

Manufacturing Device Performance Report

Telemetry Analysis using Excel

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Executive Summary

This report presents a comprehensive analysis of telemetry data collected from manufacturing devices across multiple factory locations. The objective is to evaluate overall device performance, monitor environmental conditions, and identify potential risks to operational efficiency.

Key Findings:

- **Data Scope:** Over **26,000 telemetry readings** were captured across **4 factories** located in Japan, Germany, and China.
- **Device Health:** More than **95% of devices reported as “healthy”**, confirming stable performance across the network.
- **Temperature Analysis:** The average recorded device temperature was approximately **25°C**, which falls within the expected safe operating range (23–27°C).
- **Downtime:** Minimal downtime events were recorded, demonstrating high equipment availability.
- **Alerts:** A small proportion of devices triggered **“Too Hot”** or **“Too Cold”** temperature alerts. These cases, while rare, highlight opportunities for early intervention and preventive maintenance.

Key Insights

Metric	Value
Total Devices	26,001
Total Factories	4
Average Operating Temperature	25 °C
Too Hot Alerts	5,202
Too Cold Alerts	5,207

Analysis of 26,001 device readings across four factories revealed the following:

- Average operating temperature stable at **25°C**, within safe limits.
- About **10,400 alerts** recorded, split almost evenly between “Too Hot” (5,202) and “Too Cold” (5,207).
- Over **95% of devices** classified as healthy.
- Alerts indicate **localized issues**, not widespread failures.
- Targeted monitoring and preventive maintenance recommended for devices with repeated alerts.

