

Highly Commended Winner
Best Risk Management Solution

Avery Dennison Corporation

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Avery Dennison is a global materials science and digital identification solutions company. It is headquartered in Mentor, Ohio, USA and employs 35,000 people, with operations in more than 50 countries.

How Avery Dennison hedged FX risk with automated VaR solution

The challenge

Every corporate treasurer is mindful of the cost of hedging foreign exchange exposures, especially since it tends to get more expensive every year. But for many companies, hedging is essential, so the cost challenge became more contextual when central banks started to hike interest rates in the summer of 2021, widening interest rate differentials.

Avery Dennison's treasury team wanted to look at FX risk through a new lens. They wanted to reduce costs within acceptable risk levels, become more strategic and align with new risk management frameworks. The team wanted to shift from a basic 100% hedge of the balance sheet to an automated FX hedging programme to manage risk at portfolio level. The strategy involved identifying optimal hedging weights to meet achievable risk reduction targets at the lowest possible cost. In 2019 the company co-partnered with Citi to develop and back-test a spreadsheet model to hedge FX based on Value at Risk (VaR) that it applied to its monthly balance sheet FX exposures. However, the model was time consuming to run and when COVID-19 hit financial markets in March 2020 and the correlations broke, the company stopped the VaR hedging and decided to utilise that time partnering with Citi to develop a fully automated solution for the process.

The solution

Portfolio VaR is a statistical measure that factors in FX volatility and correlations between currencies to determine the overall risk of an FX portfolio. The higher the currency diversification in the portfolio, the lower the FX risk. Avery Dennison used this VaR approach to select FX hedge portfolios that would achieve maximum risk reduction for a certain cost of carry (efficient frontier curve).

In March 2023, Avery Dennison implemented the solution in the Kyriba treasury management system (TMS, FiREapps) with two aims:

1. All trading and exposure management could be automated.
2. FiREapps/Kyriba would develop an automated VaR solution to replace the spreadsheet model.

Once the exposure management was implemented, a rigorous six-month project followed to implement the VaR module which included extensive back-testing (including Black Swan events) to determine the risk parameters with the key objective to optimise hedging costs with minimal risk taking.

Extensive back-testing fine-tuned the model, after which Avery Dennison was able to set thresholds to reduce risk further:

- Maximum portfolio VaR of US\$250,000 at 95% confidence.
- No currency allowed an exposure above US\$10m.
- No more than two currencies allowed an exposure above US\$5m.

The automation provides results in minutes rather than hours. It also generates 10,000 portfolios with 100+ efficient portfolios to choose from, at which point Avery Dennison drills down to a selection of seven/eight portfolios by applying incremental savings in steps of US\$10,000.

From these portfolios, the EMEA Treasurer and Director Treasury choose the ultimate portfolio for the month using the one that generates the highest forward points savings, whilst still meeting the risk reduction thresholds.

The new automated VaR solution was implemented in March 2023 and has been operating successfully for 15 months.

The company has achieved significant savings of US\$~1m annualised in the previous fifteen months with minimal risk, with 11 positive months and four negative months.

Best practice and innovation

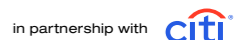
The company serves many industries worldwide. Implementing a solution that accounts for the correlations between currencies at portfolio level, instead of 'currency by currency', enables it to assess the real economic risk in FX portfolios. The strategy allowed Avery Dennison to control and manage risk by selecting the hedge portfolio that achieves its risk reduction goals.

Key benefits

- Cost savings.
- Process efficiencies.
- Return on investment (ROI).
- Increased automation.
- Risk mitigated.
- Errors reduced.
- Manual intervention reduced.
- Increased system connectivity.
- Future-proof solution.

Avery Dennison previously hedged 100% of their balance sheet exposures using FX forwards and incurred high hedging costs due to negative carry. They wanted to shift away from 100% hedge ratios to save on costs while keeping FX risk under control. Avery Dennison developed, in collaboration with Citi, an efficient frontier model to identify hedging weights that led to optimal FX risk reduction for a given cost of carry, hedging with forwards. This resulted in over US\$1m of savings on hedging costs.

Matthieu Brunet, EMEA Head of FX Structuring and Solutions, Citi



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At Kyriba, we are committed to connecting, protecting, forecasting and optimising our customers' liquidity and just as important, we always want to acknowledge our customers and those in our industry for their outstanding performance.

Congratulations to this year's nominees and winners. We are proud to be a part of an event that highlights the very best in our industry!

