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SUCCESS STORIES

At Solvay, external data shows the way to improved demand forecasting

SOLVENTURE

SOLVAY

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WHO IS SOLVAY?

1863
Founded

Spread over 63 Countries

93 Industrial sites

21 000
Employees

HQ in Brussels

SUMMARY

INDUSTRY

Global leader in Materials, Chemicals and Solutions

CHALLENGES

Predict and prepare the company for unexpected market fluctuations

SOLUTIONS

Moving from a classical statistical forecasting approach to an updated method using external data

RESULTS

> Solventure's leading indicator forecasting model can save Solvay 3 months' time to identify and adjust market evolutions

> Solvay managed to increase the forecasting accuracy to 90% next to the 66% achieved in the sales forecast

AT SOLVAY, EXTERNAL DATA SHOWS THE WAY TO IMPROVED DEMAND FORECASTING

Solvay is a Belgian multinational chemical company established in 1863, with its headquarters in Brussels. As a global leader in sectors such as Automotive, Customer Goods and Industrial Applications, Solvay brings advancements in planes, cars, batteries, smart and medical devices, water and air treatment, to solve critical industrial, social and environmental challenges. In a joint webinar, Christian Backaert, Global Supply Chain Excellence Manager at Solvay, and Nick Verstraete, CTO at Solventure, discussed how leading indicators can play a 'leading role' to better predict market evolution and improve supply chain forecast accuracy.

Christian Backaert
Global Supply Chain
Excellence Manager at Solvay

Nick Verstraete
CTO at Solventure

The methodology behind leading indicators

Christian: "To improve your company's forecasting abilities, a correct view on market evolution is essential. This is especially the case in the volatile market conditions to which global supply chains are exposed since the covid outbreak and reinforced by the war in Ukraine. With traditional forecasting methods, which extrapolate historical trend & seasonal evolutions, it is next to impossible to predict the impact of these fluctuations on our demand. But if you identify certain economic & market elements, or leading indicators, that will influence future demand for a specific product line, then you can predict and prepare for a lot more unexpected market fluctuations."

Nick: "With the technique of leading indicator forecasting (LIFe) we determined, together with Solvay, which external indicators were making the same turning points as the historical Solvay sales, but already a couple of months in advance. With those indicators we trained a machine learning forecasting model that is able to forecast future sales & predict sales turning points on top of short-term trends & seasonality."

Traditional Forecasting VS. Leading Indicator Forecasting

— Actual sales volume
— Traditional forecast (extrapolation)
— Forecast with leading indicators
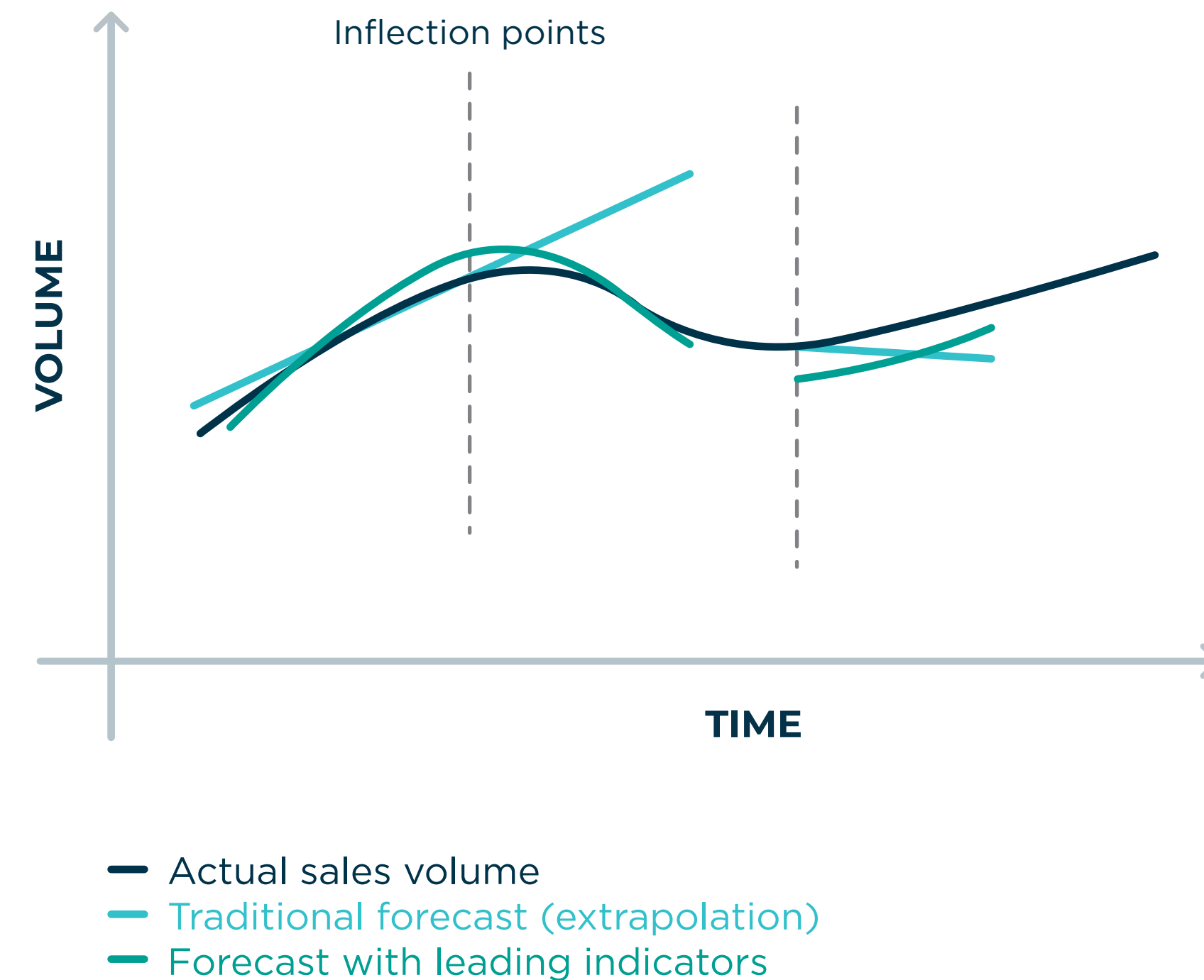
Introducing leading indicators at Solvay

