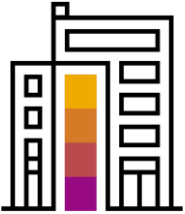




# SAP® Innovation Awards 2020 Entry Pitch Deck

Maximizing Revenue with Promotion Analyzer based on SAP HANA  
Machine Learning Capabilities

Rimi Baltic



## Company Information

<b>Headquarters</b>	Riga, Latvia
<b>Industry</b>	Retail
<b>Web site</b>	<a href="https://rimibaltic.com/">https://rimibaltic.com/</a>

ICA Gruppen (2018 10.9B EUR) is the parent company of Rimi Baltic (2018 1.5B EUR). Rimi employs over 11K people in all three Baltic countries (Estonia, Latvia, Lithuania). Rimi is one of the fastest growing retailers in the Baltic states. It operates four chains that are favorites among customers: Rimi Hyper, Rimi Super, Rimi Mini and Rimi Express. Rimi retails food, its own branded food, and mywear, Rimi-branded base ware. Rimi and ICA Gruppen promote food sustainability from field to production to a client's home. Part of Rimi's responsibility mandate includes promoting healthy lifestyles to its clients through customer magazines, recipes, websites, etc. Rimi is environmentally conscious as it runs its business. Rimi believes in ethical trade.

Rimi has been an SAP customer since 2005. Promotional sales contribute to 40% of Rimi's revenue, reaching new customers and improving customer loyalty. Rimi worked with SAP Innovative Business Solutions to develop a Promotion Analyzer to look at historical promotional data to optimize the mix for future promotions and to run what-if analysis to achieve desired outcomes (financially and competitively). The project was to augment manual analysis with SAP Sales Insights for Retail solution with an automated tool based on SAP HANA machine learning.

# Maximizing Revenue with Promotion Analyzer on SAP HANA

Rimi Baltic



Every week, 3M+ transactions are made by Rimi's customers in 270 stores and e-commerce sites across three Baltic markets, generating a yearly revenue of over 1B euros. Rimi is more than the products we sell. Rimi is on a journey, changing how millions of people shop by creating the shopping experience of tomorrow. We use the wealth of Rimi data to build a portfolio of AI/ML models and see the outcomes of our work in enhanced decisions and improved customer experience every day.

Martins Kezberis, Baltic Promo & Pricing Director, Rimi Baltic

## Challenge

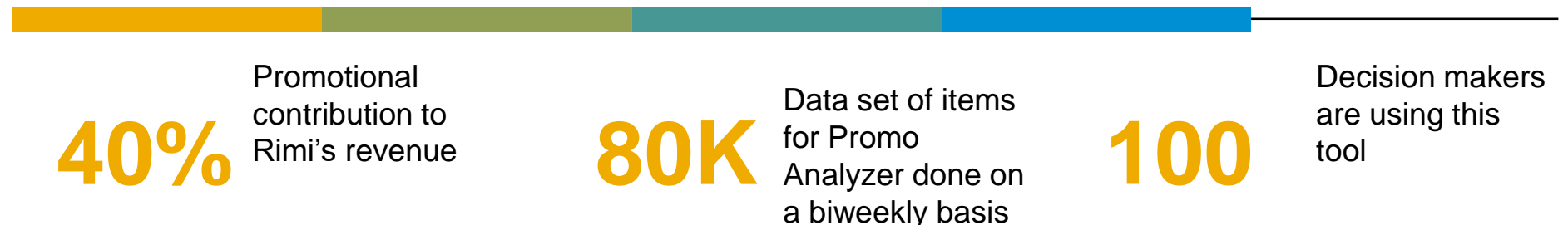
Run a promotion based on data to provide best decisions, visibility, and flexibility and augment manual analysis with SAP Sales Insights for Retail solution.

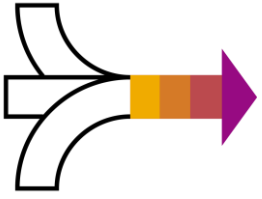
## Solution

SAP Innovative Business Solutions organization developed a Promotional Analyzer tool with both custom algorithms and SAP HANA Predictive Analytics Library-based algorithms to use both historical data and provide what-if-analysis to model and predict optimal promotions.

## Outcome

This multi-faceted tool has provided promotional insight that was not available before. The tool has a significant impact on revenue contribution as measured in Euros and product margins. It is being used for current Christmas promotions.





