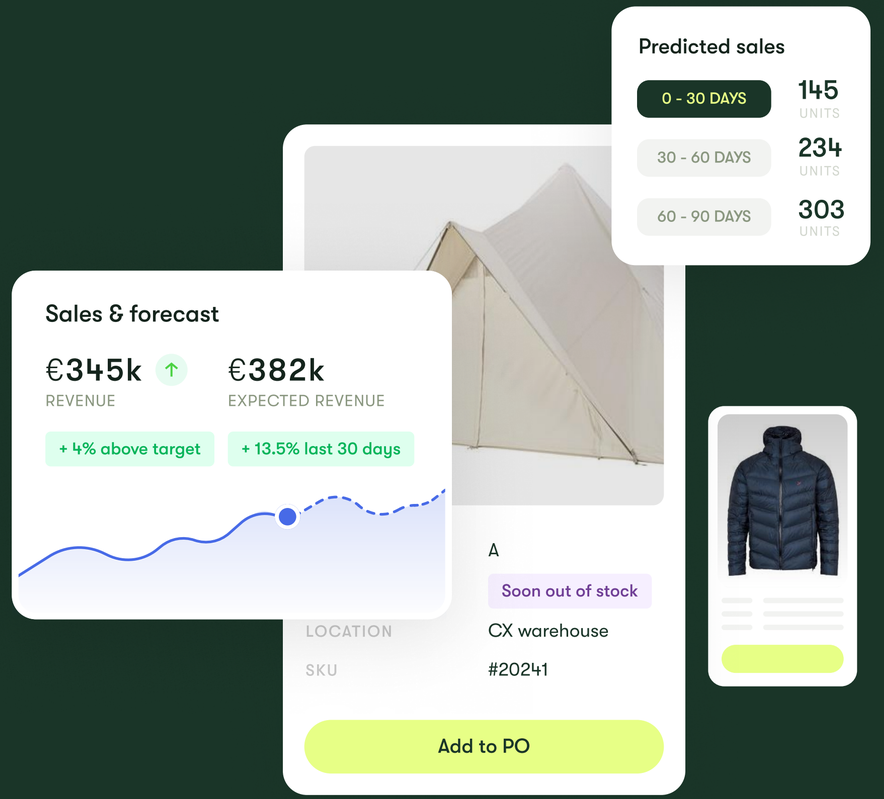
HAKIO

Forecasting and demand planning

We're front runners on forecasting accuracy and we help you make smarter and faster buying decisions to help you avoid overproduction and lost revenue caused by stock-outs. Enhance gut-feeling with easy-accessible data insights at hand, whenever you need them



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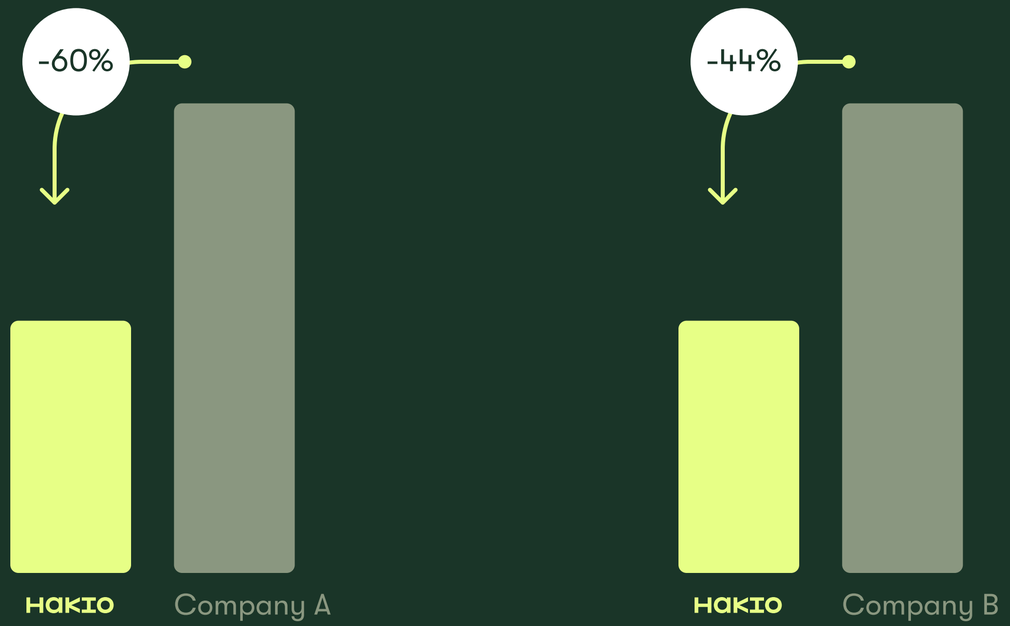
We enhance forecasting accuracy using machine learning algorithms

