



TRANSFORMING YOUR BUSINESS WITH DATA

Trade Promotion Optimization

TPM/TPO: challenging for most, but companies who adopt data analytics outperform



86%

of CPGs don't have adequate resources to interpret analytics outputs

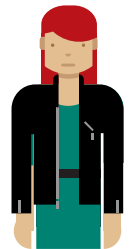
Data Analytics Manager



93%

of managers feel the entire process of creating a promotional plan takes a burdensome amount of time

Key Account Manager



85%

of managers said they have issues with getting retails to execute promotional plans as agreed upon

Trade Marketing Manager

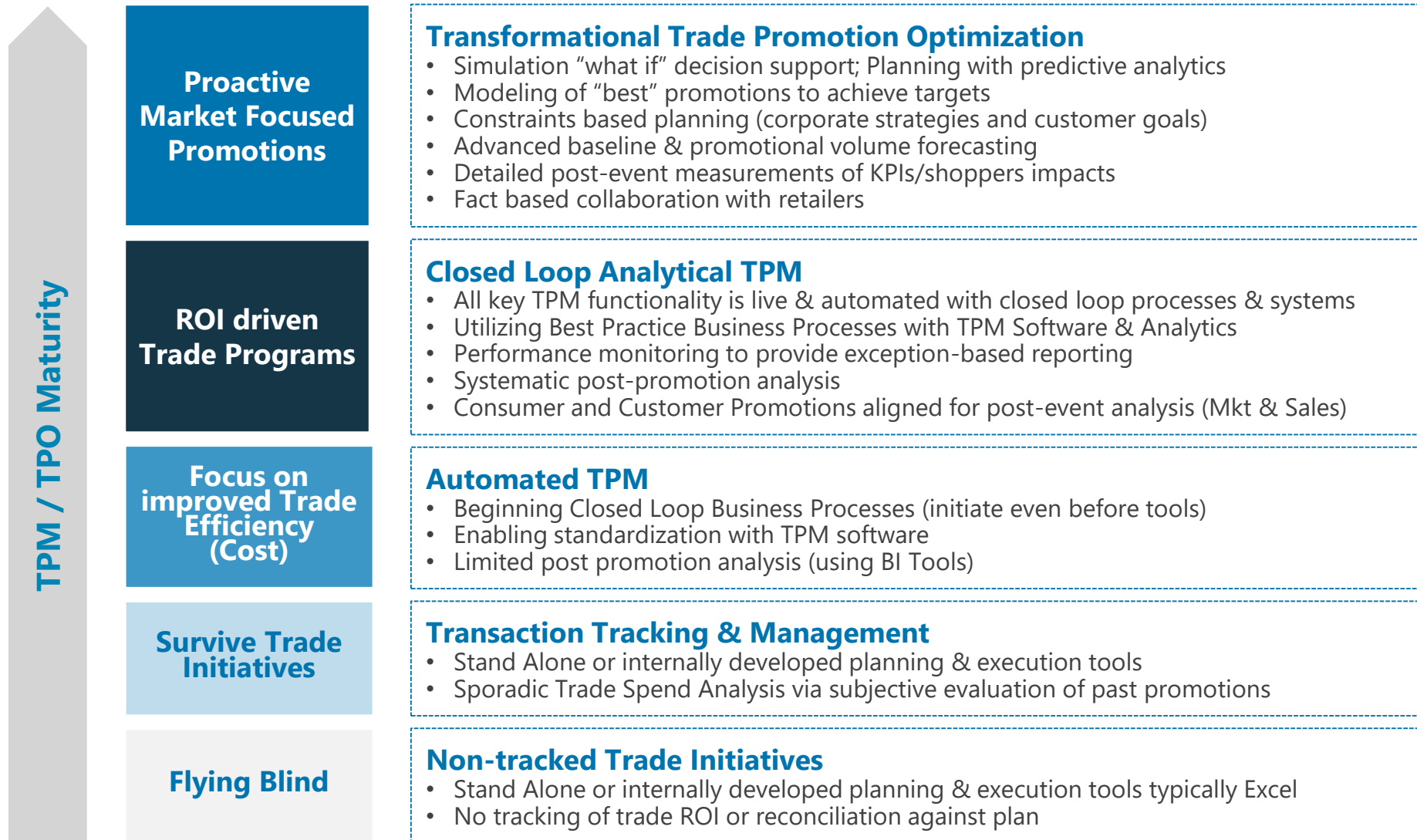


Outperforming CPGs All Adopted TPO & TPM Tools

"The winners' approach to trade investment is data driven. They differentiate trade investments using metrics that cover both outcomes and promo execution activities. They track a comprehensive set of key performance indicators."

