



# A time-series forecasting model for a truck manufacturing company

## The background:

CoGo Data was approached by an international commercial vehicle company. They were faced with the challenge of accurately estimating the service cost of each vehicle in their fleet of 7 500 trucks. The estimation of service costs is important to accurately price the service contracts (motor plan). This accuracy is a critical factor to remain price competitive and profitable.

## The problem:

The company's traditional estimating cost model was populated with historical data that considers the general (or average) service cost trend over their entire fleet. However, there were many other critical dimensions to the fleet data that were not fully utilised and incorporated in their model resulting in poor forecasting for some vehicles.

## The solution:

CoGo Data developed a time-series forecasting machine learning model that accommodates all key issues, which significantly benefits the accuracy of predictions per vehicle. Firstly, the new model incorporates variables that directly and indirectly affect service costs, such as a truck's running mileage, technical specifications, and unique service history. Secondly, the new model makes unique predictions for each truck in the fleet, as opposed to general trends over the entire fleet.

## The result:

The new model was able to reduce the error (actual vs expected service cost per vehicle) over the fleet of trucks by a minimum of 44%. As a result, the company can price their maintenance contracts more accurately, which effectively reduces losses and increases profits.

Forecasting model