## Business Challenges and Objectives

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Promotions come with large costs, heavy discounts, and expenses. It is vital to understand the total impact of promotions. This project augmented manual analysis with SAP Sales Insights for Retail solution with an SAP custom developed machine learning-based tool that could handle all the permutations of potential impact from promotions based on historical data and provide simulation capability for what-if analysis. For example, cannibalization happens when customers buy higher volumes of a promoted item at the expense of a similar not promoted item, thus the group of similar items is cannibalized (see project details for more categories).

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Promotion Analyzer uses SAP HANA machine learning capability to classify promotions and quantify each promotional effect individually. The effects are summarized in an easy to understand waterfall model. Tool functionality and visual reports were targeted at different user groups (Promotion Manager, Promotion Group Manager, Promotion Analyst). For example, Rimi could zoom into an under-performing promotion to discover the root cause, customize assumptions and business models in user defined templates, set targets, perform what-if analysis on SAP Promotion Management for Retail (see architecture) defined offers and pick recommended offers.



## Project or Use Case Details

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In 01/19 Rimi reached out to SAP to further optimize promotional decisions and to extend the SAP Sales Insight for Retail pilot (08/19). SAP Innovative Business Solutions organization created a machine learning-based tool called Promotion Analyzer. SAP Innovative Business Solutions developed custom algorithms using SQL script for SAP HANA and used SAP HANA PAL algorithms to both use historical data to analyze the total business case of past promotions and allow simulation of the future impact of promotions. The tool is in production and being used in Rimi's Christmas 2019 promotions.

Historical data is based on POS transaction data, product and store master data, and promotion master data, and provides the impact on the overall business and how to optimize the promotion strategy. The tool simulates and optimizes future promotions based on different parameters. Based on the historical data, the tool computes various effects for each historic promotion. These effects, which add up to the total business impact of the promotion, are hoarding, cannibalization, increased consumption of the promoted item, net new customers for the promoted item, net new customers for the store, drag-along effects, cost of promotion, and vendor promo investments. For each historic promotion, the tool shows a summary of its effectiveness, including a waterfall diagram that visualizes how the different effects add up to a total business case for the promotion in question. The solution allows users to specify certain assumptions that are necessary to estimate its effects.

The tool will also allow the simulation of future promotional impacts in terms of incremental sales and incremental margin. Those effects are computed based on different parameters defined by the user: promo purchase price, discount depth, promo sales price, chosen tactic, current listing, location hierarchy, additional stores added by the user, and a possible funding sum provided by the vendors.