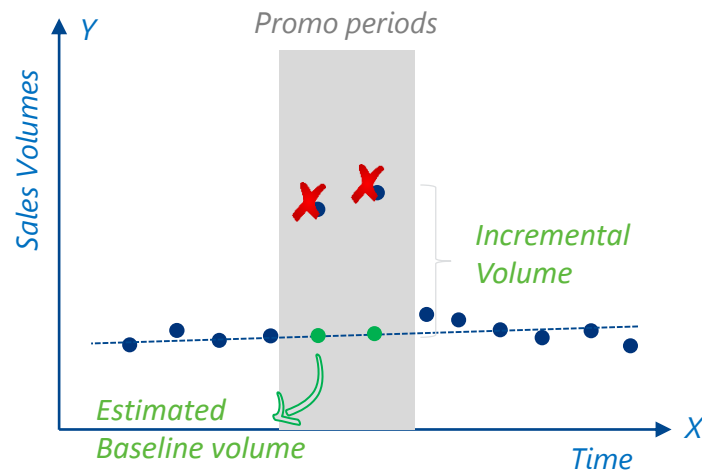
- McKinsey Industry Report

We Will Help Evaluate Your TPM/TPO Maturity



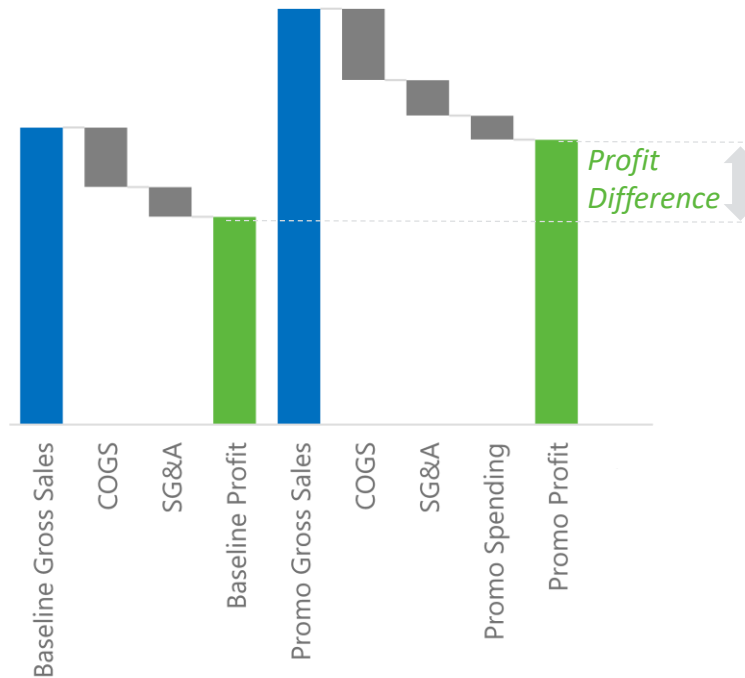
Machine Learning models leverage previous sales to predict future promotion performance

Sales analysis to estimates baseline



- Data models estimate sales volume if there were no promotion running. The estimation is baseline sales
- Baseline sales serve as basis for calculating promo profitability

Financial analysis focused on profitability



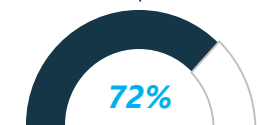
- Calculate impact of promotion by applying business rules
- Calculated promotion KPIs (e.g. net promo profit, promo uplift, promo effectiveness) will generate insights in historical promotion performance

Key factors in the past guide the future

Key variables in the past

Promo duration	Promo timing
Mechanic	Discount depth
Trade Spending	Holiday
Product segment	Applicable product

ROI of Future Promo



- Machine Learning is used to predict KPIs of future promotions, given time period, applicable products, applicable stores, and promo characteristics
- Predicted KPIs will guide future planning

An Italian-based food manufacturer maximizes promotion benefits by deploying advanced analytics solutions

OBJECTIVES

Barilla needed to enable their Key Account Managers to create trade promotion plans that optimize ROI, and guide trade marketing strategies

Barilla needed a tool to enable them to survive and thrive in the fast-changing and competitive market

TACTICS

Created a cloud-based analytics solution to evaluate cost and benefit of past promo events

Created AI predictions for promotion ROI for Key Account Managers on-the-go

RESULTS

Calculate baseline sales and estimate promo lift

Evaluate promo benefits and identify successful promos mechanics and tactics

Predict future promo ROI to guide planning strategies that optimize yields of cost and investment

"This solution fills a critical need for our key account managers and revenue growth management team to evaluate historical promotion performance and enable better promotion planning where both Barilla and our customers benefit in the future."

- Emilie Bianchi
Revenue Growth Manager, Western Europe, Barilla Group

Trade Promotion Optimization: Feature overview

Core



Post Event Promotion Analysis

Capabilities:

- Empower key account managers and trade marketing managers to understand promotion impact on sales
- Enable 360° evaluation of promo performance by different measurements and metrics

Business Impact

**Post Event Analysis &
ML Recommendations for
Better Promotion ROI**

Gold



Future Promotion ROI Optimization

Capabilities:

- Guide future promotion planning by recommending the optimal promotion (best timing, best product, best location, and best mechanic) for each customer, store, etc.
- Predict sales performance during future promotion periods through a user-friendly simulator interface

Business Impact

**Improved Promotion Planning
& Promotion Response
Simulation**

Platinum



Promotion Calendar Planning

Capabilities:

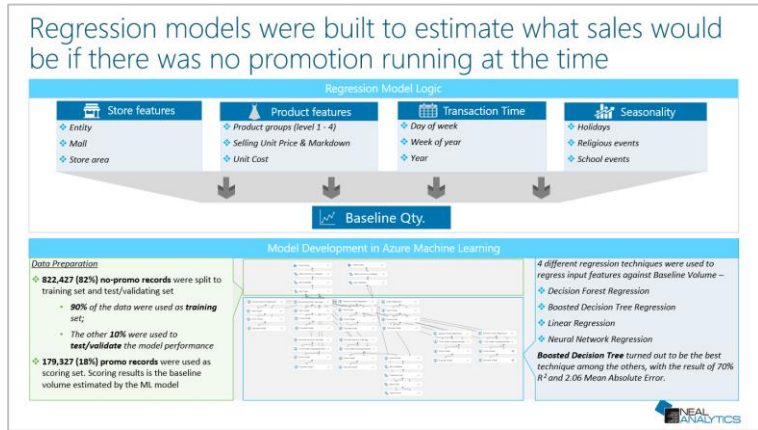
- Improve the accuracy of demand forecast for continuous future period
- Create, plan and manage promotion events on an easy-to-navigate calendar application
- Enable rapid responses to campaign performance through managing promotion events on-the-go

Business Impact

**Increased Forecasting
Capabilities and Promotion
Calendar Management**

Trade Promotion Optimization: Deliverables

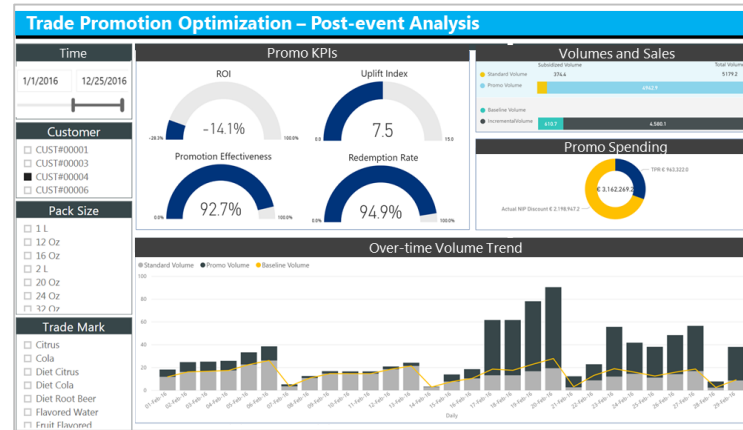
Machine Learning Models



Description

- The appropriate modeling approach is defined based upon customer needs (exponential smoothing, regression, ensemble, etc.)
- Models are developed using multiple layers of business logic and multiple data sources to evaluate past promotion performance and predict future promotion success.
- The model results are evaluated and business insights are revealed to guide strategic planning and decision making.

