Case Study: Bearing Failure

Machines are complex pieces of technology yet, they still rely on bearings to operate. A regularly-functioning bearing keeps machines performing smoothly, but bearing failures account for majority of all motor failures in vehicles costing manufacturers millions of dollars.

When it comes to applying predictive maintenance practices, Acerta's machine learning platform predicts the remaining useful life (RUL) and end-of-life (EOL) more accurately than what was possible with traditional physics-based models.

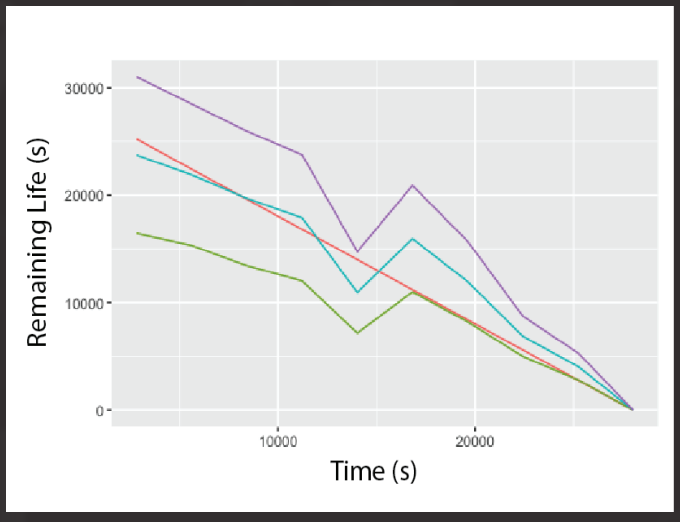
As a bearing degrades, the variances in its movement become more pronounced and inconsistent. An early detection of unusual behaviour can indicate problems such as improper manufacturing or installation. Understanding these subtle changes, action can be taken before it causes negative impact.

Acerta digs deep into the data analyzing the signals and finds patterns others don't. The remaining useful life (RUL) is predicted by categorizing the bearing into one of three states: new, wearing, broken. Our algorithms measure how much time the bearing spends in each state and creates a bound for the RUL.

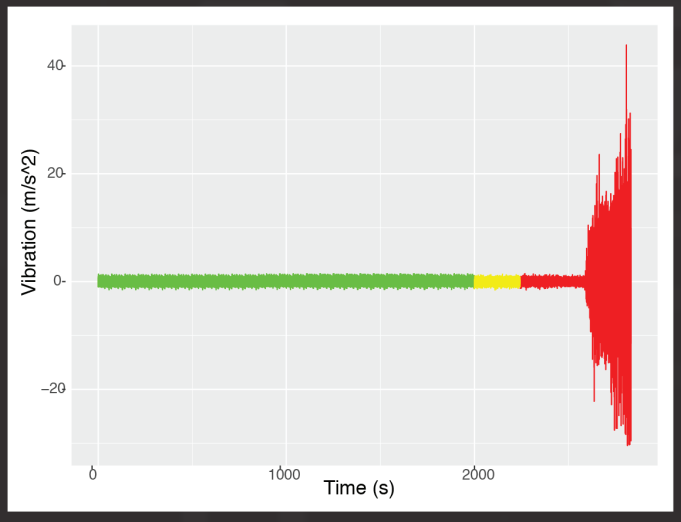
Our machine-learning model also predicts the end of life (EOL) of a bearing to a high degree using neural networks. By knowing that the end of life is near, repair appointments can be accurately scheduled to reduce inventory costs and decrease downtime.

Utilizing cloud computing, Acerta's platform easily integrates with existing data collection systems with minimal configuration. Acerta is focused on extracting useful information from your data and providing valuable insights to help you save money and time.

Remaining Life (RUL)



End of Life (EOL)



Acerta

Machine learning for predicting vehicle failures

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