

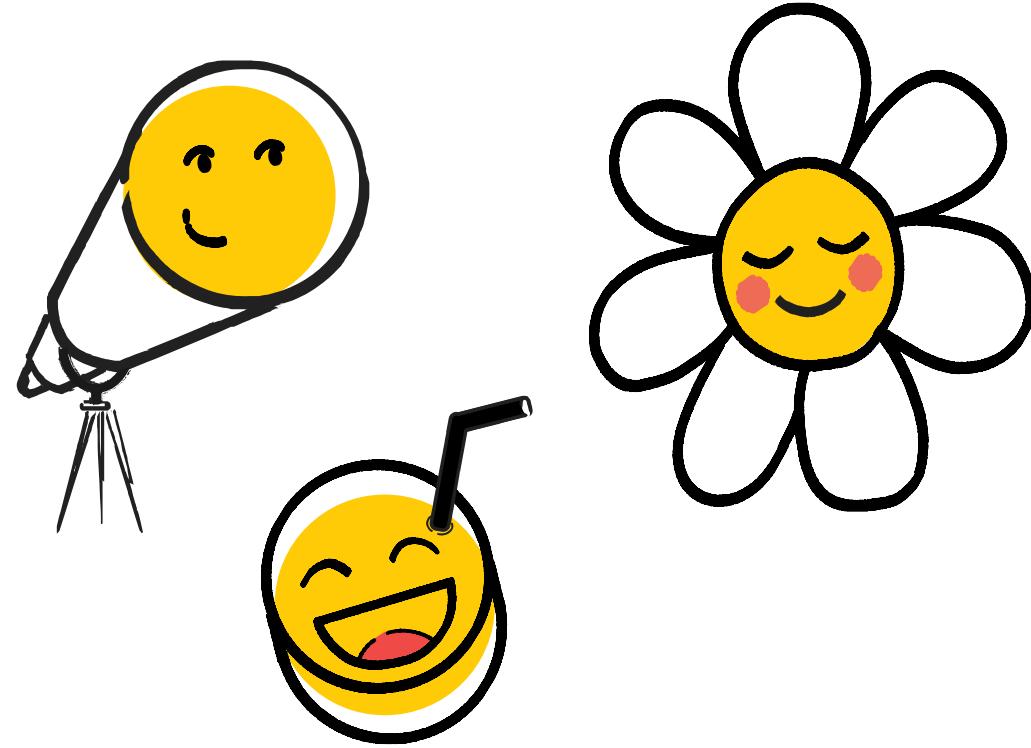


# A.S. Watson Group

## Big Data 2023 Town Hall

19 Jan 2023

To put a *Smile* on our customers' faces  
today and tomorrow ☺

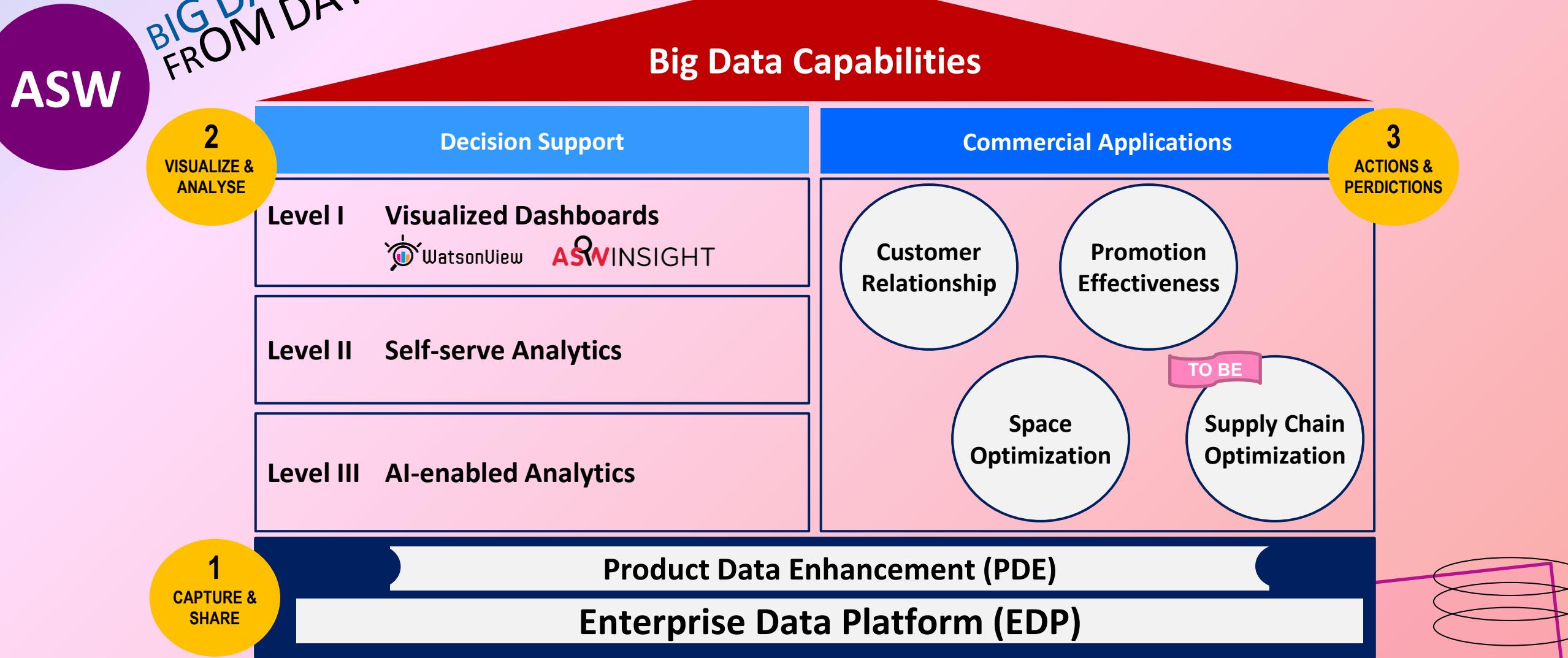


THERE IS ALWAYS  
A REASON TO  
*Smile.*  
FIND IT!

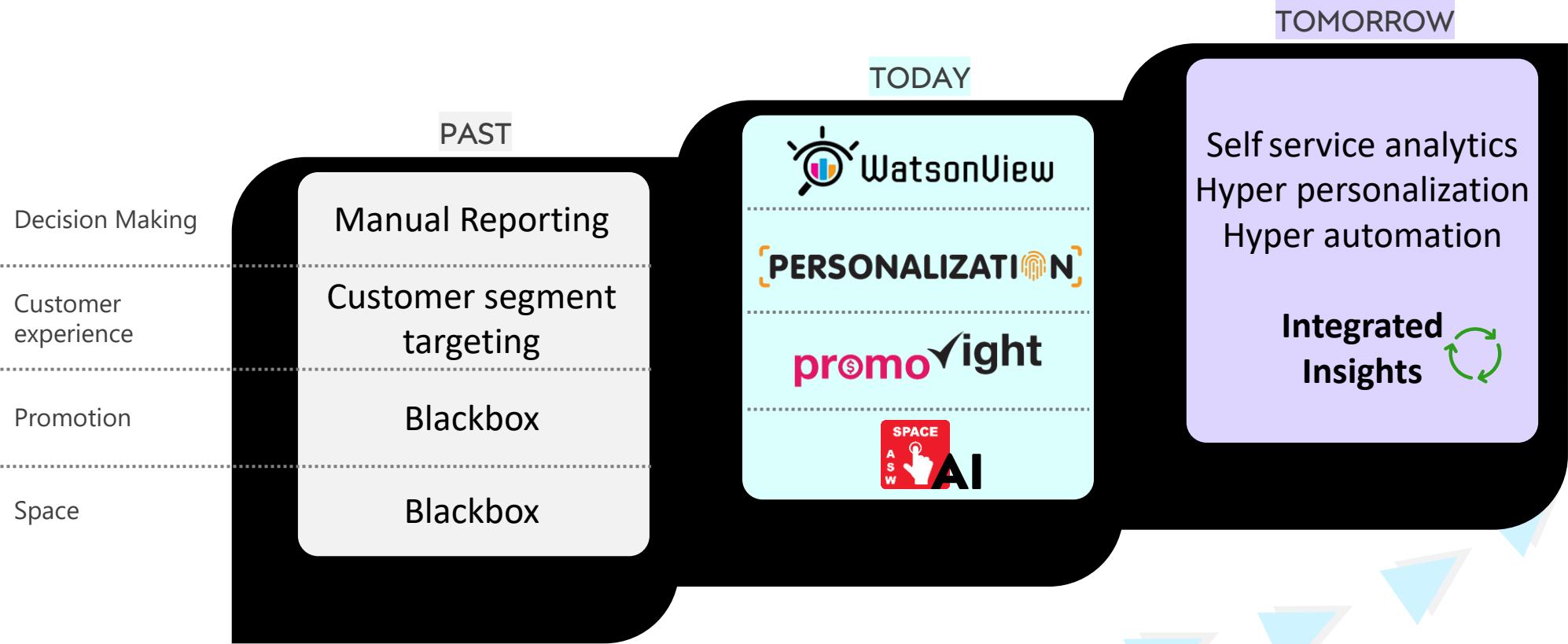
# Agenda

<b>01   Big Data Journey</b>	Mandy (5 mins)
<b>02   Personalization</b>	Mits, Leo, Fletcher (15 mins)
<b>03   PromoRight</b>	Mits, Shannifer (15 mins)
<b>04   WatsonView</b>	Fred, Michael, Tracy (20 mins)
<b>05   Space AI</b>	Shadow, David (20 mins)
<b>06   Supply Chain initiatives</b>	Shadow (5 mins)
<b>07   Other Projects</b>	Mits, Leo, Gawain (10 mins)

