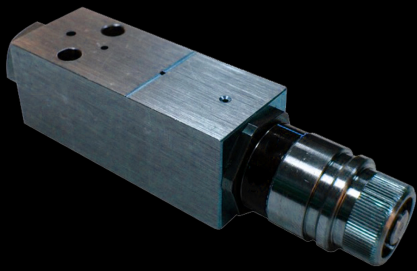


# Use Case

## Determine Health Status of Pump



### Customer Leading Manufacturer of Primary Batteries

- Need** The customer wanted to develop a holistic understanding of all factors impacting the quality of batteries and better understand and control maintenance requirements. The ultimate goal was creating a stronger connection between plant operations and maintenance to improve quality and optimize maintenance.
- Challenge** Operations and plant maintenance traditionally function independently of each other but data generated in one area can inform the other and lead to improvements. Example: The health status of the pumps used to fill batteries with slurry is traditionally monitored via a single measurement to detect an amperage spike. If a spike occurs the operator reacts based on their experience and assessment of the situation. This process is unreliable and leads to pump failures and unplanned line downtime. The challenge was to make pump failure prediction more reliable and develop a robust maintenance schedule that optimizes maintenance activities during planned downtime.
- Solution** An AI model that links data from quality control and maintenance to generate a holistic picture of pump health that allows the customer to catch emerging issues earlier.
- Process** We collected IoT data from various sensors, cleansed and aggregated the data and developed a 30-parameter pump health model with defect detection data from QC fed into the model. The model was trained to detect anomalies and deployed to the shopfloor.
- Outcome** Improved maintenance cycles of equipment resulting in less unplanned downtime of the lines which leads to improved overall equipment efficiency.



### Contact Us

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