Post-event Analysis Report

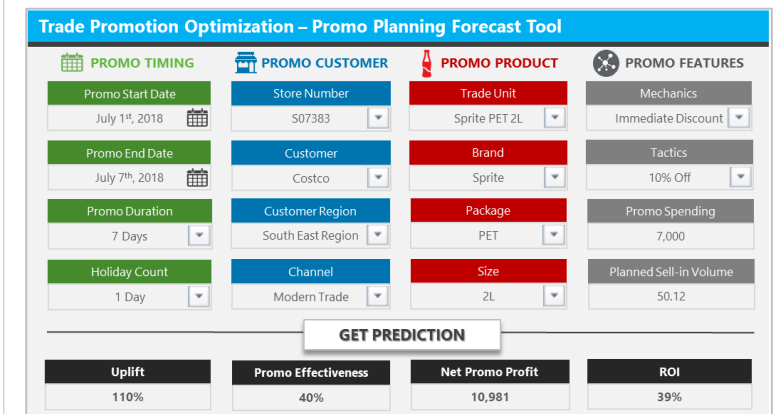


Description

An interactive dashboard in Microsoft Power BI that allows users to evaluate past promo performance by:

- Analyzing past promos by region / time / customer / product / mechanic
- Evaluating past promos through different KPIs
- Visualizing promo impact on sales
- Understanding over-time sales trend
- Identify top and flop past promotion events

Promo Planning App⁽¹⁾



Description

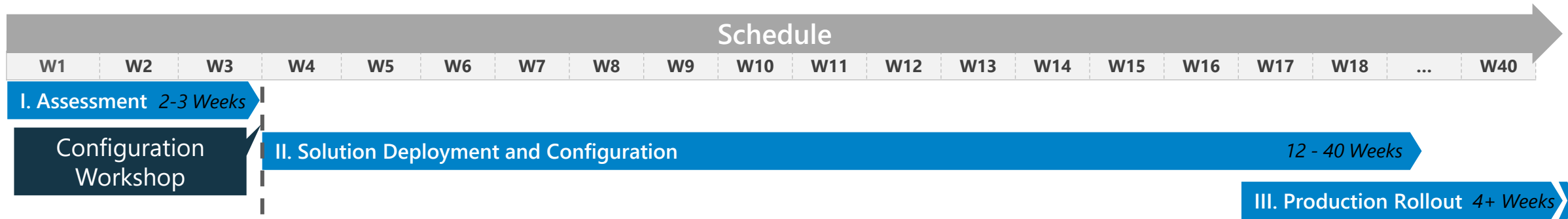
A sophisticated tool that provides promotion calendar functions and planning optimization through machine learning outputs:

- The user will key in attributes of future promo events under planning
- Get optimized promotion plans from Azure Machine Learning
- Get predictions for various KPIs from a set of Machine Learning models

⁽¹⁾ Options are provided at different cost level (e.g. software app, web UI, Power App, Excel)

Trade Promotion Optimization: deployment timeline

Example



I. Opportunity Assessment (Optional)

Cost: \$20k

- Neal works with the client team to analyze a sample dataset with the information to build an initial assessment
- Observe the data quality and provide guidance for future data engineering and modeling
- Provide a sample output of some model results using the sample data

II. Solution Deployment

Cost: \$220k+ (Subject to Assessment)

- Neal Analytics team will hold a workshop with analytics team members and business stakeholders to determine key solution features and configuration
- The Neal team will then spin up the solution and work with key users to apply business logic to estimate baseline sales, calculate incremental impact, iterate the reporting interfaces, and build forecast models

III. Production Rollout

Cost: \$20k-\$40k per month

- Select a test market for validation of solution value and measure impact in a 2-3 month test
- Configure data connection automation and user identity for full production access and ongoing updates
- Deliver executive presentation on test results and solution impact

ACTIVITIES

DELIVERABLES

- PowerPoint deck with an overview of the initial findings
 - Data quality assessment and basic Exploratory Data Analyses
 - Detailed project plan and updated timeline once the detailed approach has been determined
- Recommendations on next steps

- Post-event analyses report to evaluate historical promotion events in Power BI format
- An application to call the live machine learning model to give predictions on promotion ROI. This app is customizable and can be delivered as a web app, desktop app, or even in Excel.
- Final presentation of project recap, data science approach, results evaluation, final data findings, and business recommendations

- Solution up and running in the hands of the client's analytics and operations teams
- Case study to analyze the solution impact
- Incremental solution capability updates
- Additional customizations available ad-hoc via consulting engagements