# Benefits and Outcomes

## Business or Social

Improve promotion  
decision/analysis process

Improve incremental sales  
margin

Improve price perception

Improve customer loyalty

## IT

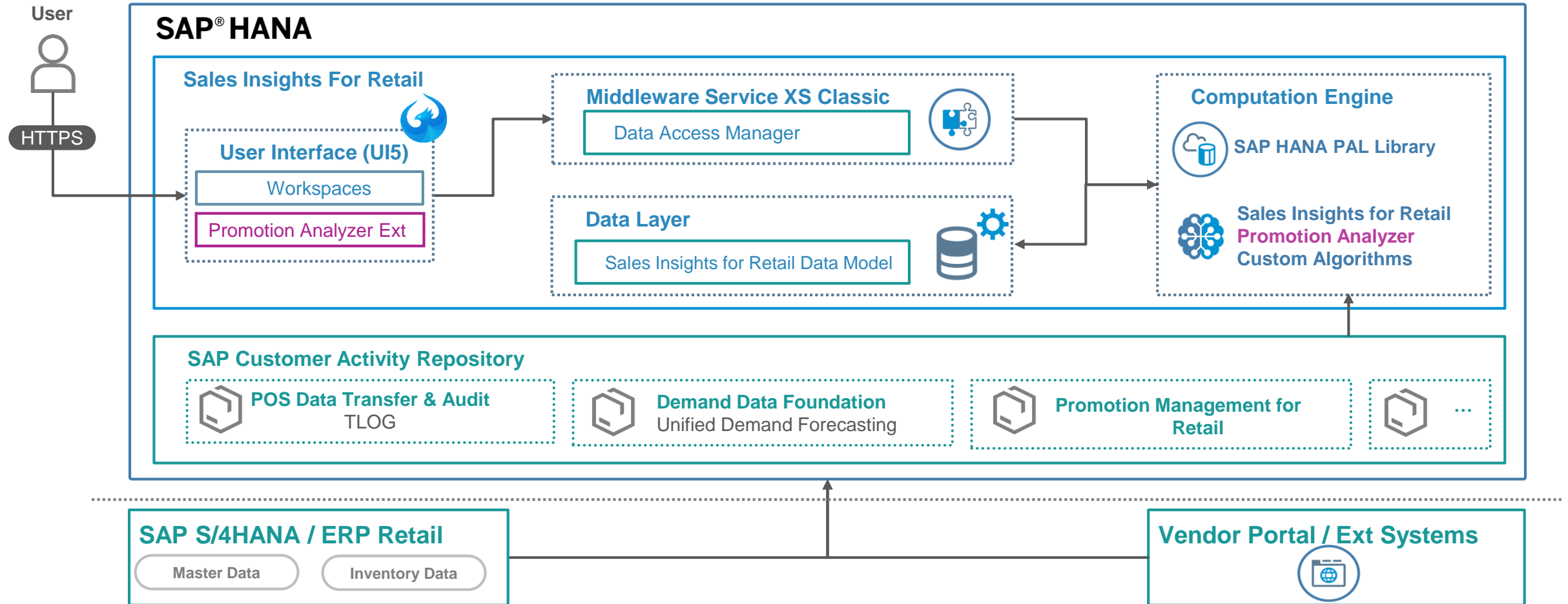
250M KPIs are addressed by  
the tool

## Human Empowerment

Data-driven decisions through  
smarter analytics

65K items are basis for  
promotions; tool allows decision  
making not possible before due  
to ability to model and analyze  
multifaceted promotional  
parameters based on historical  
data and predictive what if  
simulations

# Architecture





# Deployment



Deployment status      Live

Date                      11/19

Number of users      100

## SAP technologies used:

	SAP product	Deployment status (live or proof of concept [POC])	Contribution to project
1	SAP HANA	Live	Platform for data analytics and insights
2	SAP Customer Activity Repository	Live	Collect, cleanse , centralize POS data for analysis
3	SAP Sales Insight for Retail	Live	Market basket analysis tool

5  
If you have used one of the services or support offerings from SAP Digital Business Services during the implementation or deployment phase, please select with ☒ one or more of the following offerings:

- ☐ SAP MaxAttention™
- ☐ SAP ActiveAttention™
- ☐ SAP Advanced Deployment
- ☐ SAP Value Assurance
- ☐ SAP Model Company
- ☐ Others:
- ☐ SAP Innovation Services
- ☒ SAP Innovative Business Solutions

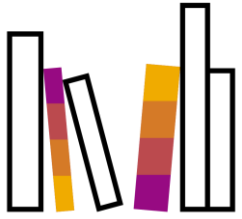




# Advanced Technologies

The following **advanced technologies** were part of the project.

	Technology or use case	Yes or No	Contribution to project
1	3D printing	No	
2	Blockchain		
3	Internet of Things (IoT)		
4	Machine learning or AI	Yes	Promotion Analyzer: SAP HANA PAL based and custom SAP HANA SQL algorithms
5	Conversational AI		
6	Robotic process automation		
7	Data anonymization		
8	Augmented analytics		