Christian: "In January 2021, we started our Forecasting Improvement Program at Solvay to move from a classical statistical approach to an updated method using external data. To achieve this, we created a leading indicator forecasting model for our Automotive product line, together with Solventure. At first, it was difficult to convince our sales and business colleagues of the need to improve our forecasting, as we were already reaching all our supply chain goals: 'so why do we need to improve?'."

Nick: "But, when 3 months had passed, and the new model proved to identify sales turning points ahead of time and which the sales forecast missed, their ship started to turn. The business still had some reservations and wanted to take more time to confirm the validity of the new model, but eventually we succeeded in proving that this wasn't a fluke, and could the same forecasting model with external data could be rolled out to other markets of Solvay."
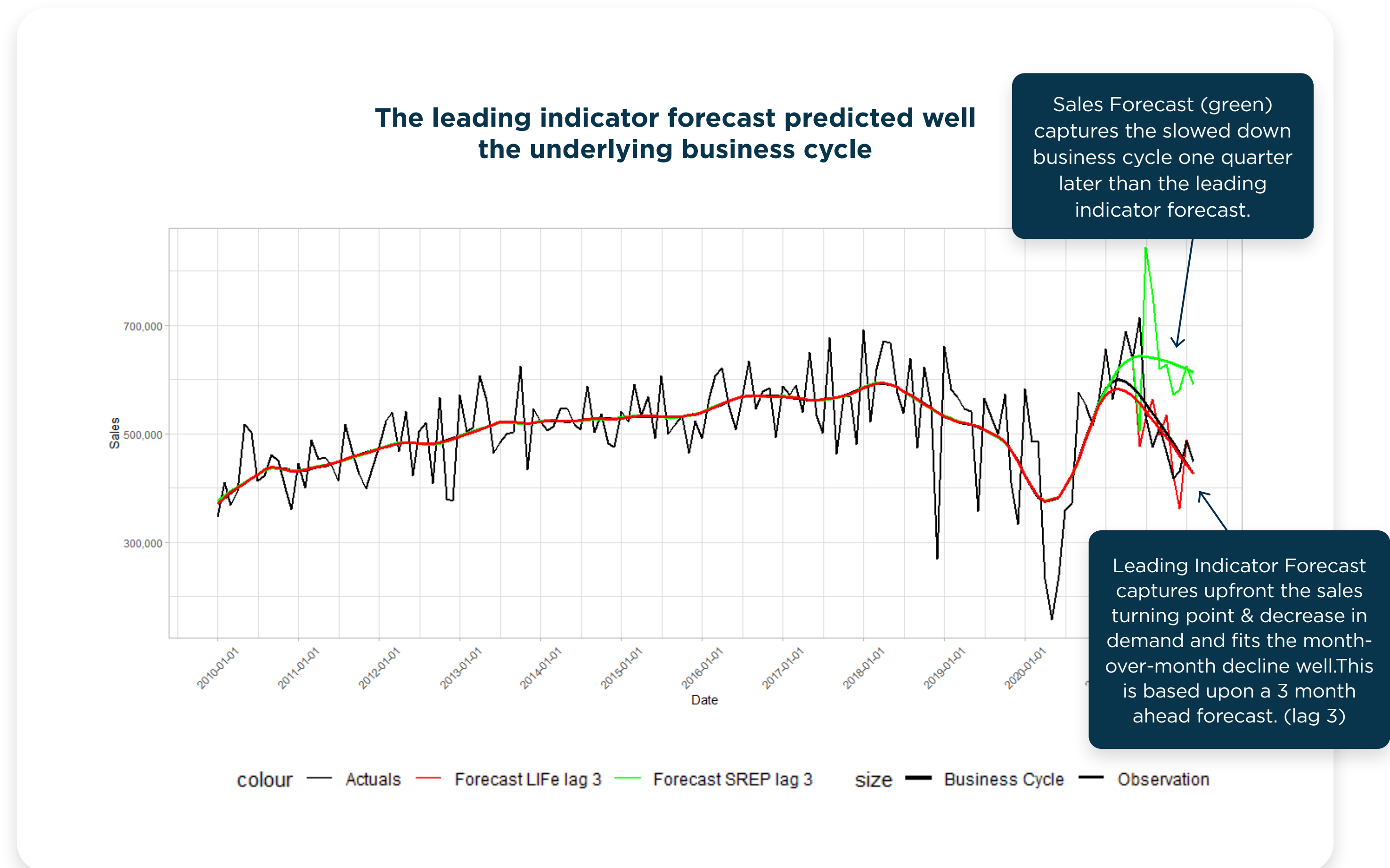
> Solventure's leading indicator forecasting model can **save Solvay 3 months' time to aid Solvay to identify and adjust market evolutions**, even if these aren't apparent in our Sales forecasting yet.