Our forecast use machine learning to go beyond the accuracy of standard demand forecasting algorithm. We use 30-70 attributes to capture abnormalities in markets and trends to provide actionable insights. We combine prediction models via data-driven model weighting (ensemble modelling) to ensure the best performing forecasts for all SKUs at all times

Enterprise Customer Results

Customer estimate a €100m inventory reduction from using Hakio forecasting models across all brands



Forecast error (MAPE) evaluated by planners

How the new process impacts the planning department

- Standardizing the process for 30 Planners, that wil work in a uniform way in the future
- Debiasing decisions to remove personal preference and subjective judgement.

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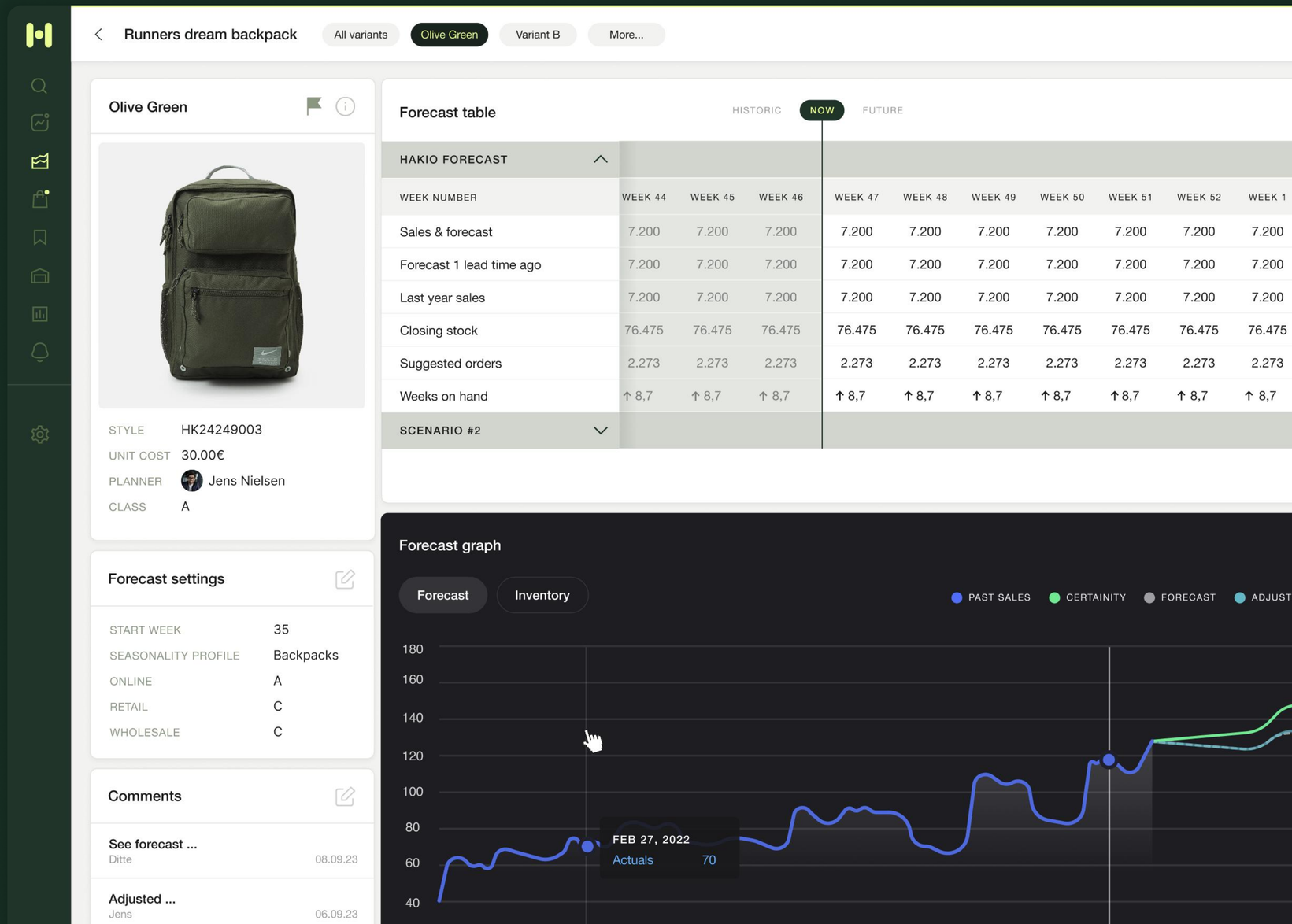
Hakio help companies stock the right quantities at the right times while eliminating manuel non-value-adding work