## Additional Information

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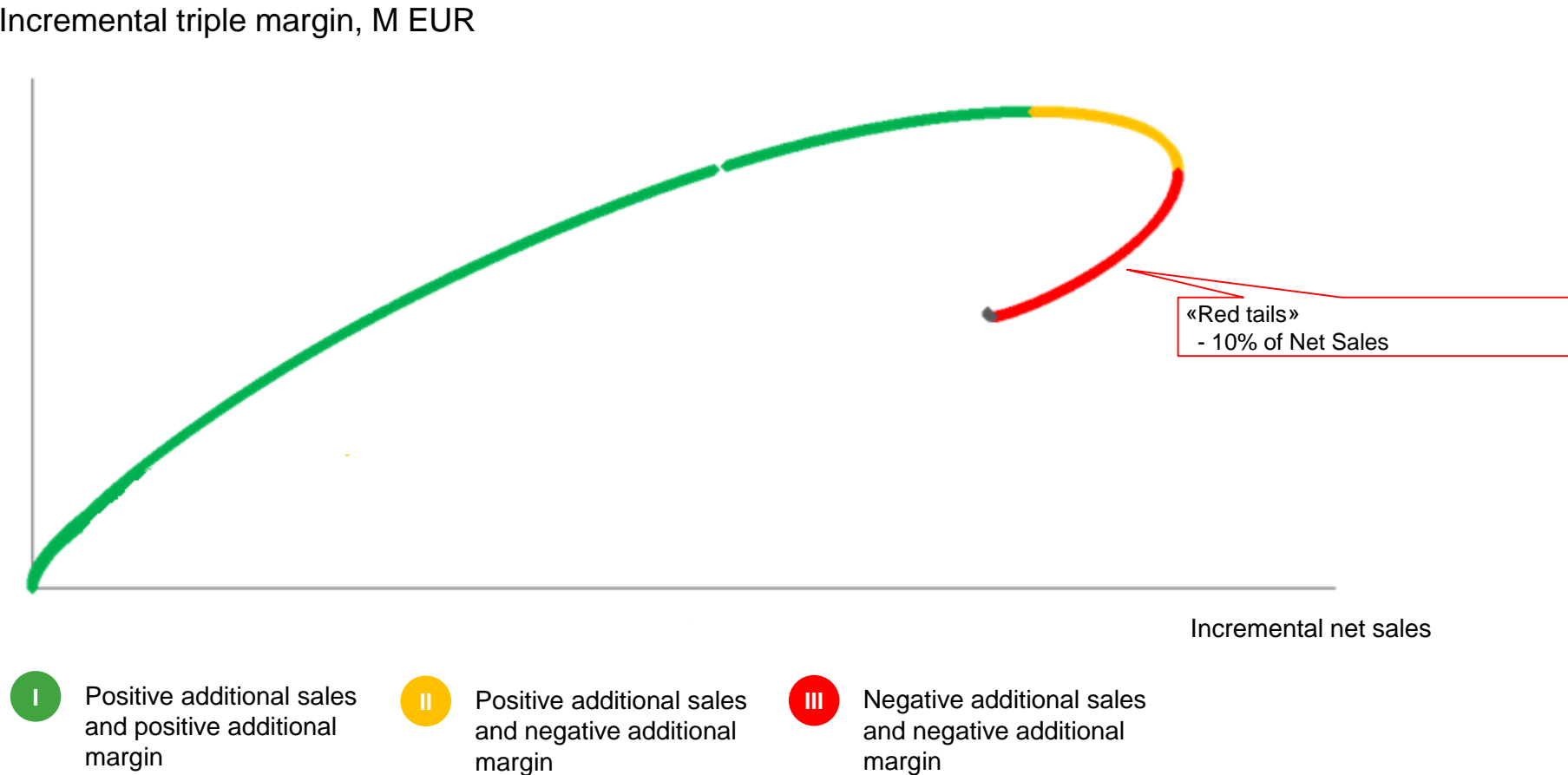
Promotion Analyzer: Rimi Annual Promotional Sales and Margin Contribution for Entire Baltic Region

