ODiN
Data Analysis

Continuous, small adjustments of the model parameters during the learning phase minimize the difference between the model predictions and the training data. Once a set of parameters with a good fit of prediction and real behavior has been found, the model including the optimal parameters can be stored and is able to go into production. In the production stage, the current incoming data from the machine is compared with training models. If there is a small deviation with known reference data patterns, no anomaly is indicated and the process phase continues. However, if the deviation is high, there is an anomaly and a new learning process starts to generate a model of the newly found data pattern. Thus, it is possible to identify this pattern in the future.

5 REASONS FOR ODIN
▶ Contact person
▶ Setting an opimtal maintenance period
▶ Improved planning of maintenance operations
▶ Utilization of the maximum service life of components
▶ Increase of productivity

Data Analysis

In order to map the complex behavior of the machines, data must be recorded with high resolution. As the variety in data patterns is large under both normal and anomalous operating conditions, it is necessary to store the data in a central location in order to recognize reoccurring events. For Predictive Maintenance this means finding known error patterns on machines.Unsupervised learning is used to detect anomalous data patterns in measurement data, which can indicate a developing failure in machines during their operation. To detect these patterns in incoming data continuously, a learning phase is necessary to create a model based on example data, which is presented to the Machine Learning algorithm during the learning phase. It will create a compact mathematical model of this data. The learning phase begins with a random model.