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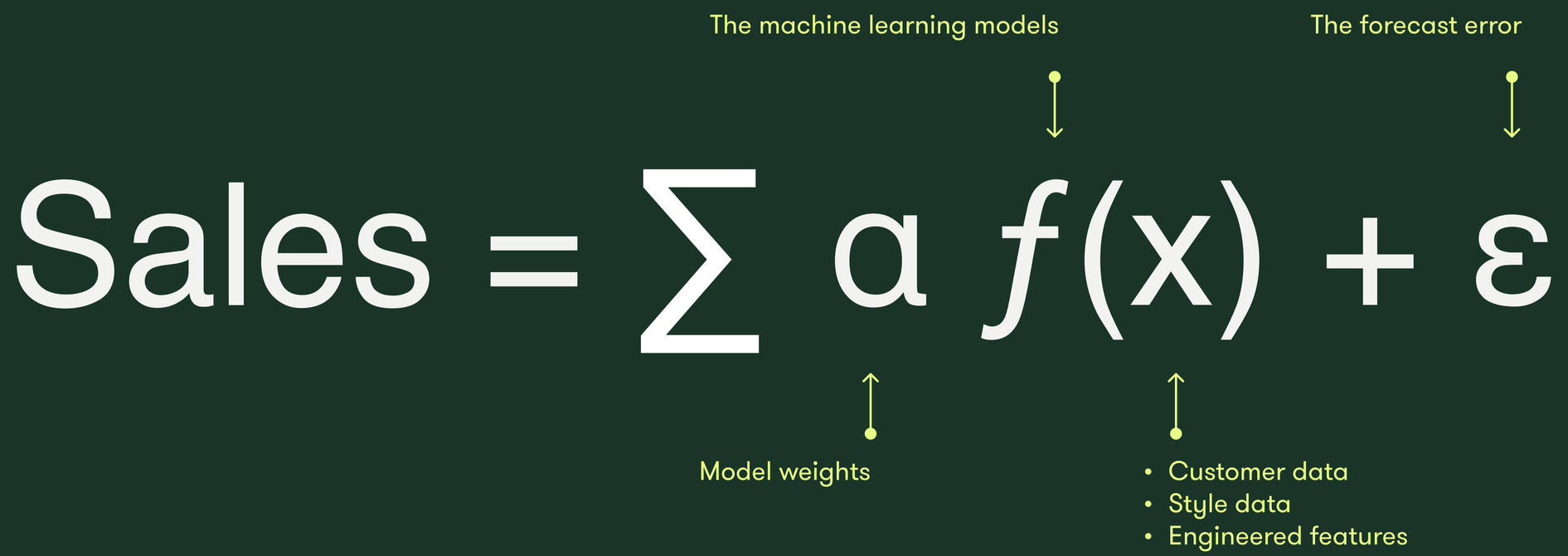

We maintain a library of models that we develop to solve different problems. When a new customer is onboarded we run all models and use out-of-sample analysis to weight each model and create a unique ensemble with relevant customer attributes. This allows for highly customised and advanced predictions without making any manual adjustments.

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$$\text{Sales} = \sum \alpha\, f(x) + \varepsilon$$