Neal Analytics' Agile program model

Engagement Model



Flexible, Balanced Team

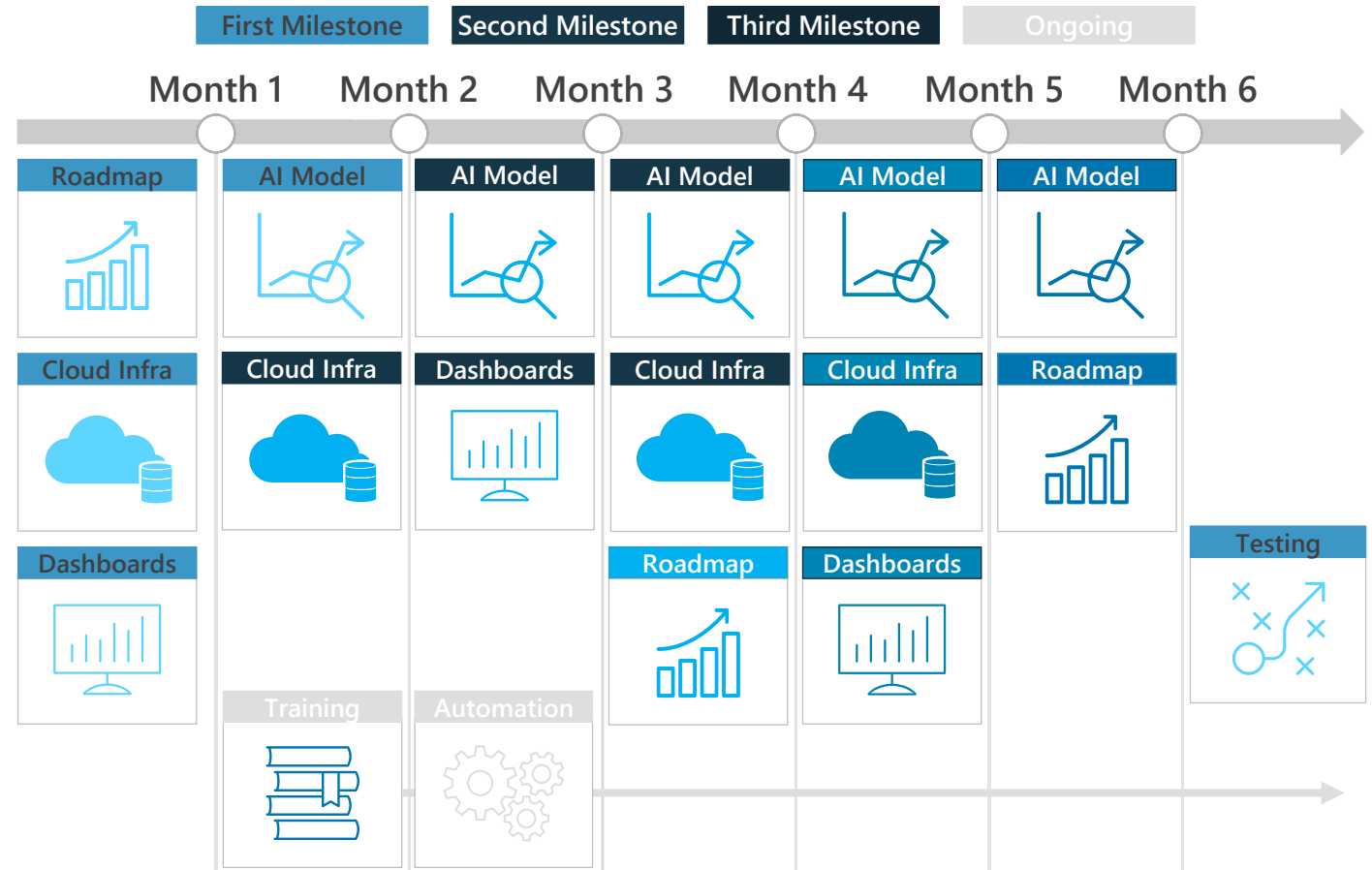


Retainer-based

Description:

- Leverages Agile Methodology
- Adjustable Team Size (Scale Up/Down)
- Balanced Team with multiple skills:
 - MC, PM, DS, DE, Arch, PBI, etc.
- Flexibility to pivot as workstream demands
- Phased, stage-gate delivery approach
- Establish a foundation for repeatable analytics

Illustrative Timeline and Deliverables*



**Estimates are subject to change based on gained realities and engagement's evolution over time*

Example Program Team and Monthly Budget

Neal Analytics Team	
Personnel	Responsibilities
Digital Consultants	<ul style="list-style-type: none">• All-up program success• Digital roadmap generation and stewardship• Business value crafting
Project Manager	<ul style="list-style-type: none">• Develop plans to deliver initiatives and manage resources to deliver, including user stories & tasks• Responsible for delivery quality, timeline, and budget management• Liaison as a single point of contact
Architects	<ul style="list-style-type: none">• Ensure development and automation tasks are delivered successfully• Operate as point of escalation for technical issues• Ensure security and GDPR compliance of solution• Test and QC of design and deliverables
Data Scientists	<ul style="list-style-type: none">• Responsible for data modeling and development of machine learning algorithms• Configuration and application of business logic• Enhance and improve models as necessary
Data Engineers	<ul style="list-style-type: none">• Process and cleanse data from required data sources for loading into analytics infrastructure• Develop the data pipeline (for updates and automation)• Provide integration with operational systems



Who we need from the Client Team **		
Personnel	Count	Responsibilities
Innovation/ Project Manager	1X (50% time)	<ul style="list-style-type: none">• Supporting Program Manager and driving internal alignment to business goals• Interfacing with key stakeholders, guiding the Neal Analytics team to data or those with insights into business logic, processes, and workflows
Business SMEs, End Users, Designers	Rotate in as applicable (10% time)	<ul style="list-style-type: none">• Provide insights on existing business processes, product trial knowledge, etc.• Support and validate assumptions on consumer trends, behaviors, etc.
Data Engineers, Analysts	1-2X (25-50%)	<ul style="list-style-type: none">• Process and cleanse data from required data sources for loading into cloud services• Develop frameworks for data pipeline (updates and automation)• Provide necessary data/model outputs for integration with operational systems

*** Client may optionally choose to add/removed additional technical (i.e. Data Science and Data Engineering) or business team members as the project proceeds. These resources should assume a 25% utilization as the project team is available.*

Cost: USD \$##K/Mo; Initial Commit for # months

Analytics as a Service. What is it? What am I buying?

Engagement Model



Initial Tenure: 6 month commit



Methodology: Agile



Contract Structure: Services Retainer



Initial Team Size: 6 FTEs



Cancellation : 2 months notice



Multi-disciplinary team

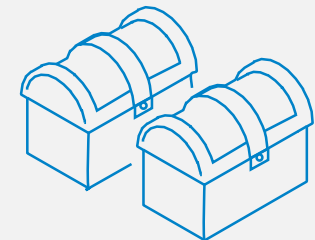


DS, DE, Arch, PM, MC, etc.

