Successful Demand Forecasting at dm

How artificial intelligence algorithms support dm's number one priority – people
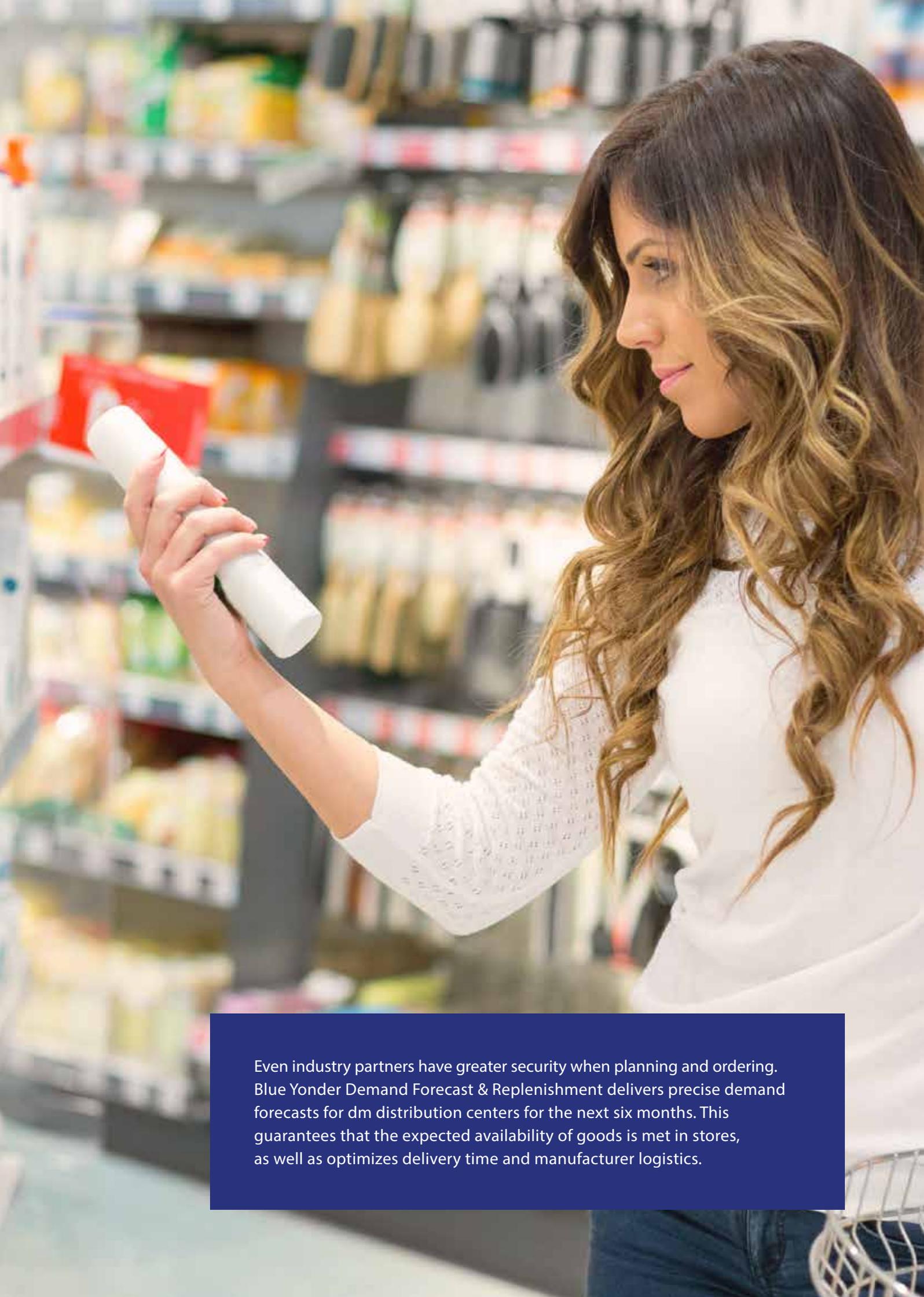
BlueYonder
Best decisions, delivered daily

Focus on People – dm Optimizes the Customer Experience

"We want to be the best retailer for drugstore products and contribute to a society worth living in." According to CEO Erich Harsch, this is dm drugstore's aspiration for all of Europe. And it is why the retail company focuses on people.

It is no surprise that dm has been chosen as Germany's favorite drugstore for several years in a row (consumer survey "Kundenmonitor"). They recognize their customers as well as their employees as real people. The company gears its activities toward their needs – a noble goal that is supported with the help of Blue Yonder's AI algorithms.

Product availability and good service are the two key elements of providing a shopper with the ideal customer experience. Blue Yonder's solution allows dm to achieve that in both fields: The demand predictions help with staffing and ensure optimal communication with its industry partners – leaving customers and employees happy!

Even industry partners have greater security when planning and ordering. Blue Yonder Demand Forecast & Replenishment delivers precise demand forecasts for dm distribution centers for the next six months. This guarantees that the expected availability of goods is met in stores, as well as optimizes delivery time and manufacturer logistics.

About dm

dm drugstore was founded in 1973 in Karlsruhe. Today dm operates approximately 3,350 stores in 12 European countries. More than 56,500 people work in Europe to make shopping at dm an enjoyable experience. Of those, about 39,000 work in Germany. The entire assortment of products encompasses around 12,500 articles. In the 2015/2016 fiscal year, dm achieved a turnover of more than €7 billion.