**BIG DATA ECOSYSTEM**  
**FROM DATA TO DECISIONS**

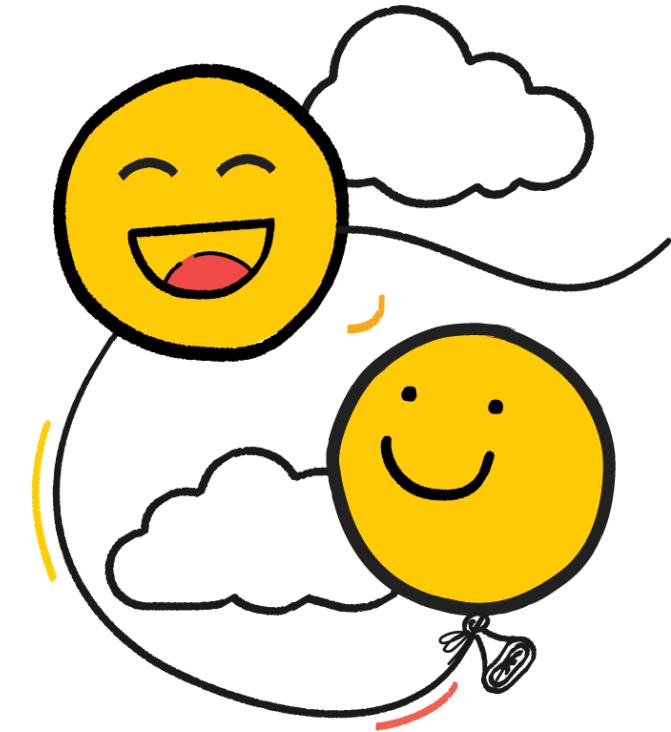


# Big Data Journey to put a smile on our customers' faces today and tomorrow

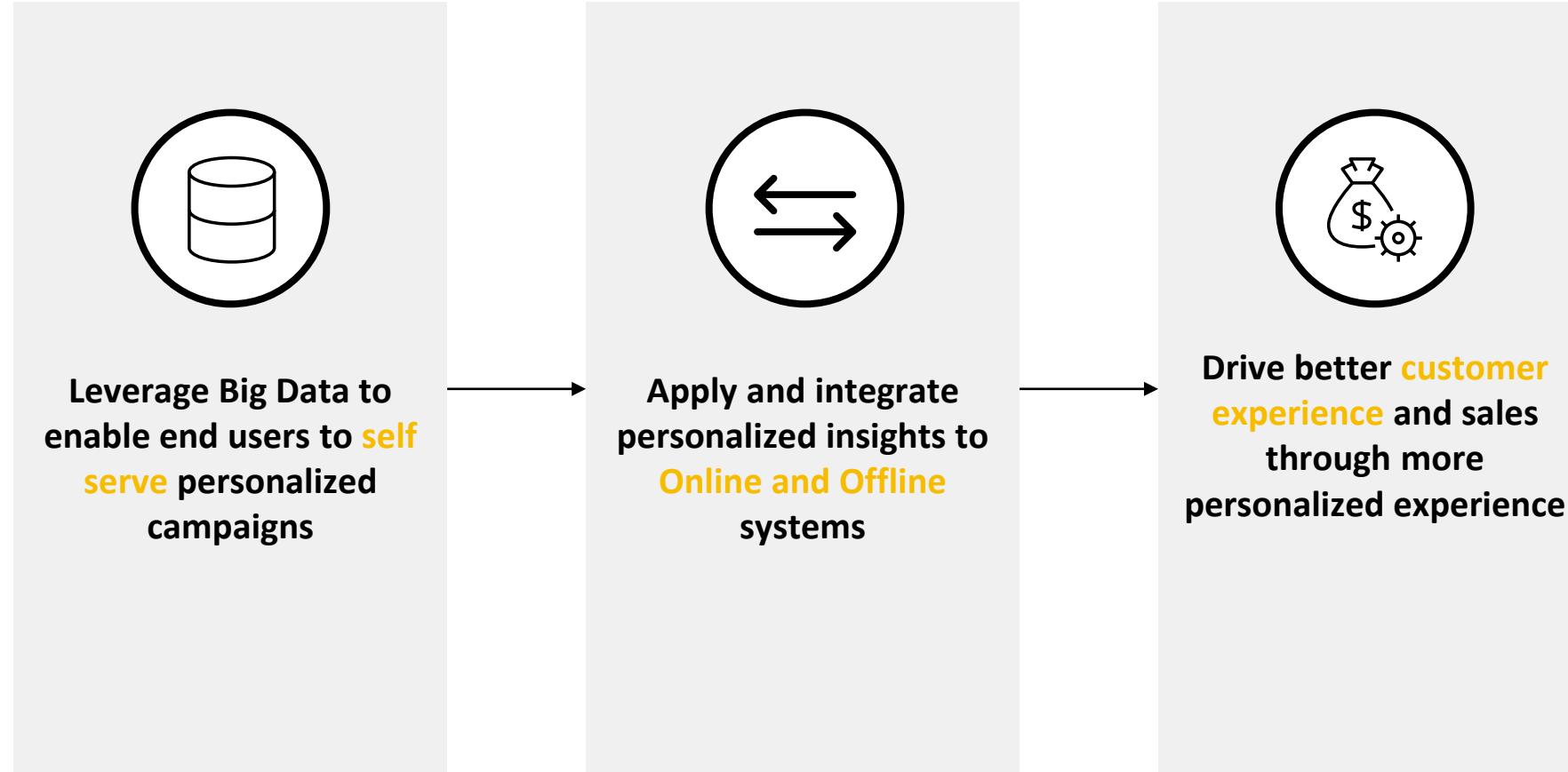


bigdata

## 02 | Personalization



# Personalization Objectives



# CIA (Customer Intelligence Agent)

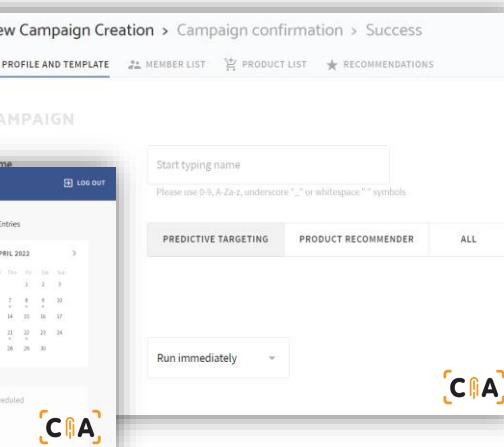
*Empower our end users to leverage AI without the technical know-how*



User log into CIA and request for C2P/PT output

User can download the data science output for other marketing purposes

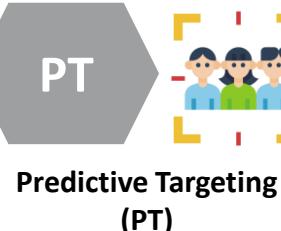
- 1 to 1 personalized product recommendations
- Incorporate campaign ideas on the recommendations
- Proven better conversion than hand-pick products
- Enhance user experience with personalization



CIA is also directly integrated to Adobe Campaign for campaign email blasting



Adobe® Campaign



- Identify the right target audience for your campaign
- Drive better campaign performance with personalization
- Better utilization of resources and communication chances

Category Affinity

Brand Affinity

Churn

Seasonal Shopper

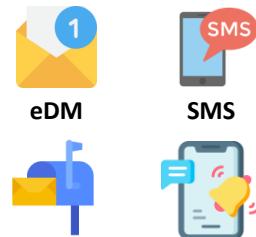
Discount Sensitivity

Reactivation

## Current Usage

- **24 BU** - 7 (Asia) + 17 (Europe)
- **1,000+ campaigns** included birthday, brand/category Targeting, loyalty, churn, reactivation, etc
- **71.5M incremental sales** for TMP campaigns

## Customer Touchpoints



# P2P (Product-to-Product) Recommendations

Use a “seed” product to trigger recommendations of complementary and substitutable products

## What is P2P recommendations?

- Product-based
- Trigger selling opportunities by providing “options”
- Apply to several scenarios

## Why P2P recommendations?

- New customer
- Cannot identify customer before login or scanning membership card
- Recommendations with reference to product & customer data

## Campaign/ Online/ In-store example

Personalized recommendations triggered by product



Soda

Description of the product

Price: \$XXX

[Shop Now](#)

### Frequently bought together (Complementary)

*products that are sold separately but frequently bought together*



Chocolate

Description of the product



Snacks

Description of the product



Cookie

Description of the product

### You may also like (Substitution)

*products that serve the same purpose and can be used in place of one another*



Apple Juice

Description of the product



Orange Juice

Description of the product



Water Soda

Description of the product

## Factorization Machine

Product lifecycle

Product Category

Product Attribute

Transaction base



## Customer Touchpoints



eDM



In-store Digital Assistant



Online Shop



App



In-store Kiosk

## Current Usage

- Regime & replenishment campaign
- Birthday & welcome campaign
- In-store product recommendation at digital assistant

ICIBE

ICINL

TPS

WTCHK

# 2023 Personalization Objectives

## Customer journey

Increase the personalization coverage throughout our customer's journey



Replenishment, Recruitment

## Synergy

Increase personalization synergy across different channels and platforms



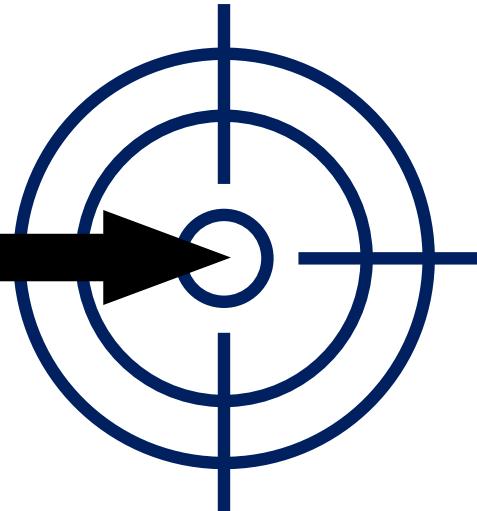
Customer tagging and recommendations

## Agility

With the maturation of platforms and capability comes the expansion of solutions that can adapt to different needs



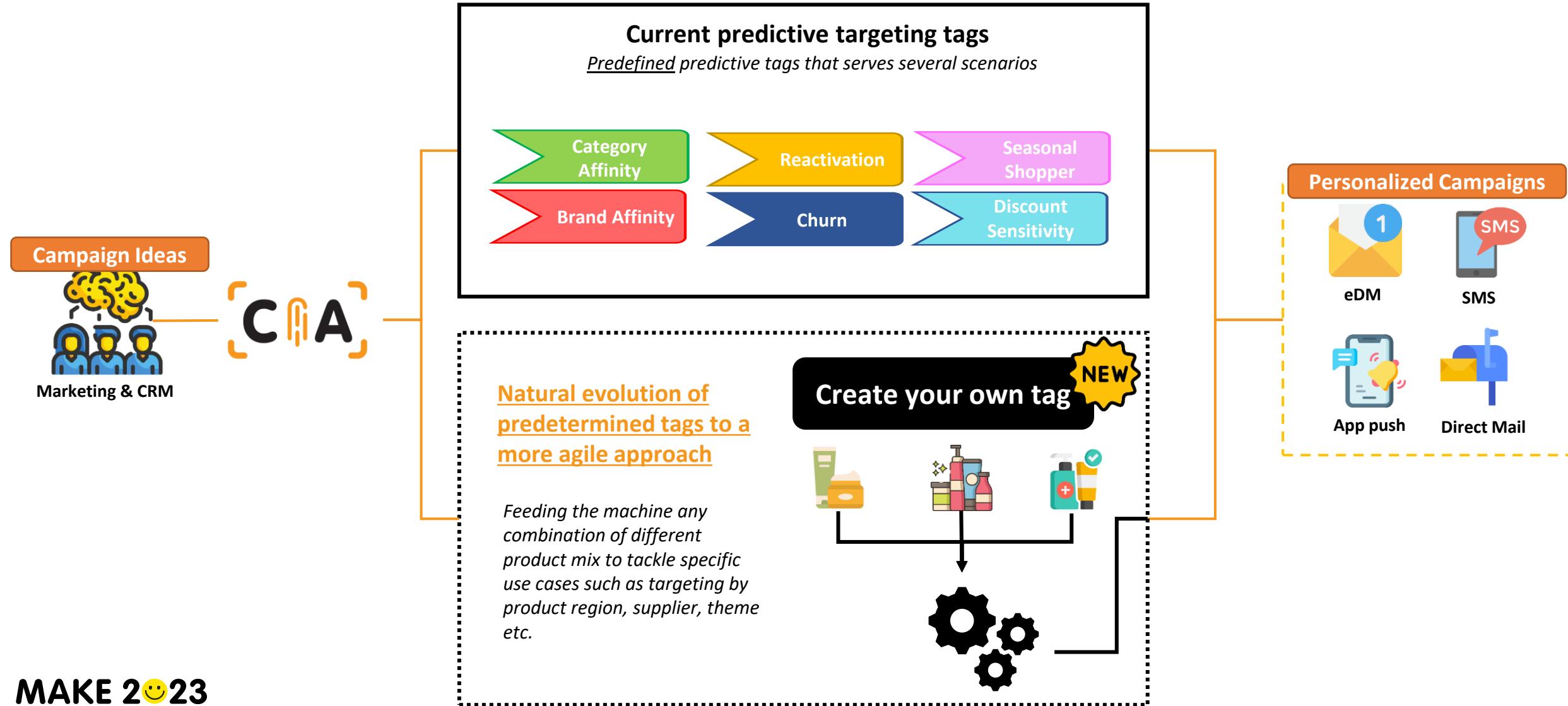
Create your own tag



# CIA Create your own tag

bigdata

- New capability for users to *create their own tag* in CIA
- Solving many of our users request of “adding new tags” to tackle specific use cases

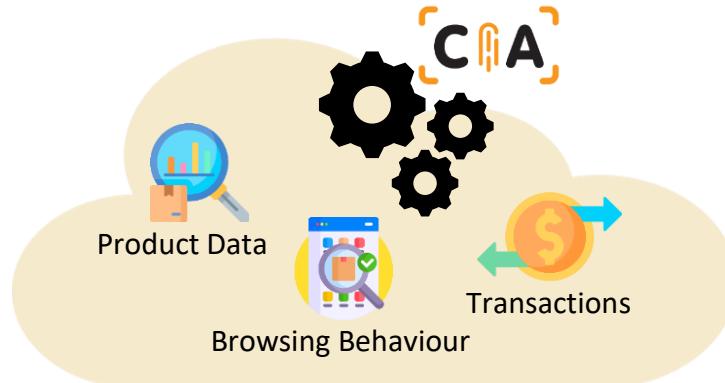


# bigdata CAA Recruitment tag

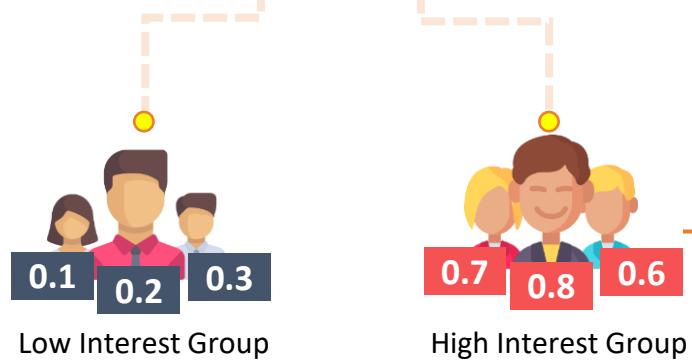
bigdata

- Acquire customers who are tended to expand their purchase on categories/ brands new to them

## Illustration



## Recruitment criteria



## Benefits

- Help customers to discover new brands & categories they may also like
- Serve more personalized recruitment campaigns based on customer interest