Playbooks



Assets



Proposed next steps

Deep Dive Call



Further Assess Trade Promotion Needs



Review each relevant offering in detail with your business decision makers to narrow down options

Data Readiness Evaluation



Our Consultants Will Analyze Your Data for TPO Readiness



Understand your data and business needs to scope the optimal engagement required

Build a proposal for beginning an engagement with Neal Analytics

Onsite Workshop



Align on Functionality and Build Roadmap



Bring executive leadership together for alignment and prioritization of among the various available features



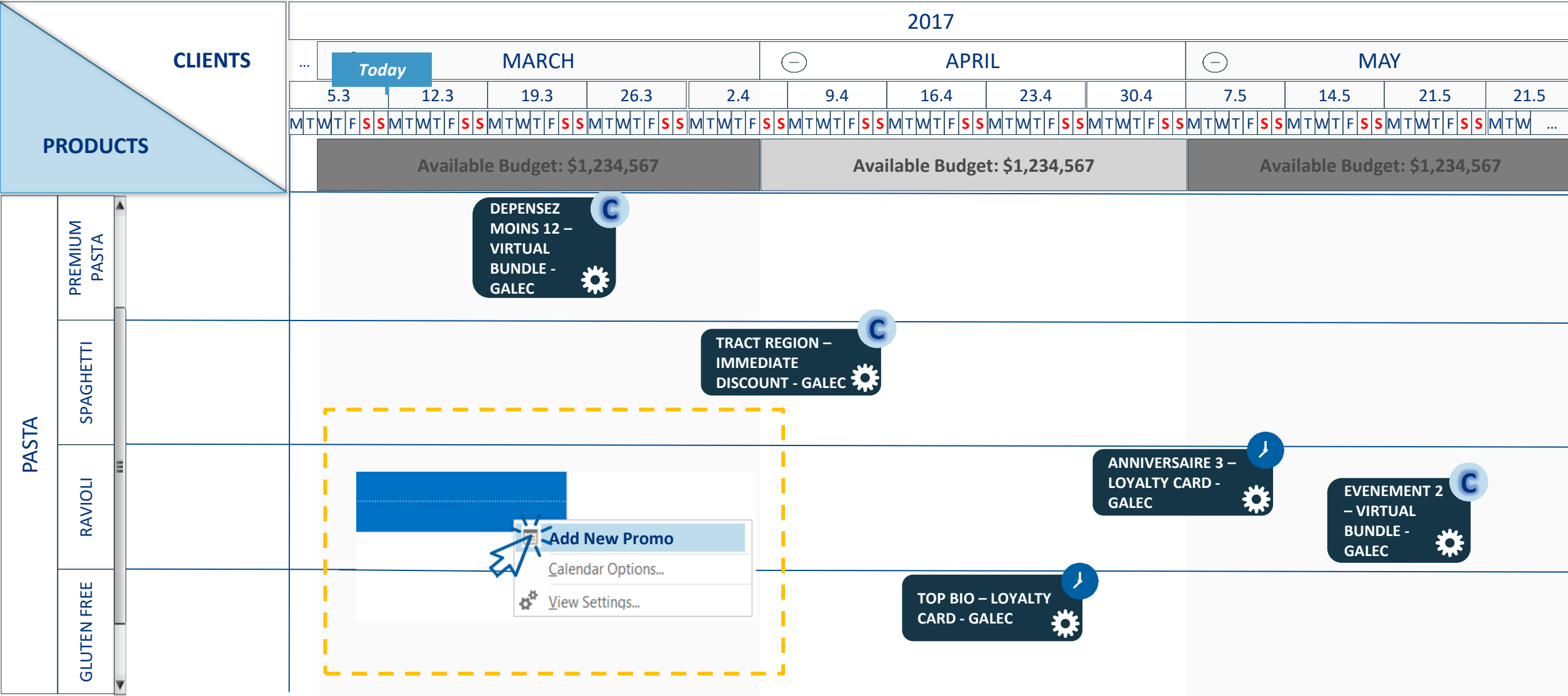
TRANSFORMING YOUR BUSINESS WITH DATA

nealanalytics.com

Promotion Calendar Application

CLIENTS		2017																																					
		...	Today					MARCH					⊖	APRIL					⊖	MAY																			
		5.3	12.3	19.3	26.3	2.4	9.4	16.4	23.4	30.4	7.5	14.5	21.5	21.5																									
		MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	MTWTFSS	...									
PRODUCTS		Available Budget: \$1,234,567														Available Budget: \$1,234,567														Available Budget: \$1,234,567									
		⊖ Women's Pants	Sweat Pants	<div><div>10 DAY BUNDLE #12 - VIRTUAL BUNDLE - FABERGE</div><div>IMMEDIATE DISCOUNT - FABERGE</div><div>66.33.01 - LOYALTY CARD - FABERGE</div><div>DRESS 2 - IMMEDIATE DISCOUNT - FABERGE</div><div>EVENT 2 - VIRTUAL BUNDLE- FABERGE</div><div>JEANS 3- IMMEDIATE DISCOUNT - FABERGE</div></div>																																			
			Leggings	<div><div>PROMO NAME: 10 Day Bundle #12 CUSTOMER: Faberge MECHANIC.: Virtual Bundle TACTIC: 3 FOR 2 CATEGORY: PANTS SEGMENT: WOMENS VOLUME: 543.88 SELL-IN 2.3.2017 - 13.3.2017 SELL-OUT: 14.3.2017 - 23.3.2017 ROI: 82% UPLIFT: 154% PROMO EFFECTIVENESS: 72% REDEMPTION RATE: 69% ...</div></div>																																			
			Dress																																				
			Jeans																																				

Planning Design Model - Adding a new Promotion



Statuses Legend:

Proposed

Confirmed

Released

Completed

Planning Design Model - Accepting system proposal on Mechanics and Tactics

Header

PROMO DESCRIPTIONREUSSIR SA..

PROMO NAMEBLUE BOX #1

HIGHLIGHTS

OFF

ON

DISPLAYS

OFF

ON

FEATURE

OFF

ON

LEAFLET

OFF

ON

Customer

CLIENTGALEC

PLANNING LEVELNCD

COVERAGEALL STORES

STORE FORMATHYPERMARKET

EXPECTED WD20%

Period

SELL-IN DATES21/02 – 19/03

SELL-OUT DATES06/03 – 20/03

ENGAGEMENT DATES21/02 – 20/03

Product

PRODUCTPASTA > BLUE BOX

BRANDBARILLA

SELECT TRADE UNIT

SELL-IN

Tons

RSP

1/4P. MULT. CAPELLII 500X6 F. BA

24,5

0,85

1/4P. MULT. SPAGH. TI 500X6 F. BA

15,0

0,95

PROMO FEATURES

Mechanics

Tactics

SPENDING

Redemption Rate

TPR REM.