Results & lessons learned

Christian: "The eventual result of our Forecasting Improvement Program was that we could prove, qualitatively and quantitatively, that Solventure's leading indicator forecasting model can save Solvay 3 months' time to aid Solvay to identify and adjust to market evolutions, even if these aren't apparent in our Sales forecast or order book yet. With this model, we can have a a well-informed discussion about two forecasts made with different underlying assumptions. The forecast from the sales team with input from customer interactions on the one hand and the leading indicator forecast with macro-economic and market inputs on the other hand. The discussion is now centered around 'what is the gap between both?', 'do we understand the difference?', 'are we at a turning point and what is the risk?' instead of making a story why the bottoms-up sales forecast is right. And most importantly, by using the leading indicators, we managed to increase our lag 3 forecast accuracy to 90%, instead of 66% in bottoms-up sales forecasting."

Nick: "The combination of machine learning forecasting techniques and external data provides companies with the macro-economic baseline for collaborative forecasting and decision-making processes. S&OP decision making processes have to be extended with an executive Demand Management Review (DMR) that includes macro-economic & market inputs and that focuses on proactive discussions on sales turning points. Of course, the personal collaboration with sales and customers remains important, and only with the mix of both approaches will you be able to manage the forecasting challenge and find the optimal balance between supply and demand we are all looking for today!

The leading indicator forecast predicted well the underlying business cycle

Sales Forecast (green) captures the slowed down business cycle one quarter later than the leading indicator forecast.

Leading Indicator Forecast captures upfront the sales turning point & decrease in demand and fits the month-over-month decline well. This is based upon a 3 month ahead forecast. (lag 3)

ABOUT SOLVENTURE

As Solventure we challenge you to rethink supply chain thinking. We help you to transform your supply chain from an obstacle into a competitive edge. Stop regarding your supply chain in purely operational terms and strart aligning it with your business strategy instead. This shift in perspective, which we firmly stand for, is the best way to tackle supply chain issues and to provide a more agile way of fulfilling demand in the fast-evolving world around us. It's the key to driving value, on all business levels.

Check out our methodology, services and software solutions at www.solventuregroup.com or get in touch through contact@solventure.eu

READ MORE

Wondering how to incorporate external data in your forecasting process? Read all about the 4-step methodology in our E-book: anticipating sales turning points.

This E-Book describes how you can set up a system to anticipate sales turning points in just four steps. It also shows the benefits of this practice for the company in general and different departments in specific.