



## EyeOn product Improving demand prediction with Machine Learning

Illustrated on the example of  
semiconductor companies

At semiconductor companies, short and long-term predictions are required to make inventory management and wafer starts decisions. These predictions are made for thousands of products at different time periods and for different customers per product. Currently, for many companies the predictions are done manually, by means of statistical methods or a combination of both. While the application of Machine Learning techniques appears to be limited, a use case study demonstrates that it significantly improves forecast accuracy.

### Machine Learning techniques can improve your demand forecasting

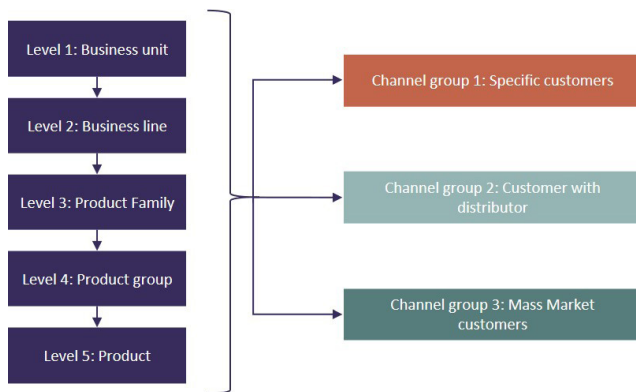
#### EyeOn practise

At EyeOn we developed a practise for using ML techniques in an efficient way. This practise shows the advantages of ML techniques compared to statistical models. The practise is based on three distinct steps:

1. Understand and define the internal and external demand drivers. External demand drivers become more important when predicting at a higher level of aggregation.
2. Select the Machine Learning techniques that could be used e.g. Back Propagation Neural Network, Random Forest Regressor. Machine Learning techniques can more easily implement the internal and external demand drivers than statistical methods.
3. Create accurate predictions for different types of products and customers per predefined aggregation level.

# EyeOn product

## Improving demand prediction with Machine Learning



Benefits of using the EyeOn practise for ML techniques:

1. ML techniques outperform considerably the traditional forecasting techniques at the lower aggregation levels with double digit improvements in forecast accuracy.
2. ML techniques perform better for distributor and mass market customers in the mid term, using internal demand drivers.
3. ML techniques can more easily integrate internal and external demand drivers.

### Curious how Machine Learning can increase your forecast accuracy?

Experience the improvement potential of ML techniques: [Contact us now](#) for a quick assessment! Or talk to one of our experts, we are happy to help you:

Jeroen Vermeulen - [jeroen.vermeulen@eyeon.nl](mailto:jeroen.vermeulen@eyeon.nl)

Stephan Wouters - [stephan.wouters@eyeon.nl](mailto:stephan.wouters@eyeon.nl)

### Our promise

We apply proven innovations on forecasting and planning. We approach our clients' challenges in the most pragmatic way possible. Using our extensive knowledge, we deliver valuable results and turn challenges into opportunities. This is how we develop and implement fit-for-purpose improvements with sustainable impact.