TPR RENF.

NIP (€)

DISC. DEPTH

MAN. FEE (€)

HINT

Given available information, for that product, Virtual Bundle is the most effective Mechanic in terms of ROI % and Promo Effectiveness

Accept

SELL-OUT

Volume & Sales

Tons

€

BASELINE

TBD

TBD

INCREMENTAL VOL.

TBD

TBD

PROMO

TBD

TBD

STD

TBD

TBD

TOTAL

TBD

TBD

KPIs

Expected

Actual

ROI %

TBD

TBD

UPLIFT %

TBD

TBD

PROMO EFFECTIV.

TBD

TBD

REDEMPTION RATE

TBD

TBD

FORWARD BUYING

TBD

TBD

Planning Design Model - Updating expected Key Figures and KPIs

Header

PROMO DESCRIPTIONREUSSIR SA..

PROMO NAMEBLUE BOX #1

HIGHLIGHTS

OFFON

DISPLAYS

OFFON

FEATURE

OFFON

LEAFLET

OFFON

Customer

CLIENTGALEC

PLANNING LEVELNCD

COVERAGEALL STORES

STORE FORMATHYPERMARKET

EXPECTED WD20%

Period

SELL-IN DATES21/02 – 19/03

SELL-OUT DATES06/03 – 20/03

ENGAGEMENT DATES21/02 – 20/03

Product

PRODUCTPASTA > BLUE BOX

BRANDBARILLA

PROMO FEATURES

SELECT TRADE UNIT

SELL-IN

	Tons	RSP
1/4P. MULT. CAPELLI 500X6 F. BA	24,5	0,85
1/4P. MULT. SPAGH. TI 500X6 F. BA	15,0	0,95

SPENDING

Mechanics	Tactics	Redemption Rate	TPR REM.	TPR RENF.	NIP (€)	DISC. DEPTH	MAN. FEE (€)
VIRT. BUND	2 FOR 1	85%	5%	10%	13.000	50%	2.000
VIRT. BUND	3 FOR 2	85%	10%	10%	9.000	33%	1.400

(Numbers from ML APIs)

SELL-OUT

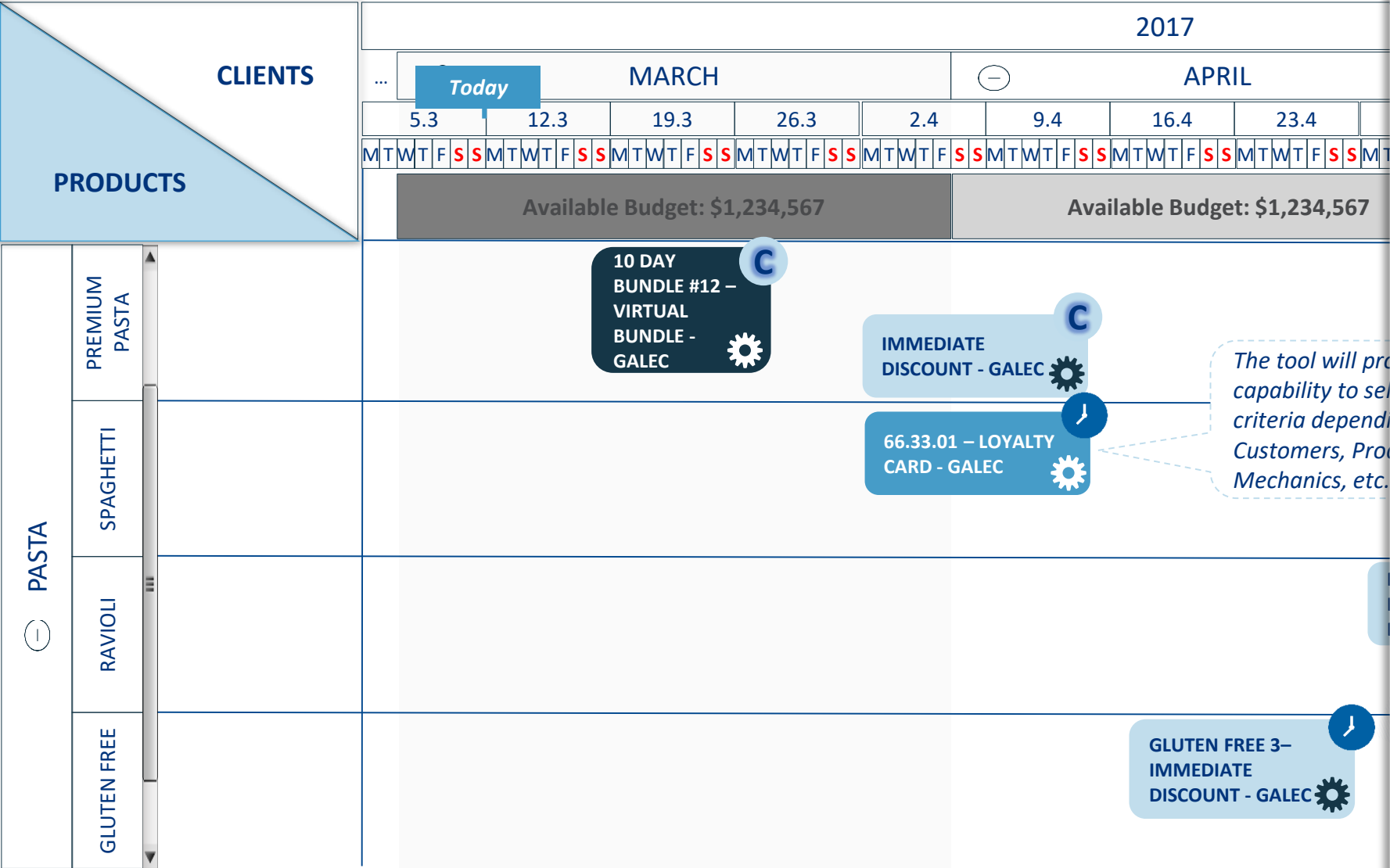
Volume & Sales

	Tons	€
BASELINE	13,28	16.278,49
INCREMENTAL VOL.	20,22	23.876,92
PROMO	26,03	30.287,67
STD	7,47	9.867,74
TOTAL	33,50	40.155,41