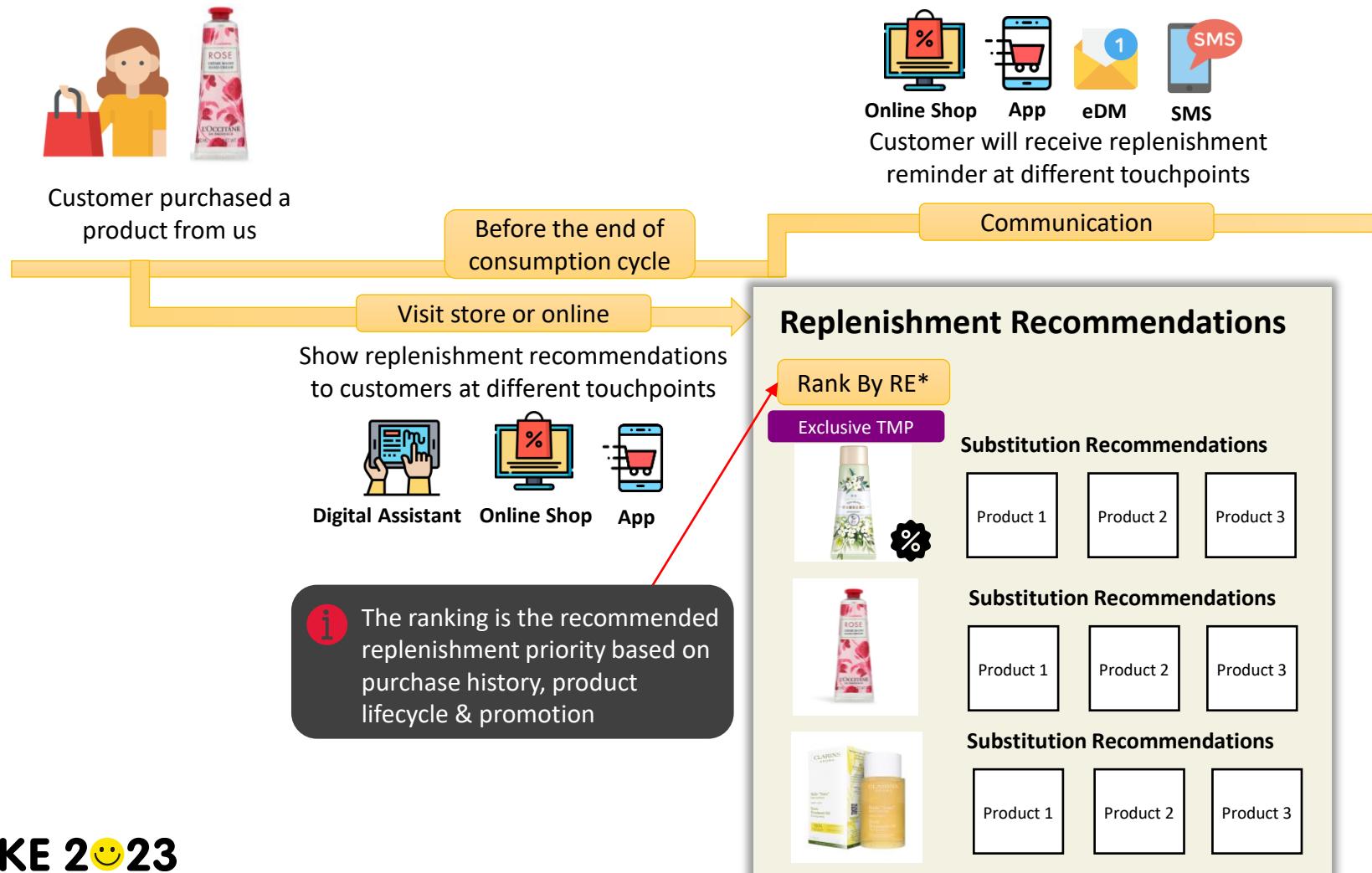
## Recruitment campaigns



# Replenishment engine (RE)



- The replenishment engine can be used in many different touch points
- Provide different combinations of recommendations based on different criteria (e.g. products on promotion)



**Replenishment Recommendations**

**Hand Cream**  
Price: \$XXX  
Description of the product [Shop Now](#)

**Frequently bought together (Complementary)**

Exclusive TMP    Sustainable Choice

**Body Scrub**  
Description of the product

**Body Lotion**  
Description of the product %

**Body Oil**  
Description of the product

**You may also like (Substitution)**

Premium Choice

**Hand Cream A**  
Description of the product

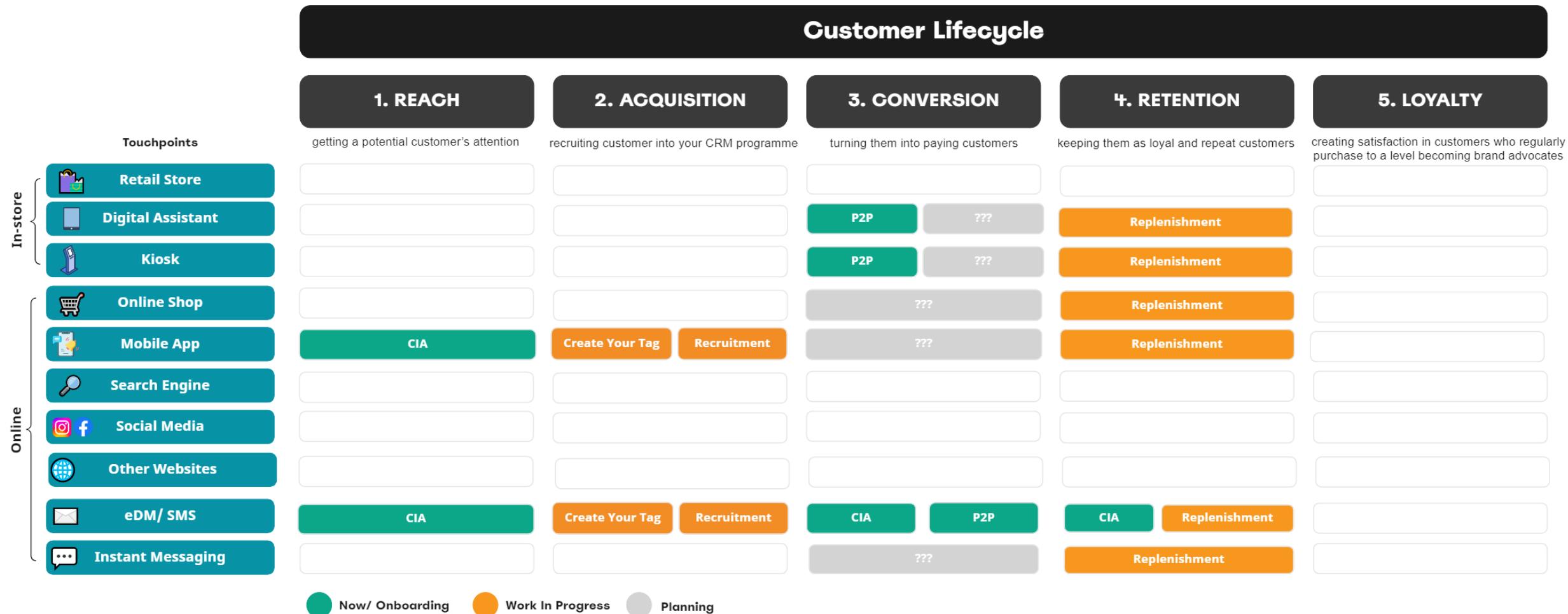
**Hand Cream B**  
Description of the product

**Hand Cream C**  
Description of the product %

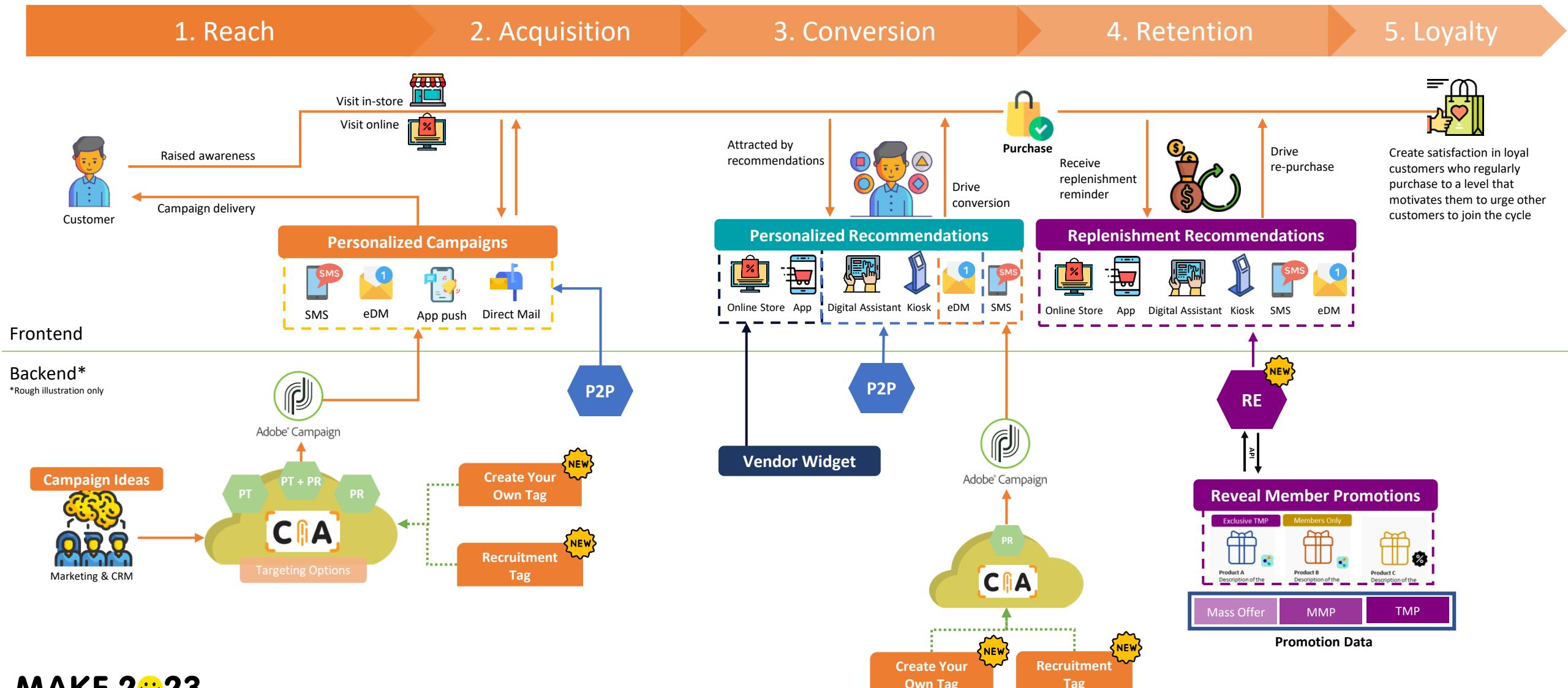
**i** For illustrative purpose only, additional plugins will be considered in future phases

