Fraunhofer ITWM

FRAUNHOFER-INSTITUT FÜR TECHNO- UND WIRTSCHAFTSMATHEMATIK (ITWM)

BUILD PREDICTIVE MAINTENANCE THROUGH CONDITION-BASED MONITORING

Questionnaire for the kick-off

Contact

System analysis, forecasting and control

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Questions about the plant

1. How many operating hours does this system run per year?
2. How many downtime hours per year are incurred at this system?
3. How many costs occur per hour of downtime?
4. In which operating points is the plant operated?
5. How do the manufactured products differ in their effect on the operating condition of the plant?
6. Are there regular idle times, warm-up times, cleaning times, etc.?
7. Is the system operated manually or automatically?
8. Is energy consumption already recorded?
9. Which mechanical components of the system are subject to wear?
10. How often is the system serviced at which points?

Questions about included function groups

1. Which function groups should be monitored and why?
2. Depending on the operating point of the system, which dynamics occur in the functional groups (speeds, acceleration, trajectories)?
3. Is the operating status already detected by sensors? If so, which sensors are in use? Which measuring system or amplifier is used?
4. Which telemetry data is already collected at which sampling rates?
5. Is relevant data logged in logs?
6. Via which interfaces can this telemetry data be recorded (analogue, digital)?
7. Does the physics of the executed processes allow you to describe in such a way that you get an understanding of wear?
8. Is the function group part of a control loop?

Operating Environment Questions

1. Which effects (e.g., temperature, humidity, vibrations) from the environment are known that have an influence on the system state?

Questions about built-in ECUs

1. Which controllers are currently used in the plant for control and regulation?
2. What is the current utilization of these controllers?

Questions about existing IT

1. Is there already a software infrastructure for data evaluation?