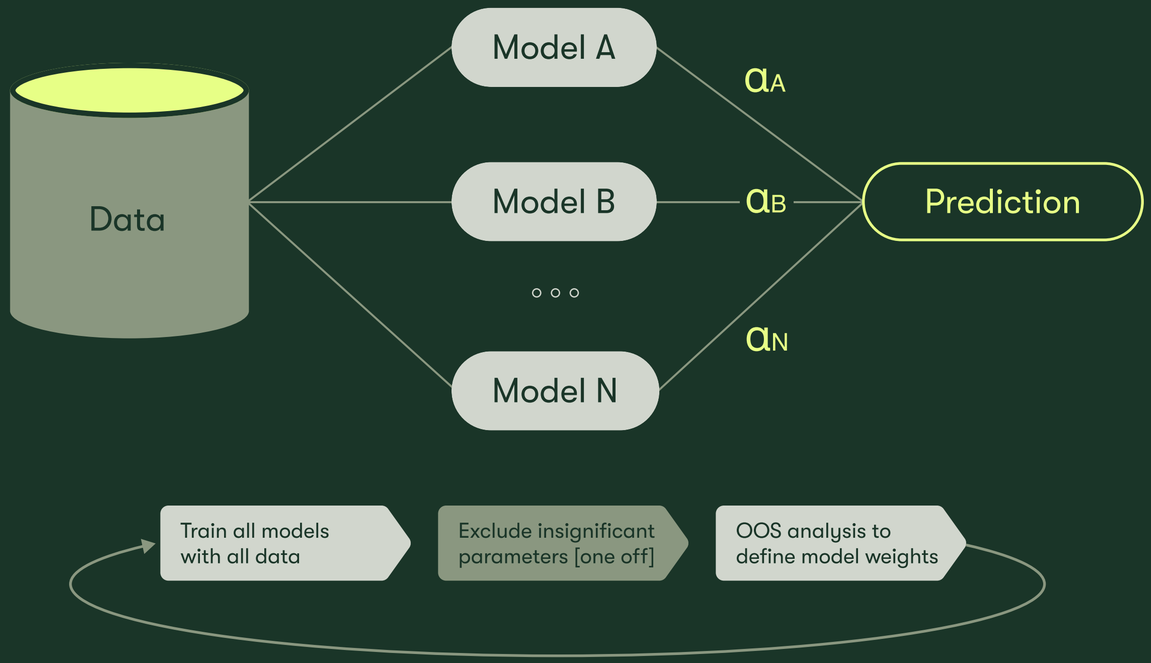
Ensemble weights

When we talk about “the Hakio model” it's actually not a single model.

We maintain a library of models that we develop to solve different problems.

When a new customer is onboarded we run all models and use out of sample analysis to weight each model and create a unique ensemble with relevant customer attributes.

This is a unique feature that allows to to produce much more advanced predictions without making any manual adjustments.



Continuously retrain existing models and develop new models

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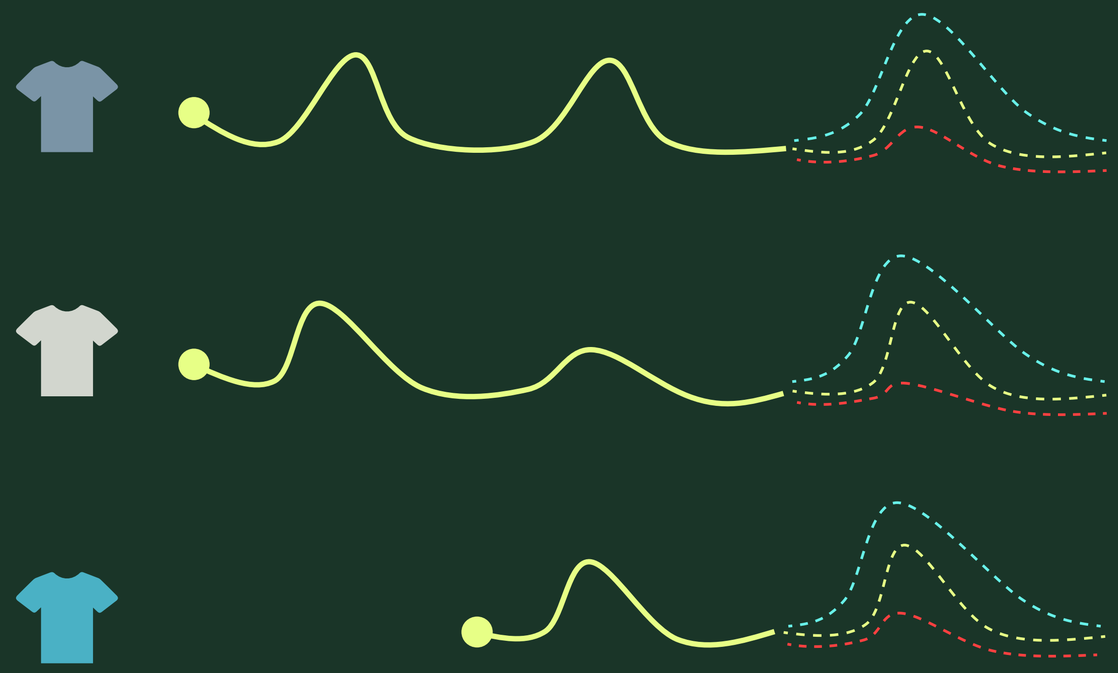
$$\text{Sales} = \sum \alpha\, f(x) + \varepsilon$$

A combination of best-in-class and tailor-made models

In addition to recognized best-in-class models, we also utilize our own models - making sure we capture all the dynamics that our customers count on!

These models are primarily based on machine learning, but we also leverage the best from econometric models. All the building takes place in python using libraries such as PyTorch, Pyro and the like.

One example is a hierarchical probabilistic model



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Looking for the most accurate forecast possible?

LET'S TALK