# Personalization touchpoints overview

*Here is the summary of personalization touchpoints in a customer lifecycle*

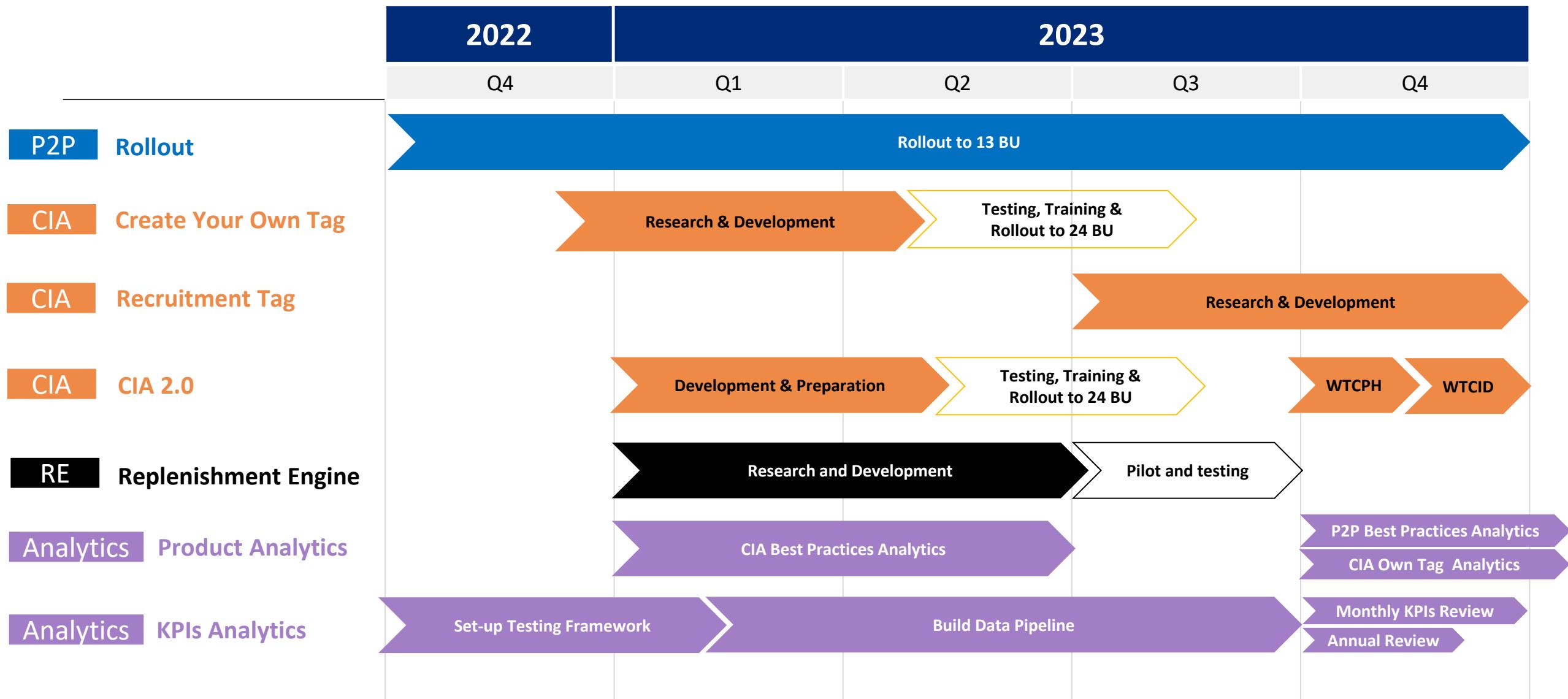


# Visualized Customer Journey



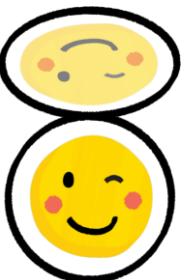
# Personalization Program Roadmap

bigdata



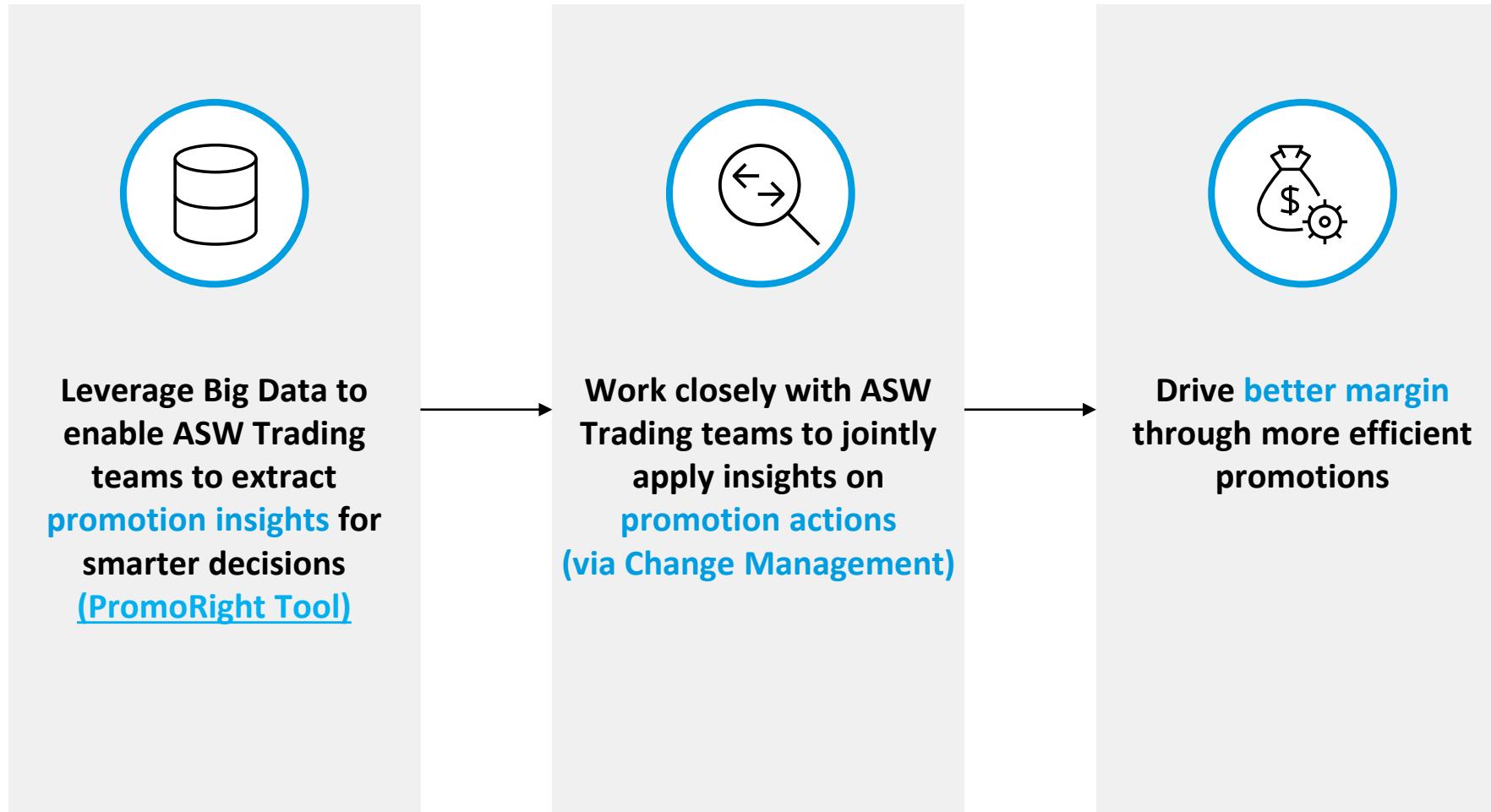


THERE IS  
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## 03 | PromoRight

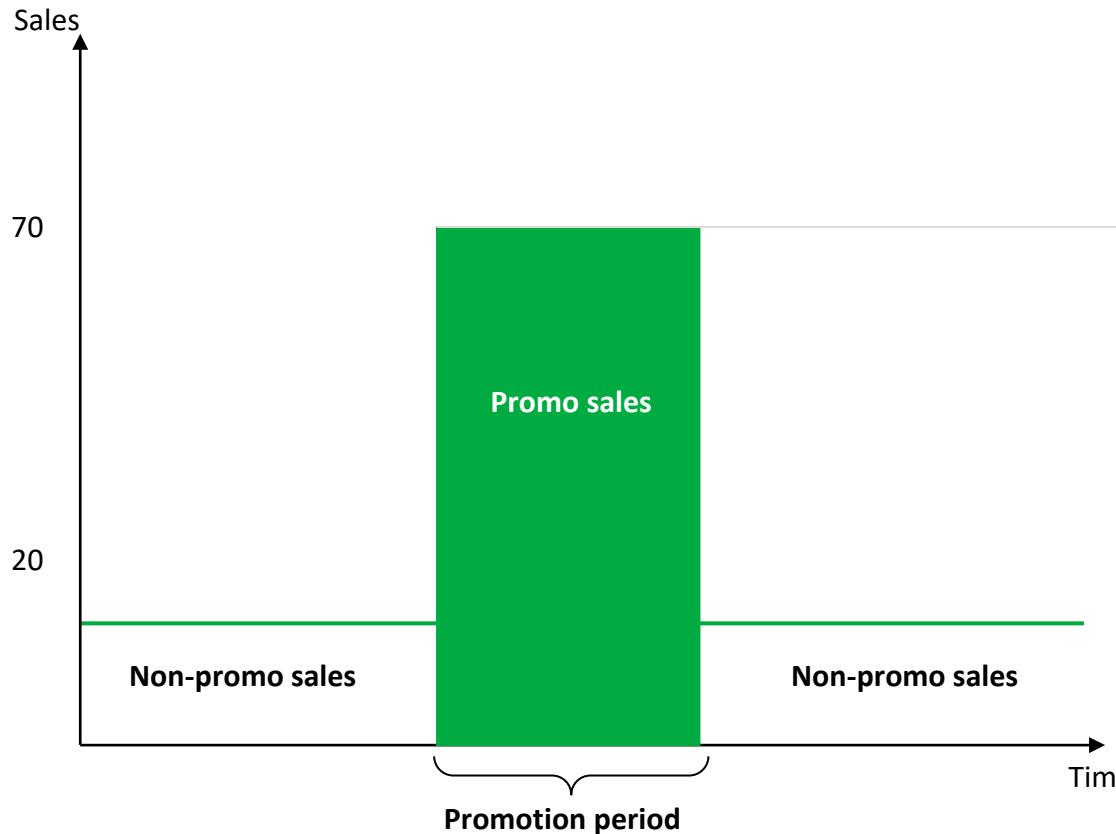
# PromoRight Program Objective



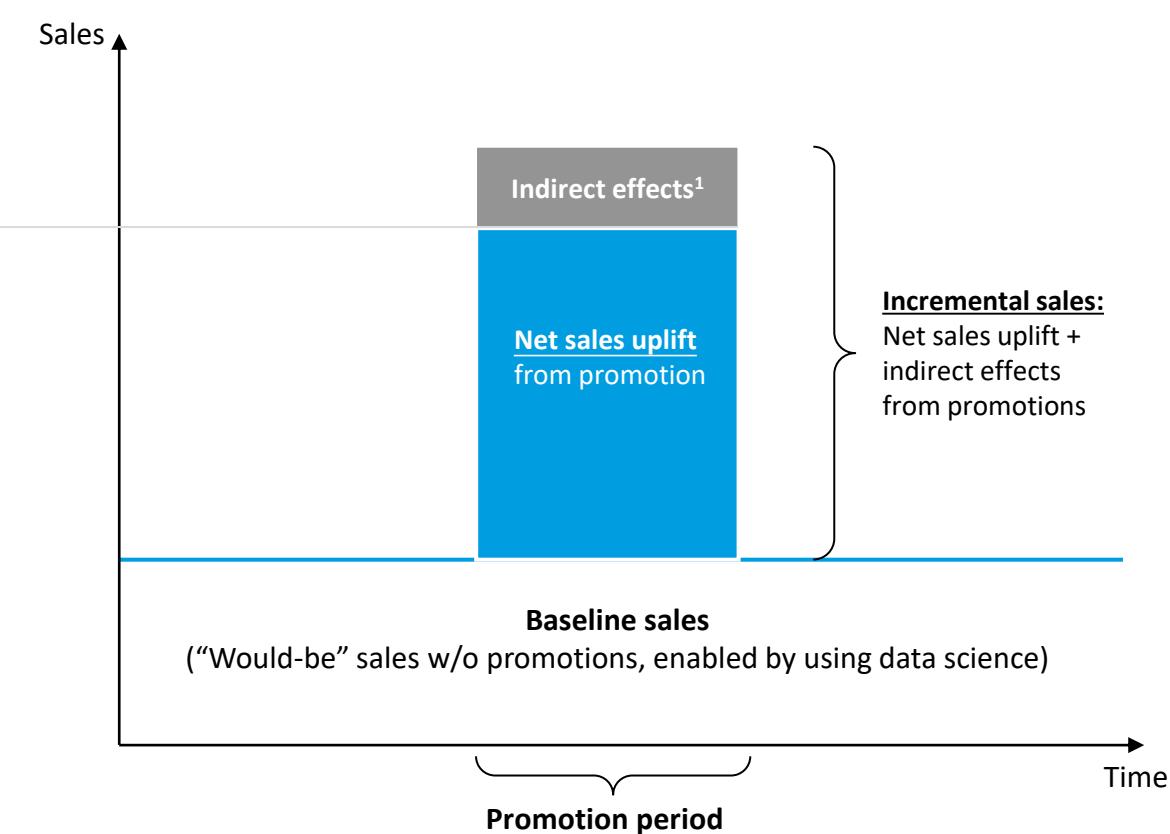
# UNLIKE TRADITIONAL APPROACH, PI UTILIZES “INCREMENTAL” APPROACH TO ANALYSE PROMOTION EFFECTIVENESS LEVERAGING DATA ANALYTICS

**Bigdata**

**Traditional approach** in promotion effectiveness



**PromoInsights incremental approach** in promotion effectiveness



**Promo sales** as proxy for promo effectiveness **due to lack of baseline**

1. Indirect effects include cannibalization, halo effect and pull-forward

**Sales uplift and incremental sales** reflect true promo effectiveness

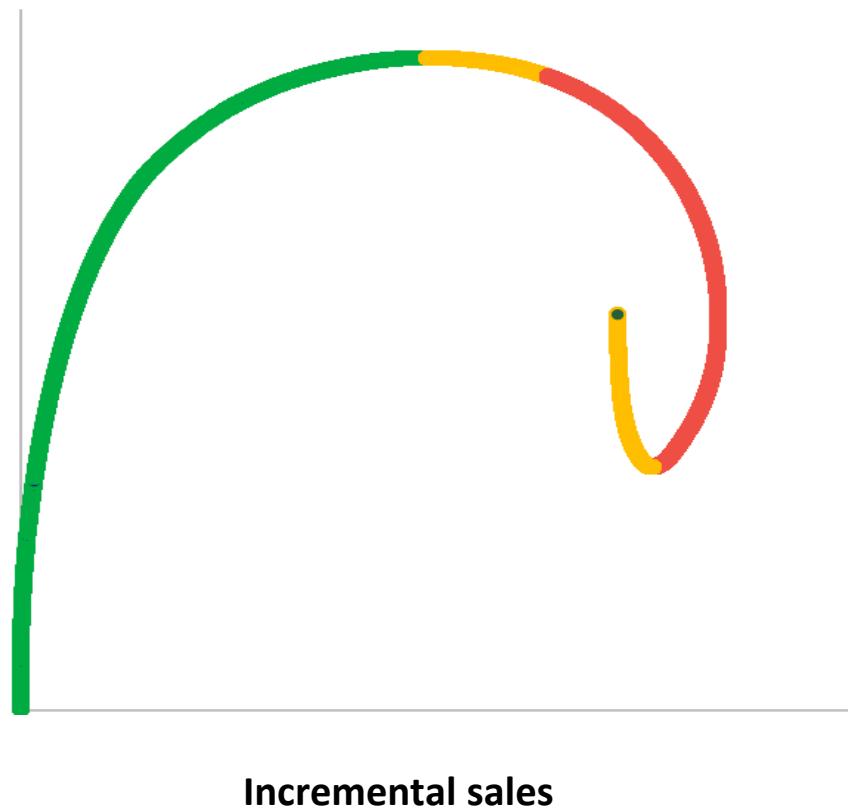
# PromoInsights Promo Curve

bigdata

EACH PROMOTION IS CLASSIFIED INTO RED, AMBER, GREEN. OPPORTUNITY TO INCREASE MARGIN IS ESPECIALLY BY INCREASING GREEN PROMOS AND REDUCING RED PROMOS.