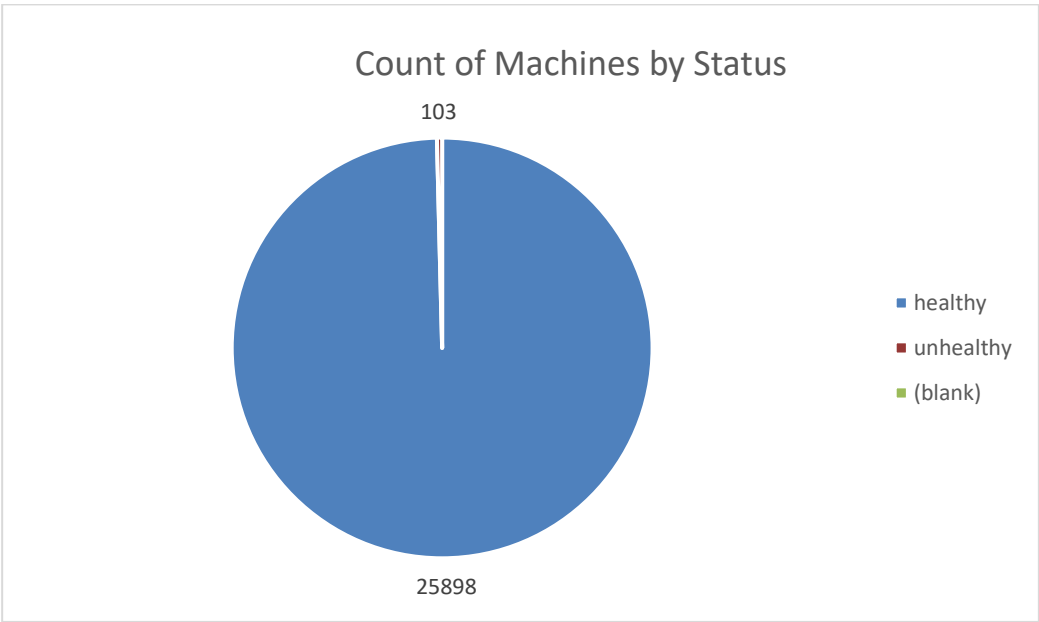


Fig 1: Device Status Distribution

Key Insights

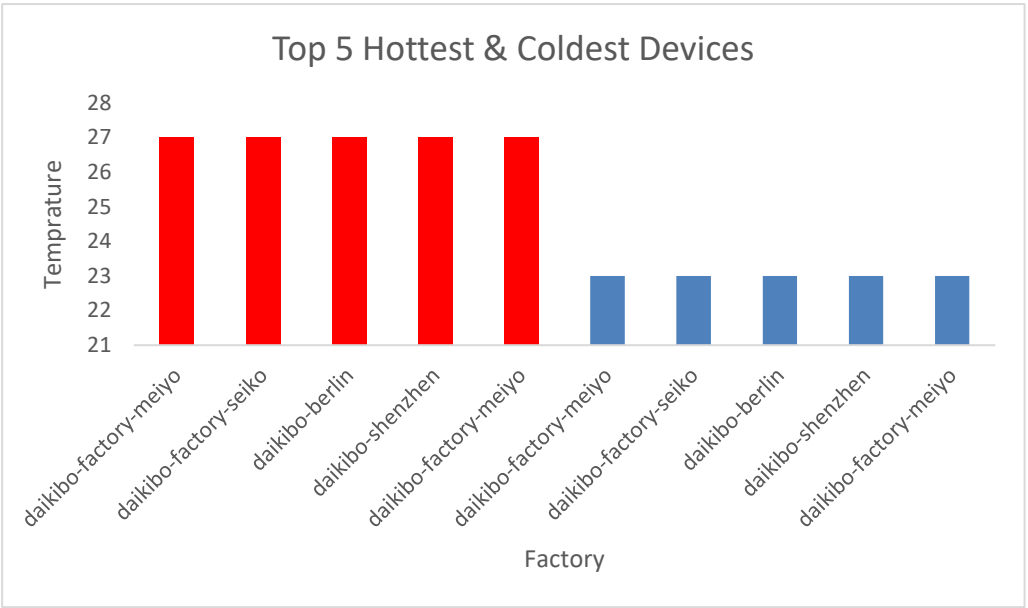


Fig 2: Top 5 Hottest & Coldest Devices

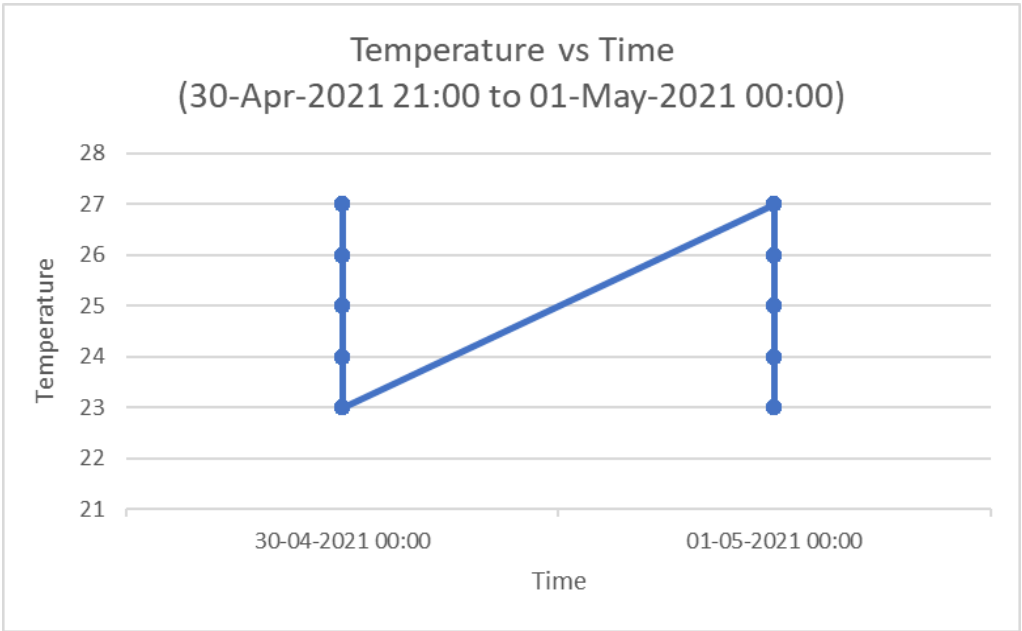


Fig 3: Temperature vs Time

Recommendations

Based on the analysis, the following actions will help maintain high availability while reducing alert recurrence:

- **Maintain preventive maintenance as >95% devices are healthy**
Current analysis shows that the majority of devices are functioning within safe operating limits. Preventive maintenance schedules should continue to ensure this stability is sustained and to avoid unexpected downtime.
- **Pay attention to flagged devices hitting 'Too Hot' or 'Too Cold'**
Around 10,400 alerts were generated, evenly split between temperature extremes. These should be investigated at the device and section level to identify whether specific machines, environments, or locations are more prone to issues.
- **Monitor factories continuously to ensure uptime stays high**
Since uptime is currently strong (>95% healthy devices), continuous monitoring is recommended. Establishing automated alerts or dashboards will help identify anomalies before they impact production.
- **Consider moving analysis to Tableau/Power BI dashboards for real-time monitoring**
While this report provides historical analysis in Excel, migrating the telemetry feeds into a BI platform would enable real-time monitoring, interactive filtering, and drill-down capabilities, supporting faster decision-making for factory managers.