KPIs

	Expected	Actual
ROI %	105%	TBD
UPLIFT %	146%	TBD
PROMO EFFECTIV.	77%	TBD
REDEMPTION RATE	85%	TBD
FORWARD BUYING	7,3 Tons	TBD

Planning Design Model - Choosing specific filtering options





FILTERS OPTIONS

CLIENT

NATIONAL CUSTOMER ☐

BANNER ☒

SELECT

SELECT

PROMO PLANNING CLIENT LEVEL

NCD

CPU

LDP

SHIP-TO

PRODUCT

CATEGORY ☒

SEGMENT ☒

SELECT

SELECT

MECHANICS ☒

TACTICS ☐

☒ VIRTUAL BUNDLE

☐ LOYALTY CARD

☐ IMMEDIATE DISCOUNT

☐ MANAGEMENT FEE

SELECT

Statuses Legend:

-  Proposed
-  Confirmed
-  Released
-  Completed

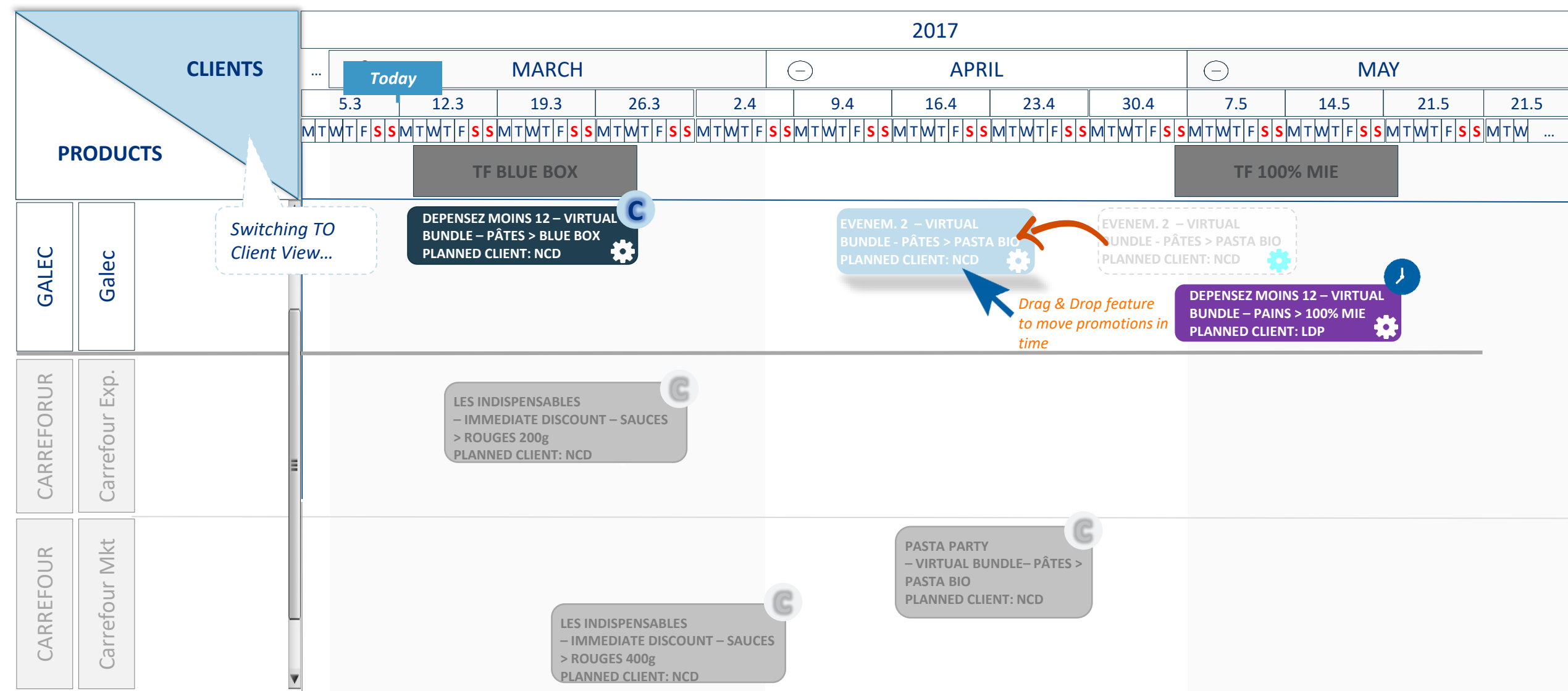
- ❖ The KPIs displayed are
- ❖ Altered by the filters previously applied and always **refer to the planning layout visualized in a specific moment**
- ❖ to be considered **Balance To Go (BTG) figures**

VOLUME	BASELINE	INCREMENTAL VOLUME	FORWARD BUYING	ROI	UPLIFT	PROMO EFFECTIVENESS	REDEMPTION RATE
640.000 (TO) 704.000 k€	256.000 (TO) 2434.000 k€	384.000 (TO) 461.000 k€	20.000 (TO) 3.000 k€	84%	148%	68%	91%

 Proposed
  Confirmed
  Released
  Completed

Planning Design Model

Leveraging on Drag & Drop capability



Statuses Legend:



Proposed



Confirmed



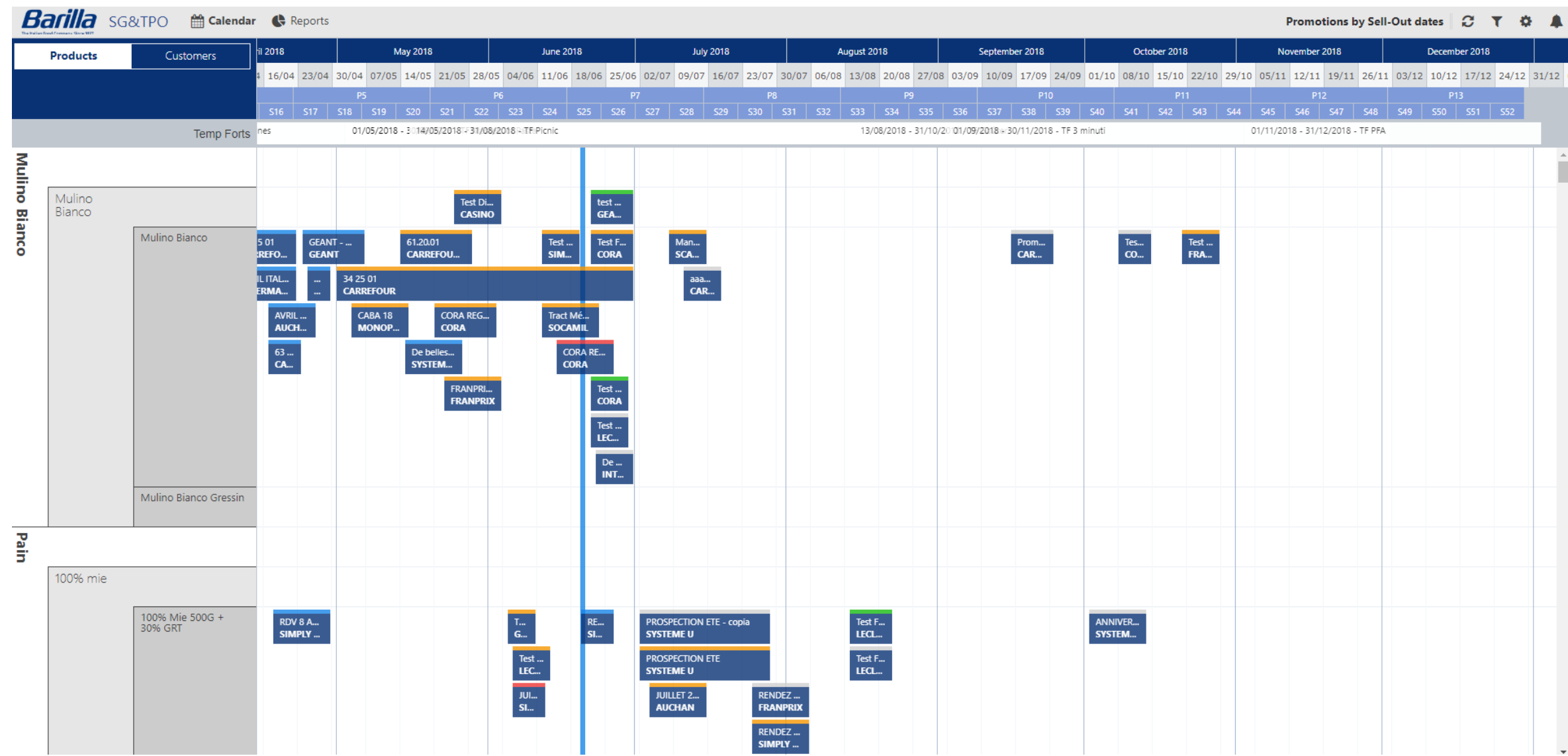
Released



Completed



Screenshots of Actual Calendar App Built for Barilla



Screenshots of Actual Calendar App Built for Barilla

Barilla

SG&TPO

Calendar

Reports

Header

Status

Planned

Promo Id

19750

Promo Code

19750

Promo description

Test FF2 14052018

Temp Forts

Choose...

Attributes

Carte Fidélité

Encart Trade

General notes

Customer

Coverage

National

Client

PROVERA - CORA

Planning Level

CORA

Store format

Supermarket

Vitesse

90

Period

Engagement

08/10/2018 - 14/10/2018

Sell-in dates

01/10/2018 - 14/10/2018

Sell-out dates

08/10/2018 - 14/10/2018

Products

Product

Choose...

Brand

Mulino Bianco

Simulate

Save & Promote

Save

+ Trade Units

Product Features

Sales Figures

Promo Features

Spending

KPIs

Mechanics

Tactics

Disc Depth (%)

Disc CU + VAT (€)

Disc CU (€)

✖ 1000015658 ABBRACCI MB GR350 X 12PZ EU (PCB: 12) (EAN: 8076809070850)

Immediate Discount %

1%

1

0,02

0,019

Planned

0

0

0

Estimate

0

0

0

Actual

✖ 1000015659 PAN DI STELLE GR350X12PZ EU (PCB: 12) (EAN: 8076809070867)

Virtual Bundle

3 POUR 2

33,33

0,667

0,632

Planned

0

0

0

Estimate

0

0

0

Actual

NEAL
ANALYTICS

Screenshots of Actual Calendar App Built for Barilla

Barilla

SG&TPO

Calendar

Reports

Header

Status

Planned

Promo Id

19750

Promo Code

19750

Promo description

Test FF2 14052018

Temp Forts

Choose...

Attributes

Carte Fidélité

Encart Trade

General notes

Customer

Coverage

National

Client

PROVERA - CORA

Planning Level

CORA

Store format

Supermarket

Vitesse

90

Period

Engagement

08/10/2018 - 14/10/2018

Sell-in dates

01/10/2018 - 14/10/2018

Sell-out dates

08/10/2018 - 14/10/2018

Products

Product

Choose...

Brand

Mulino Bianco

Simulate

Save & Promote

Save

+ Trade Units

Product Features

Sales Figures

Promo Features

Spending

KPIs

	Unit Net Sales Promo	Net Sales Promo	Promo Profit	Incremental Volume	ROI	Consider for Calculation	
	(€) / tons	(€)	(€)	(%)	(T)	(%)	
<div><div>✖</div><div>1000015658 ABBRACCI MB GR350 X 12PZ EU (PCB: 12) (EAN: 8076809070850)</div></div>	Estimate 3 838,27	383 826,56	105 664,56	27,53	0	0	<input type="checkbox"/>
	Actual 0	0	0	0	0	0	<input type="checkbox"/>
<div><div>✖</div><div>1000015659 PAN DI STELLE GR350X12PZ EU (PCB: 12) (EAN: 8076809070867)</div></div>	Estimate 2 303,36	230 335,96	18 926,96	8,22	0	0	<input type="checkbox"/>
	Actual 0	0	0	0	0	0	<input type="checkbox"/>