Illustrative promo curve

Incremental margin



RAG classification



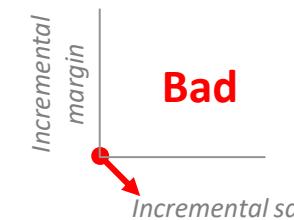
Sales driving  
Margin driving

> Grow



Sales driving  
Acceptable Margin Cost

> Adjust



Sales driving/ decreasing  
Unacceptable Margin Cost

> Replace with  
Green promos

# PI ENABLES A MORE FACT-BASED DECISION MAKING TO IMPROVE YOUR PROMO PROGRAM

## Fact-based promo decisions with PI

**Identification of right SKU mix**

**Identification of right promo mechanics**

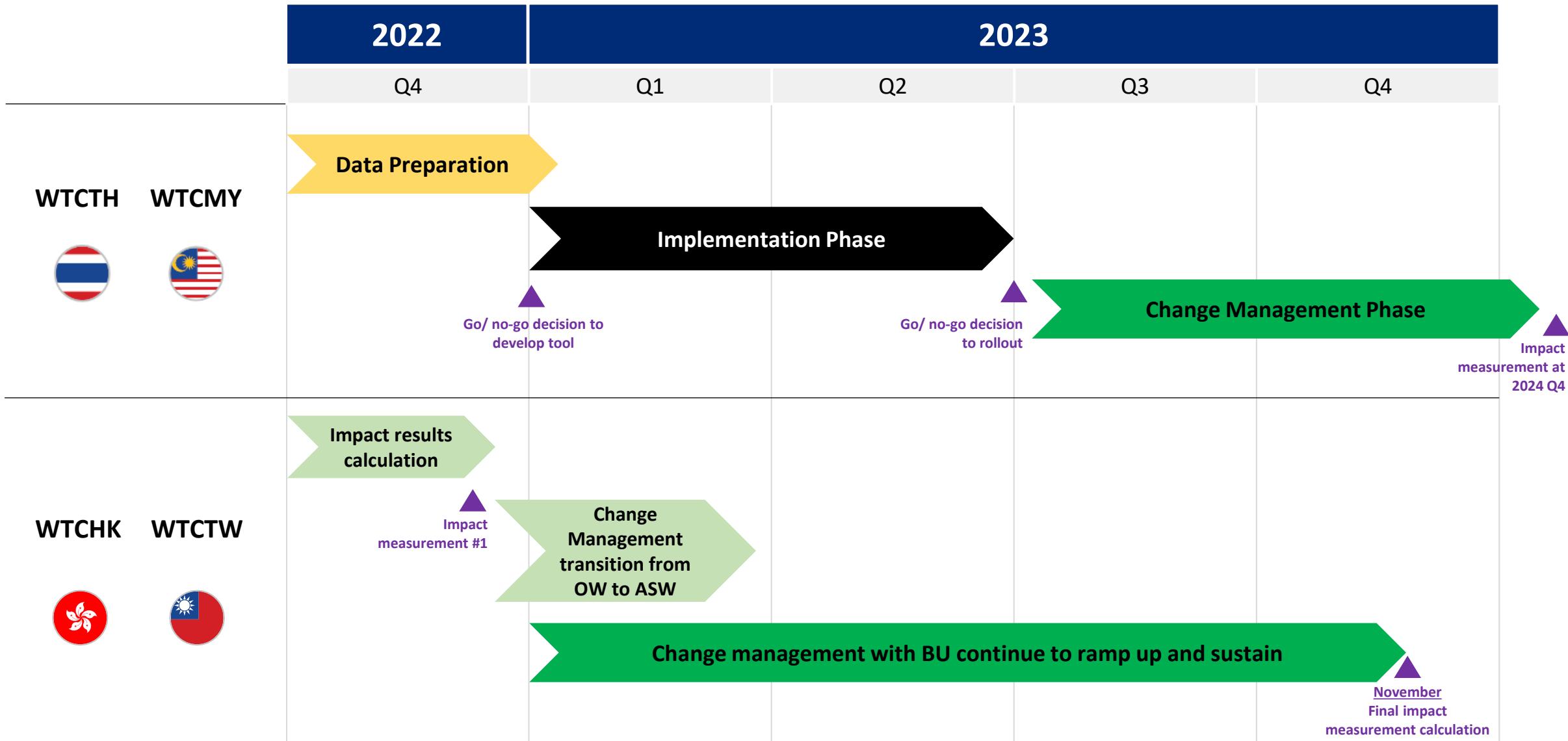
**Identification of optimal discount depth and funding required**

**Support supplier negotiations**

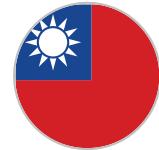


# PromoRight Program Timeline

bigdata

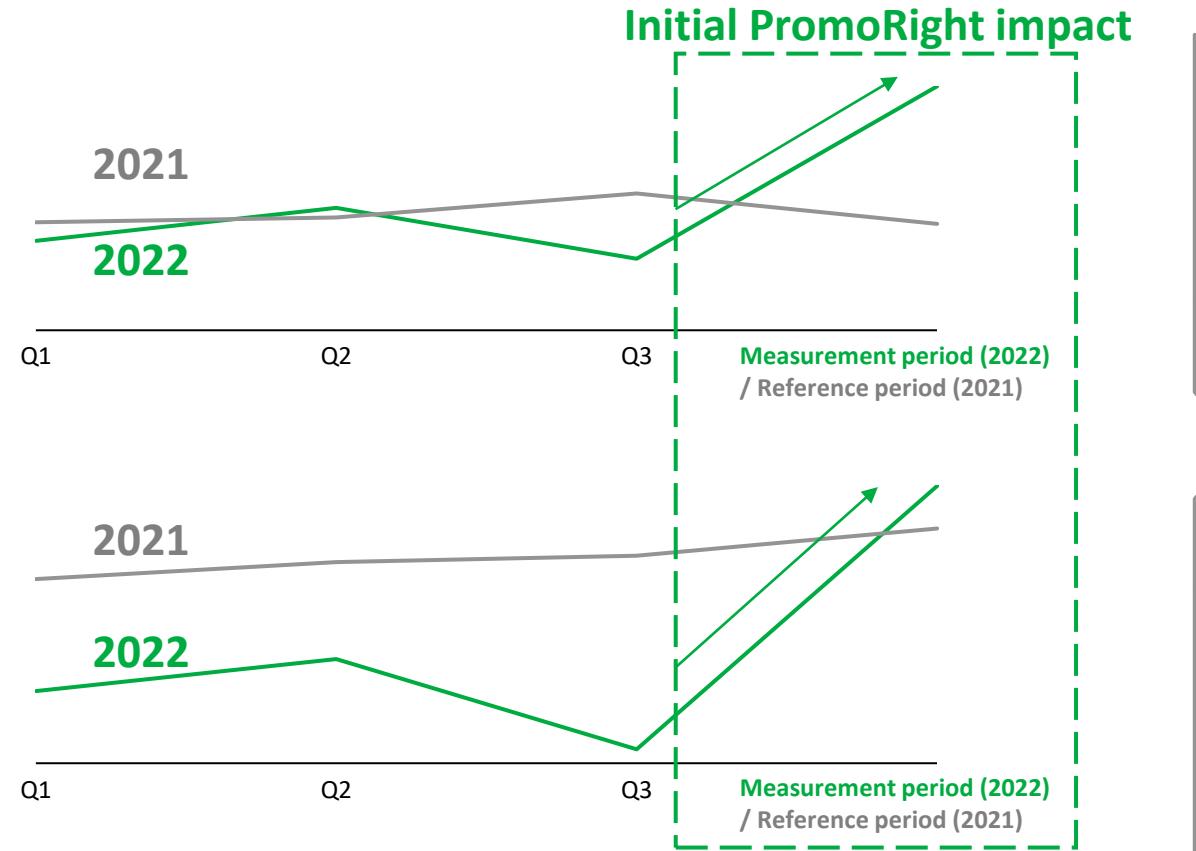


# WE DELIVERED STRONG AND CONSISTENT UPLIFT IN TAIWAN AND HONG KONG USING PROMORIGHT IN BATCH 1



## Overall promo program Margin efficiency evolution<sup>1</sup>

*Similar trend in sales efficiency observed*



## margin IMPACT achieved

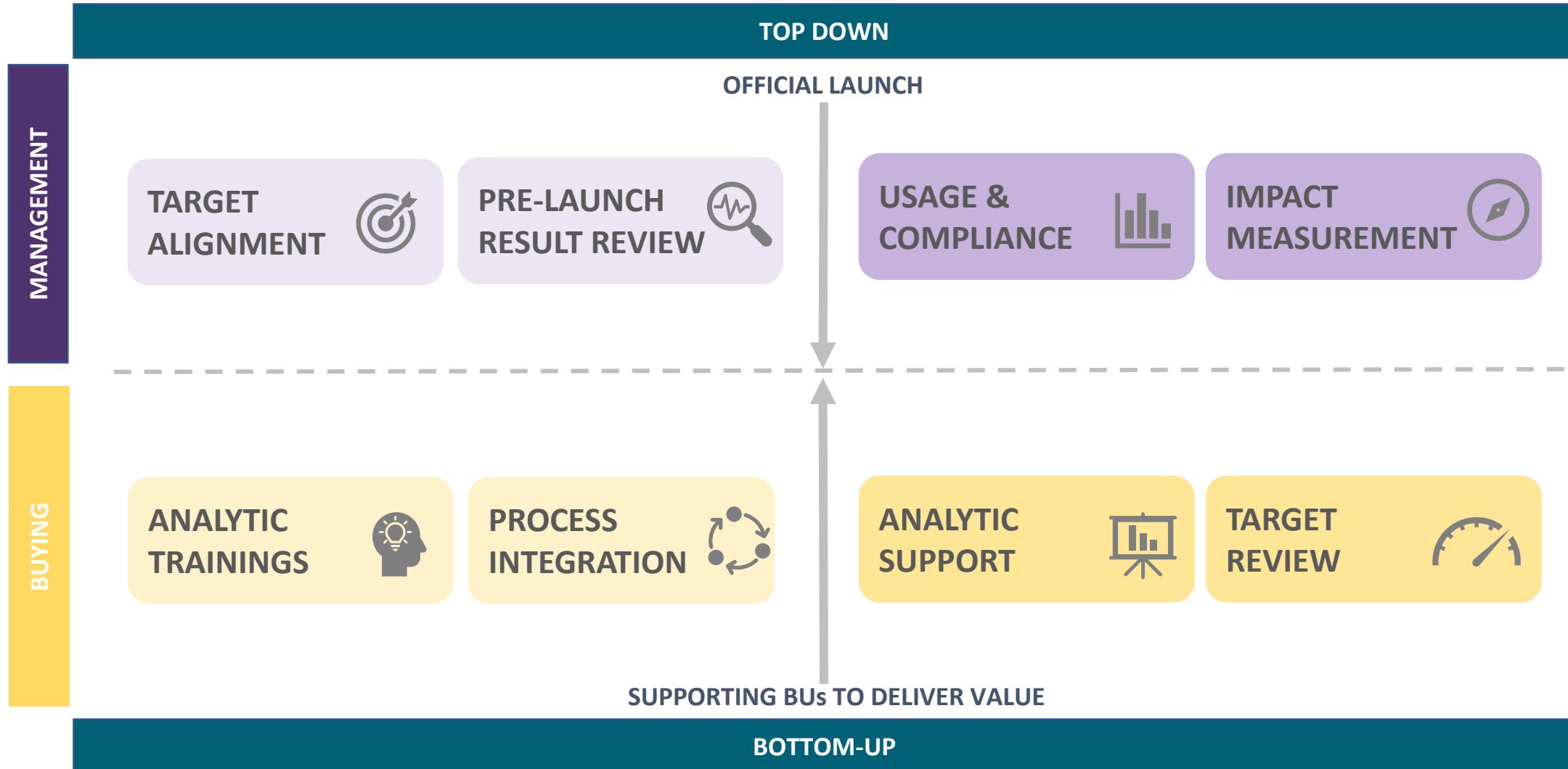
*12-month run rate based on latest measurement*