Staff planning

Challenges

- Precise sales forecasts, even for exceptional cases like holidays or vacations
- Avoid over- and understaffing
- Early planning security for employees
- More time needed to better serve customers

Results

- Precise staff planning with exact sales predictions
- Optimized workflows as well as satisfied employees and customers

Demand forecasts for industry partners

Challenges

- Improve cooperation between manufacturer and distribution center to ensure product availability
- Provide valid predictions for industry partners
- Short-term demand for goods in stores vs. long delivery times of industry partners

Results

- Using valid predictions to increase security for industry partner planning and ordering
- A basis for long-term raw material planning
- Meeting demands for availability of goods and ending up with less overstock

Blue Yonder solution in action

Demand Forecast & Replenishment

Efficient Staff Planning Thanks to Precise Predictions

dm's focus on people means that employees are given enough time to help customers even if the store is very busy. To help with this, it developed its own staff planning software. In the past, store managers estimated and input daily sales in the system based on their experience. From this, the program calculated the number of employees needed each day. Ordinarily, the system worked well, until special situations pushed it to the limits of its capabilities. The result was over- and understaffing.

"Blue Yonder's forecasting software was the only solution capable of intelligently forecasting the sales per store on a daily basis and the only one to consider external data as additional parameters."

Roman Melcher
Managing Director IT, dm

Reliable planning
for employees

98%

Accurate sales forecasts

dm chose Blue Yonder in order to predict sales
accurately in the individual stores and thus reliably
carry out staff planning. In addition to each store's
daily sales from the last 10 years, the forecasts
consider adjustable parameters, including store
hours. Both are necessary to determine the number
of employees needed as accurately as possible.
Thus outgoing goods have a significant effect on
personnel requirements in a store. Other external
data are factored in addition to this, such as pending
market days or holidays in neighboring states.

The scalable solution has been running reliably
since it was put in place. New store openings
are automatically integrated into the predictive
calculations. The number of stores has grown by
40% without dm or Blue Yonder having to do any
manual adjustments whatsoever.

Planning security for employees

The deviation of predictions over the entire
52 weeks in a year averages only 2%. Each store
employee enters themselves in the plan four to
six weeks in advance according to their individual
preferences, and employees can rely on this
coordinated planning as a rule. Short-term changes
are rare, allowing employees to easily make plans
for themselves. The result: Optimized workflows
and more motivated employees.

Demand Forecasts for Distribution Centers Improve Product Availability

dm runs two national distribution centers and six so-called volume distribution centers, supplying dm markets with large volume goods. These centers ensure product availability in the 3,350 stores, 1,825 of which are in Germany. The distribution centers compile industry partners' incoming goods for individual dm stores and ensure that the wide selection of about 12,500 products is always available for customers. No easy feat considering that dm stores also need certain articles on short notice, although manufacturers usually have long delivery times and generate demand forecasts based only on past statistics. The dilemma here is that if orders cannot be delivered on short notice, sales are lost. On the other hand, to avoid this means planning far in advance for long-term orders and that could mean high storage costs and tied-up capital.

2 national distribution centers

6 volume distribution centers

3,350 stores in Europe

1,825 stores in Germany

12,500 products

Optimizing external supply of goods with algorithms

Based on the positive results in staff planning for stores, dm tested Blue Yonder to optimize external product supply. Blue Yonder Demand Forecast & Replenishment created demand predictions at SKU level for the distribution centers for six months. The weekly predictions of article demand were based on 2.5 years of historical data for each particular distribution center. Seasonality was also taken into account. For example, 90% of the sales of perfume and candles were generated in December. The volume of sales for this article jumps four or five times higher during the winter season.

Accurate demand forecasts over six months

With a significant improvement in the accuracy and quality of demand predictions over a period of six months, the industry partners could plan better. The future demands are automatically provided to the industry partners. Thus delivery reliability and product availability are substantially optimized. The industry partners profit from greater planning and order security for both the operational availability as well as for long-term production planning. And dm ensures that product availability meets demand in its stores. The result: satisfied customers, less costs.

Stores participating in the demand forecasting model

100%

About Blue Yonder

Blue Yonder, a JDA company, is a leading provider of artificial intelligence (AI) and machine learning (ML) solutions that enable retailers, consumer products and other companies to intelligently transform their operations and make more profitable, automated business decisions that deliver higher profits and optimized customer experiences.

With AI/ML learnings embedded into their core supply chain and merchandising processes, companies can respond quicker to dynamic market conditions and customer preferences, resulting in increased revenues and margins.

Developed by one of the largest teams of PhD-level data scientists dedicated to retail and the supply chain, Blue Yonder's AI/ML solutions deliver more than 600 million intelligent, automated decisions a day.

Blue Yonder was founded in 2008 in Karlsruhe, Germany, by former CERN scientist Professor Michael Feindt and acquired by JDA Software in 2018. The company has received numerous awards, including the Experton Big Data Leader Award 2016, the BT Retail Week Technology Award, the IGD Award 2017 for Supply Chain Innovation.

Blue Yonder provides its solutions through Microsoft Azure and was named one of Microsoft's retail partners of the year in 2018.

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