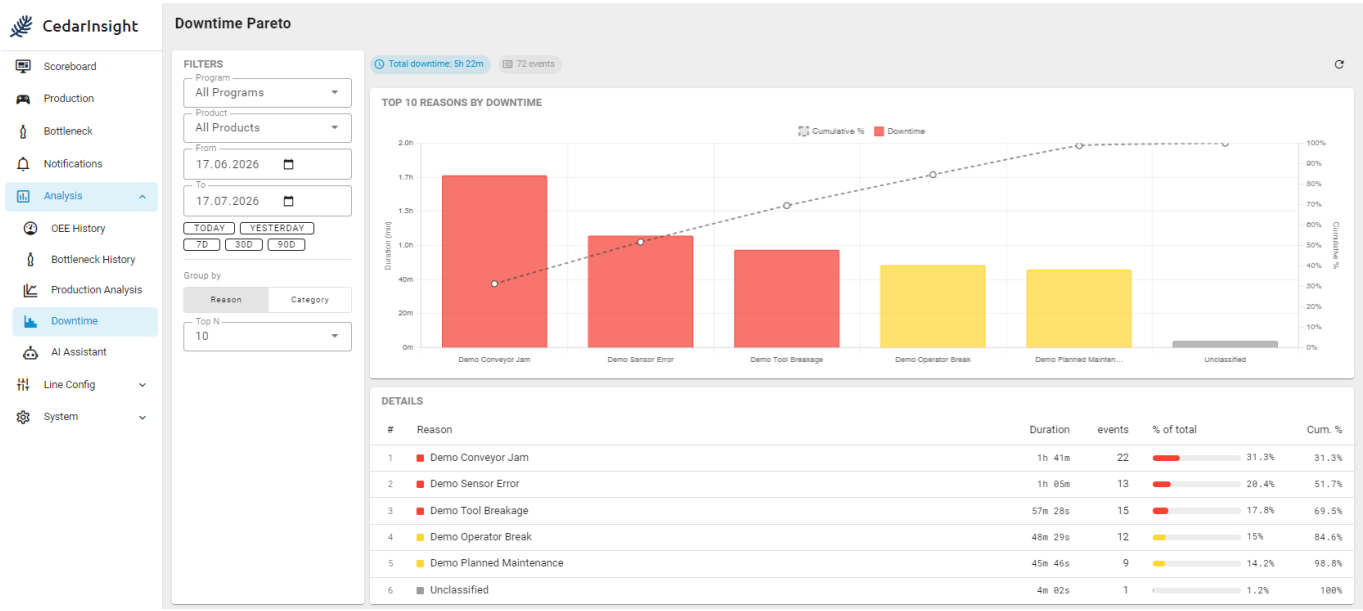
To analyze production runs, the following actions are available:

- Narrow the run list by year, month, date, program and product. The **Production Runs** table shows date, start/end, program, product, duration, units, defects, Quality % and OEE % per run, plus its status.
- Click a run to load its detail below:
  - **Production Summary:** the run's OEE figures,
  - **Throughput & Sensor Trend:** a time chart of the run. Select which **stages** (throughput) and **sensors** to plot; options include min/max bands and alarm markers, and a **takt** overlay. Scroll to zoom, drag to pan (on the timeline)

Run maintenance (use with care):

- **Close Run**: marks a still-ACTIVE run as COMPLETED and recalculates its OEE metrics. Use this when a run was left open (e.g. after a power failure).
- **Delete Run:** permanently deletes the run and all associated data. This cannot be undone.