+~6.5M USD ↑

*incremental margin generated from  
promo vs. LY  
Across HK & TW*

# Change Management Engagement Plan

Strategic Pillars: Top Down & Bottom up support in 2023



# OUR BU-TAILORED CM PROGRAM FACILITATES SMOOTH IMPLEMENTATION FROM ONBOARDING USERS TO CREATING AND SUSTAINING IMPACT

## Key initiatives

**1** **Tool university:** Facilitate user onboarding by guiding buyers through key use cases through real-life examples

## Example activities



- User journey mapping
- Integration of use cases with buyer workflow
- Category-customized sessions

**2** **Category / brand level recommendations:** Based on discussion with buyers and PI insights, establish scalable category levers



- Workshops to understand business context
- Data analysis and expert insights sharing
- Category-specific guidelines and guard-rails

**3** **Micro-level promotion planning assistance:** Optimize SKU-level promotions based on supplier proposals and proactive nomination



- Trend and pattern identification in tool
- Side-by-side coaching and recommendation
- Promotion review and strategy refinement

**4** **Supplier negotiation support:** Support supplier workshops and assist negotiation for adding promotions and funding



- Data support to convince suppliers on making win-win changes
- Sharing of best practices from experts
- Supplier workshop and communication aids

**5** **Governance to sustain impact:** Co-design governance to institutionalize tool adoption and performance tracking



- Development of rule-based compliance checks
- Management updates to ensure timely performance tracking

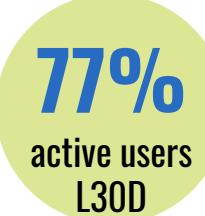
## 04 | WatsonView



# WatsonView Overview



developed habit of incorporating data into decision making process



democratized trusted data for users to ask and answer their own questions with data



more data literate in 2023



## Standard Dashboards

Enable more insights in business performance review, eCommerce, promotion, space management, supply chain etc. and combine AI modeling output to assist decision making



## Self-Serve Analytics

Open corporate standard domain data to use in different tools to perform queries and generate insights on their own



## Engagement & Enablement

Groom data champions from data literacy training and extend engagement to more group functions e.g. Finance, Supply Chain etc.



**772**  
monthly dashboards

**139**  
weekly dashboards

**28**  
other dashboards

**70**  
daily dashboards



**132K** man-hours

saving from BU manual data collection and reports generation per year

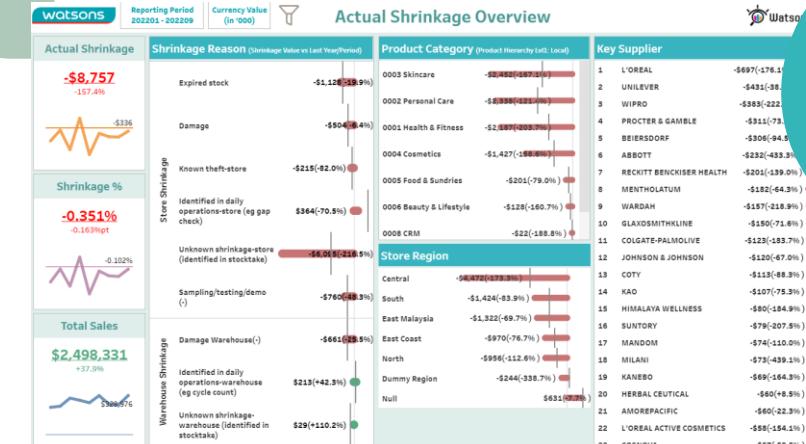
# Standard Dashboards – Ongoing Development / Enhancement

## Commercial Dashboards



**15**  
**8**  
BUs (weekly)  
BUs (daily)

## Shrinkage Dashboard



**10**  
BUs  
Regional

### Weekly



Improved data refresh timeliness  
Dashboard revamp for performance improvement  
Enhanced contents incl. promo, sales channel etc.

Onboarding of EU BUs with new EDP incl. MAT, MCH

### Daily



8 Asia BUs

EU BUs (SD, IXPL, MRDF, TPS) in 2023 Q1-Q2

### Monthly

All BUs in 2023 Q1-Q2

### Phase I



9 Asia BUs & WTCTR + Regional EU BUs (SD, KVNL, KVBE, TPNL, MRDF) in 2023 Q1

### Phase II

Stocktaking Analysis  
High Shrinkage Store Analysis  
In 2023 Q2

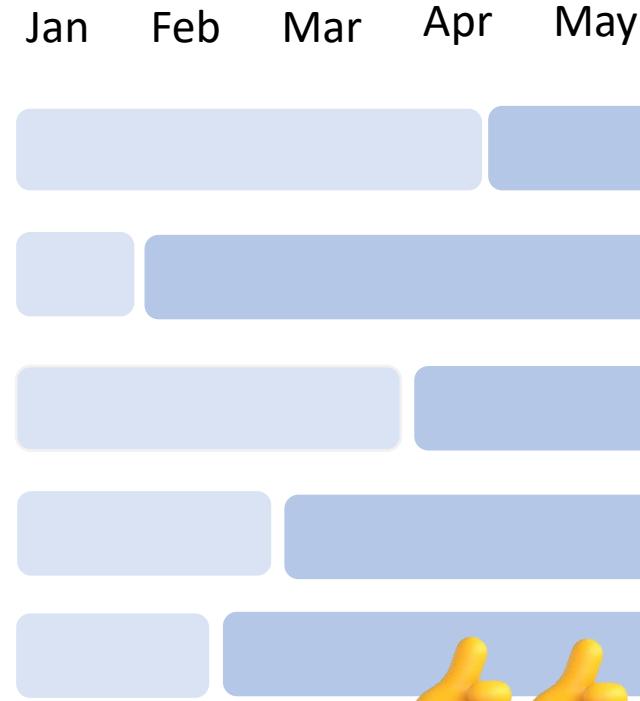
### Phase III

Inclusion of Provisional Shrinkage & Financial Adjustment (TBD)

## Phase 1 By Fiscal Month

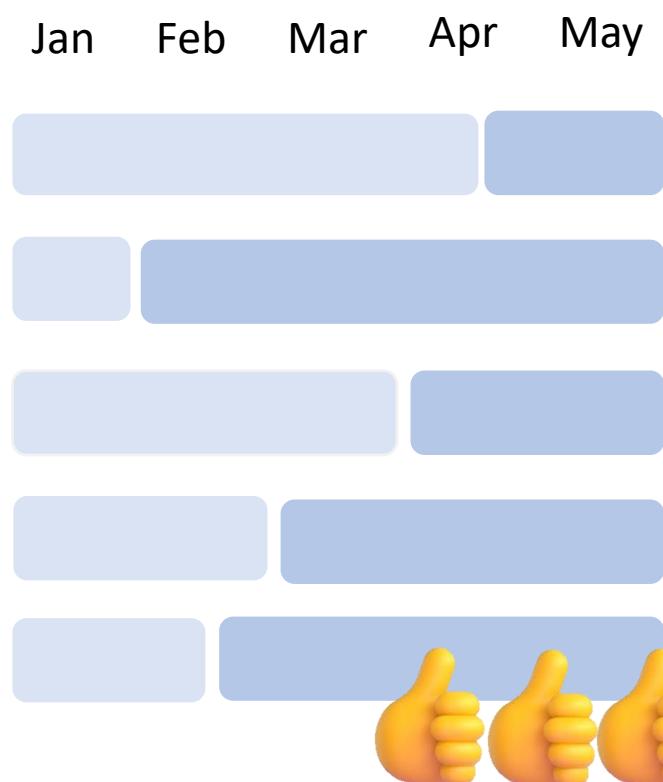


## Phase 2 By Stock-take Period

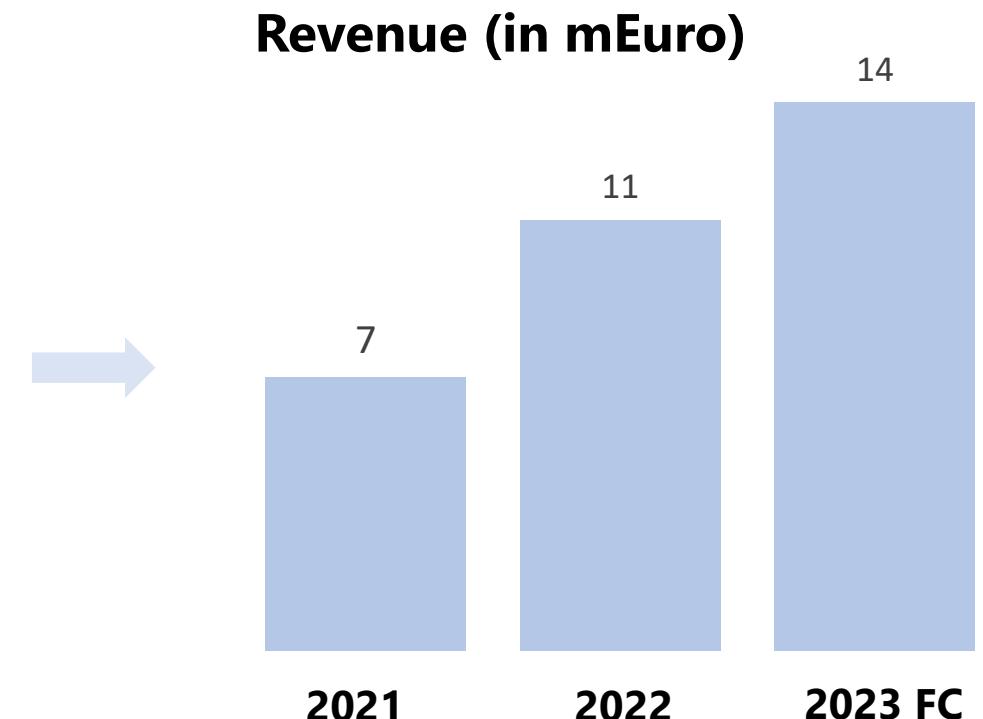


## Phase 3

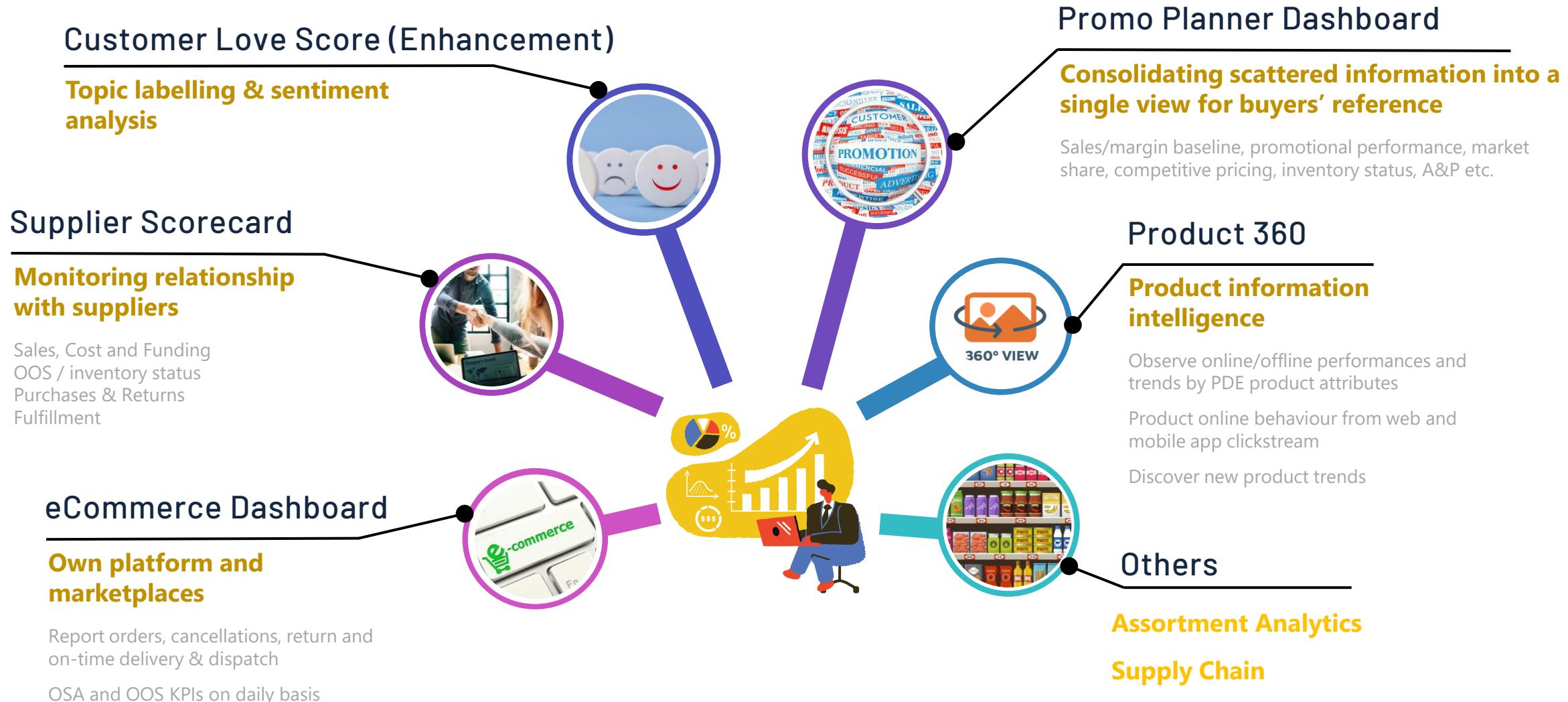
Add lump sum  
provisional shrinkage /  
supplier compensation