Promotion Analyzer: Profitability Analysis Example

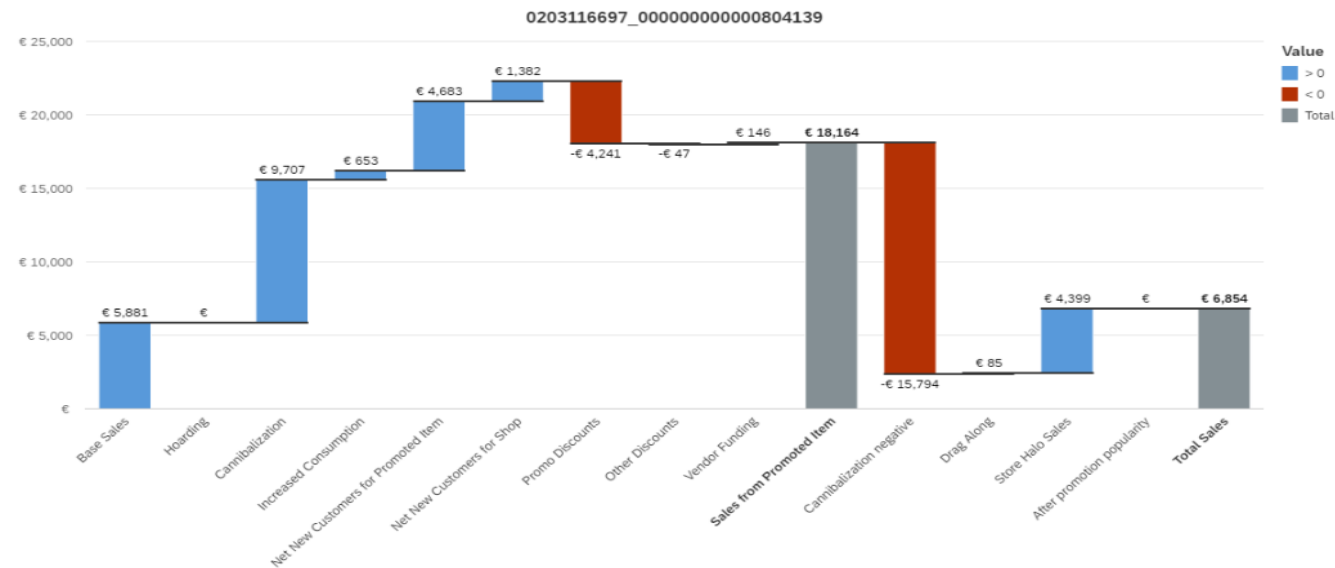
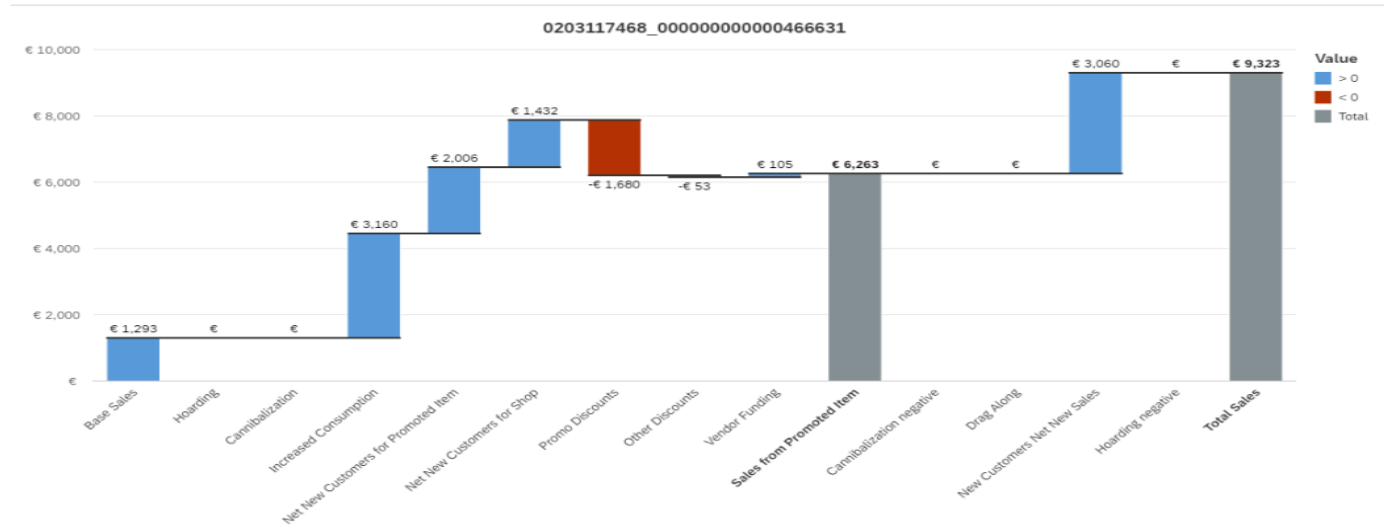
Promotion Analyzer: Impact of Promotional Parameters

Promotion Analyzer: Quantifies and Classifies Promotional Parameters

# Promotion Analyzer: Rimi Annual Promotional Sales and Margin Contribution for the Entire Baltic Region



# Promotion Analyzer: Profitability Analysis Example





# Promotion Analyzer: Quantifies and Classifies Promotional Parameters

## Vendor / Costs

What are the real costs and vendor funding?

## Loyal / Walk-In Customers

Are your loyal customers attracted to the promotion? Does the promotion attract new customers?

## Hoarding

Does the promotion change the basket multiplicity?

## Baseline

What should I compare my results on?

## Halo Effect

What are products are dragged along?

## Similar Product Group

How do I find similar products automatically?

## Uplifts

What uplift effects could I detect?

## Cannibalization

What products could be affected by the promotion?

## Bonus Buy

What is the effectiveness of my bonus buy campaign?

## Leaflet / Media / Extra Placement

What is the impact of the leaflet, media or extra placement?