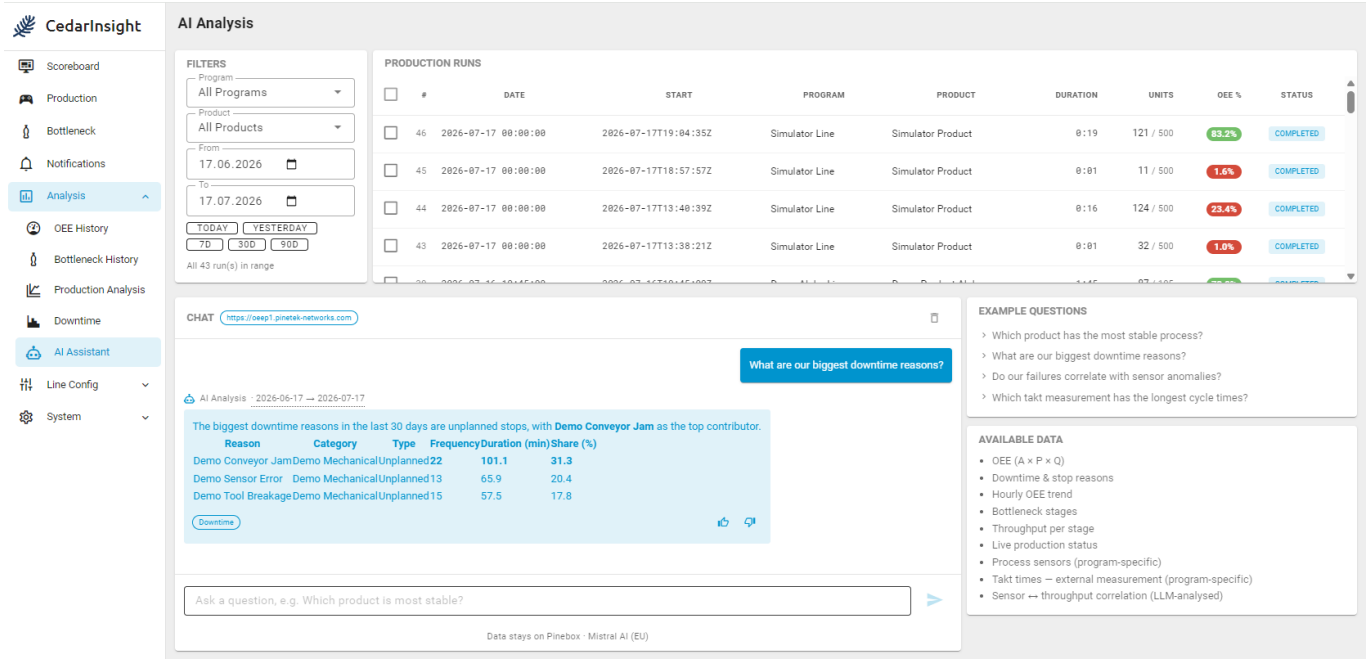
6.4 Downtime Pareto



Analysis → Downtime ranks downtime causes by total duration, the classic Pareto (“80 % of downtime comes from 20 % of causes”).

- Filters: date range, program, product.
- **Group by** *Category* or *Reason*; select **Top N**.
- The chart shows duration bars plus the **cumulative %** line; the header shows total downtime and number of events.
- The **Details** table lists rank, name, duration, number of events, % of total and cumulative %.

6.5 AI Assistant



Analysis → AI Assistant provides chat-based analysis of your production data: ask questions in natural language (“Which product had the worst quality last?”, “What were the main downtime causes?”) and receive answers computed from the database.

6.5.1 Working with the assistant

- Define the dataset first: date range, program, product, or a set of selected runs. The assistant answers only from this scope.
- The assistant uses the same aggregation logic as the analysis views and reports, so its figures match what you see elsewhere.



The AI (LLM) is weak handling date and time inputs like “today” or “last week”. To narrow down times, please use the filters. They will filter the raw data provided to the API.

6.5.2 Licensing, data privacy and anonymisation



- The AI Assistant is a licensed feature (entitlement *AI Chat*, chapter 9.6). Without it the view shows “AI Analysis not licensed”.
- Requests are processed via the Pinetek LLM gateway. Identifying names are anonymised before leaving the device and de-anonymised in the response; the external model never sees your real product or program names.

6.6 Exporting data

Analysis tables offer an **Export** action that downloads the current (filtered) data as an Excel file for further processing.