## Project Winsight : Insights monetization (collaborate with GIT & IB team)

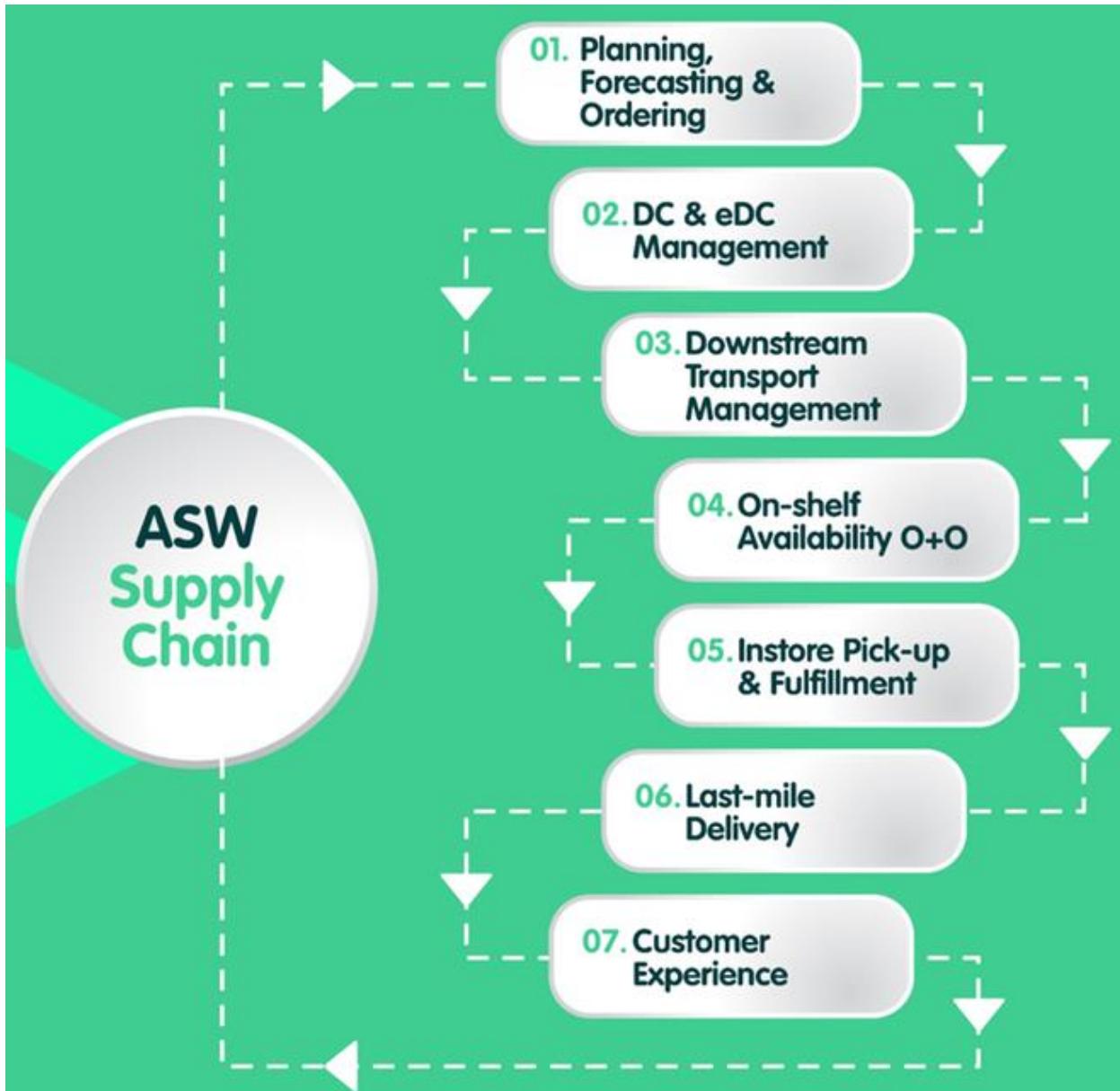


# Standard Dashboards – New Creation



# Supply Chain WatsonView Dashboards

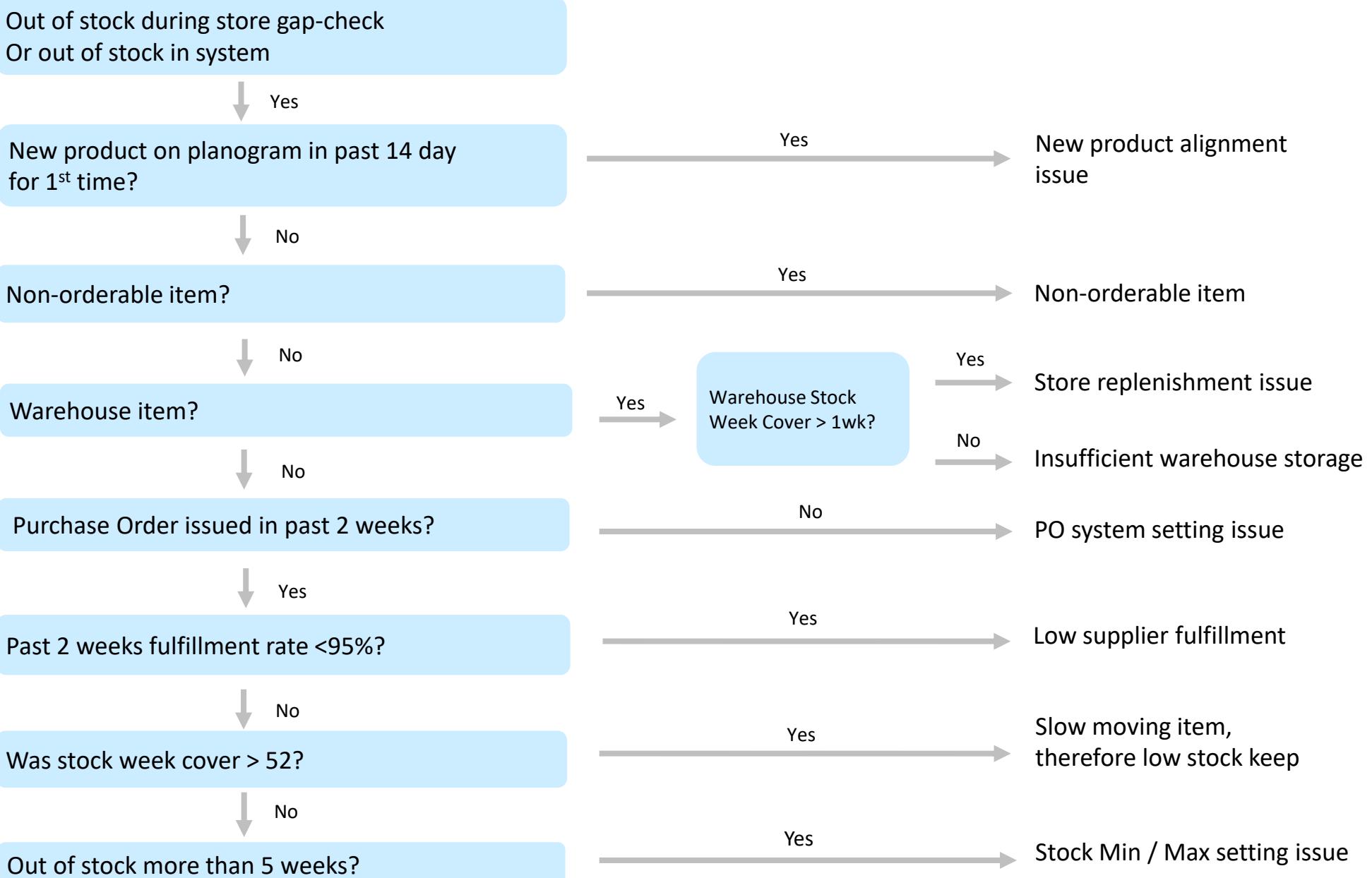
bigdata



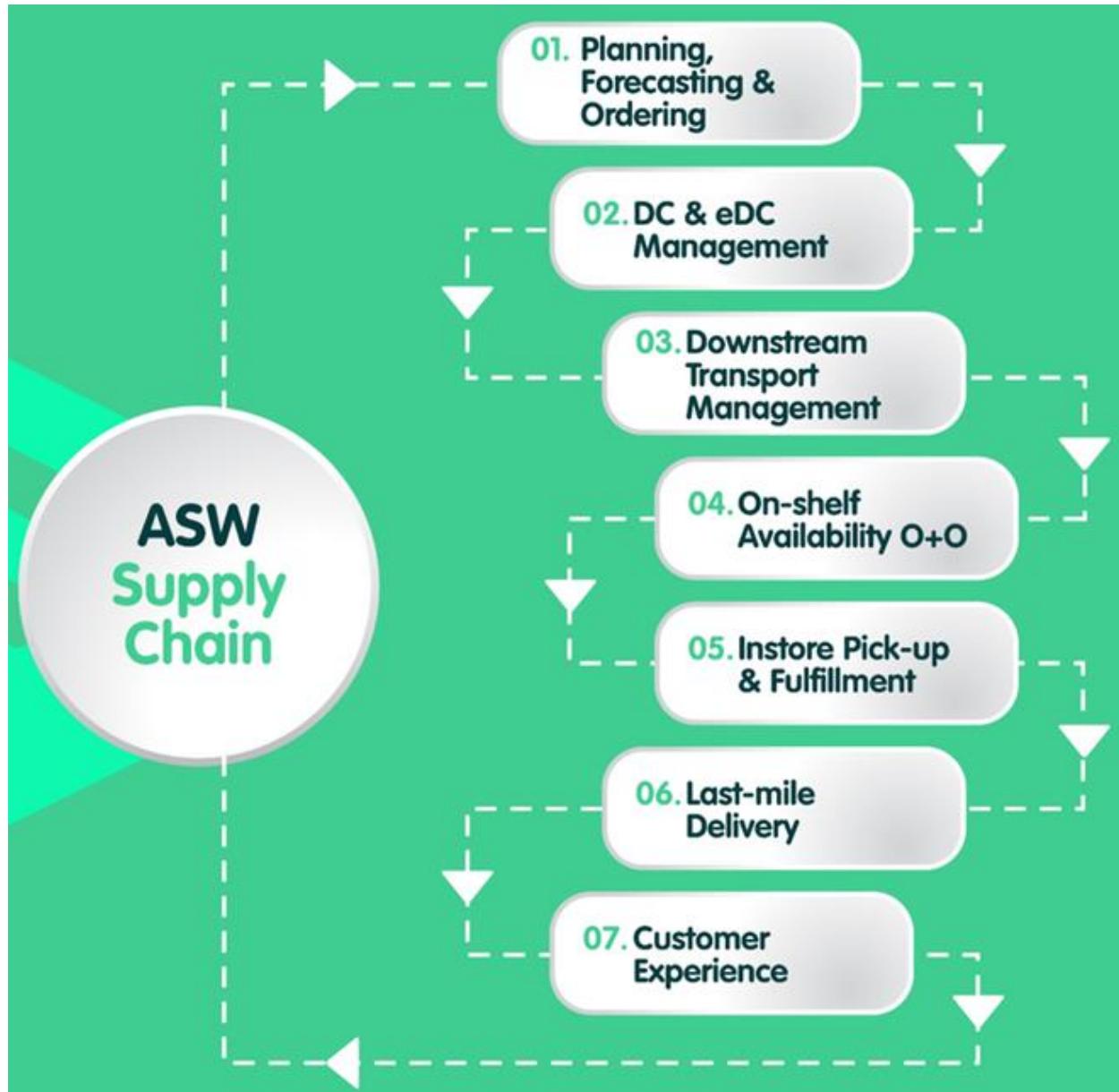
- Group Supply Chain
- GSC KPI Dashboard (01, 02, 04, 05)**
    - WH, Stock, Replenishment KPI, supply chain submitted to GroupLIVE
  - WIN Supplier Service Level Dashboard (01)**
    - Based on PO or overall result data from BULIVE
  - DC Capacity Planning Dashboard (02)**
    - Multi-BU, DC capacity / Utilization %
    - Planning to 2025LIVE
  - Supplier Portal information sharing (01)**
    - Sales Forecast accuracy%
    - Fulfillment shortfall root cause2023
  - BU Analytics (01, 04, 05)**
    - Stock Week Cover
    - Slow Moving stock
    - Service Level%
    - ISA / OSA
    - Out-of-stock root cause2023

# Supply Chain

## Out-of-stock root-cause analysis framework



# Other related WatsonView Dashboards



## eCom Dashboard (02, 06)

- On-time delivery & dispatch
- OSA KPIs



## Shrinkage Dashboard (02)

- Warehouse shrinkage amount by various dimensions

LIVE

## PromoRight Promo Insights (04)

- OOS% of promotion item during promotion period

LIVE

## CLS / eCLS Dashboard (07)

- Customer satisfaction
- Delivery / Click & Collect

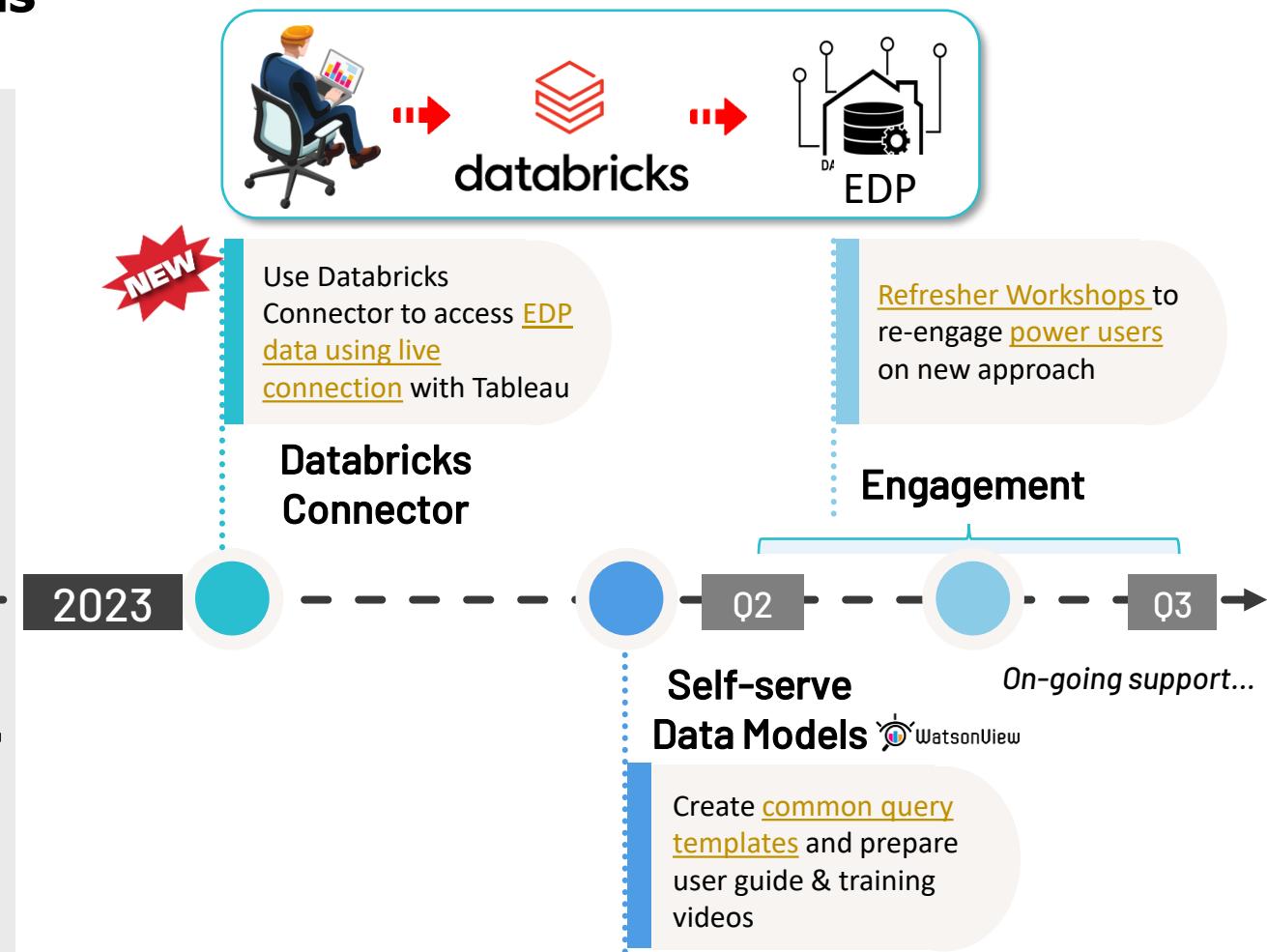
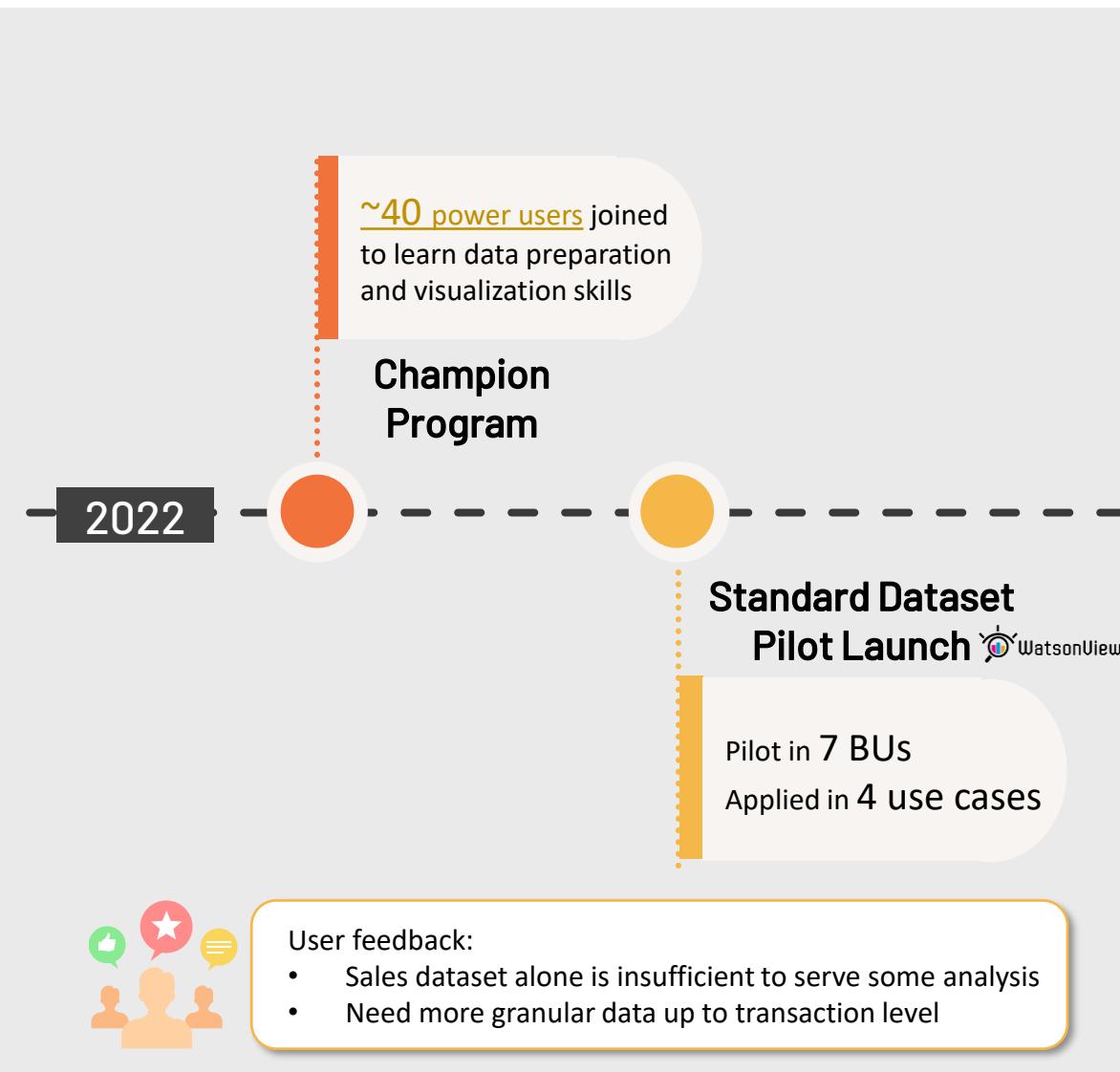
LIVE

Other Projects

# Self-Serve Analytics

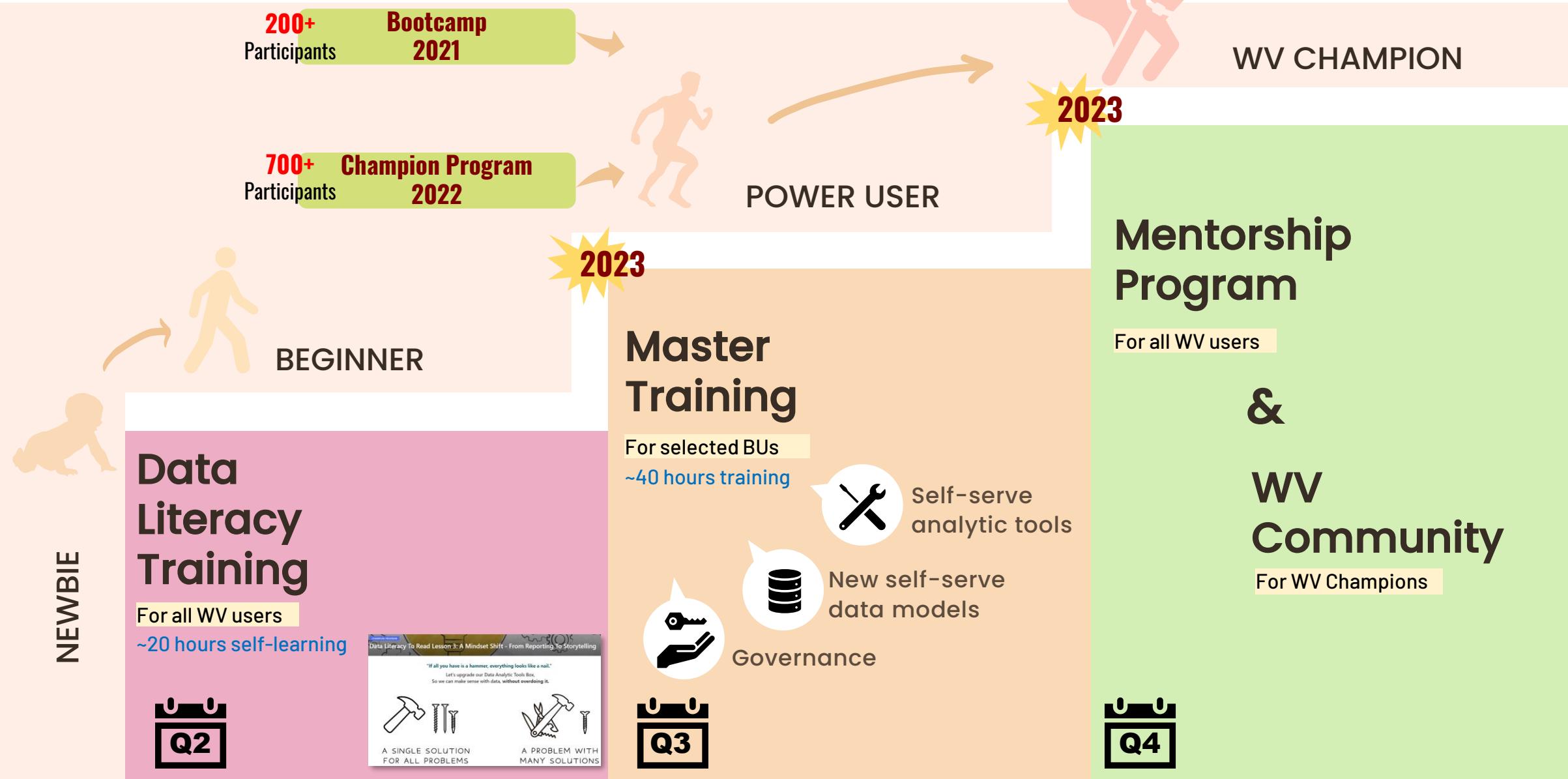
## Transformation to better suit business needs

bigdata



# Enablement

Leverage WV Champions to maximize the power of data



# Enable capability and raise awareness & interest to accelerate the adoption

bigdata



## ALL HANDS CALL

Regular cadence to keep users updated over time

- Updates of new content and features
- Cross-BU sharing



## VIZ GAMES

Make data fun to keep users motivated

- Competition among BUs and teams to achieve a task  
E.g. solve a data cleaning problem, tell a story found in the data



## KNOWLEDGE PORTAL

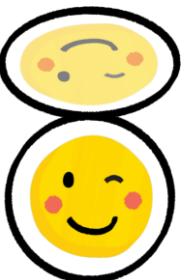
Centralized hub to help users get the full value

- One-stop shop and 24/7 access of onboarding and training materials
- Collaborative force with BU to share their best practices





THERE IS  
ALWAYS  
A REASON  
TO  
*Smile.*  
FIND IT!



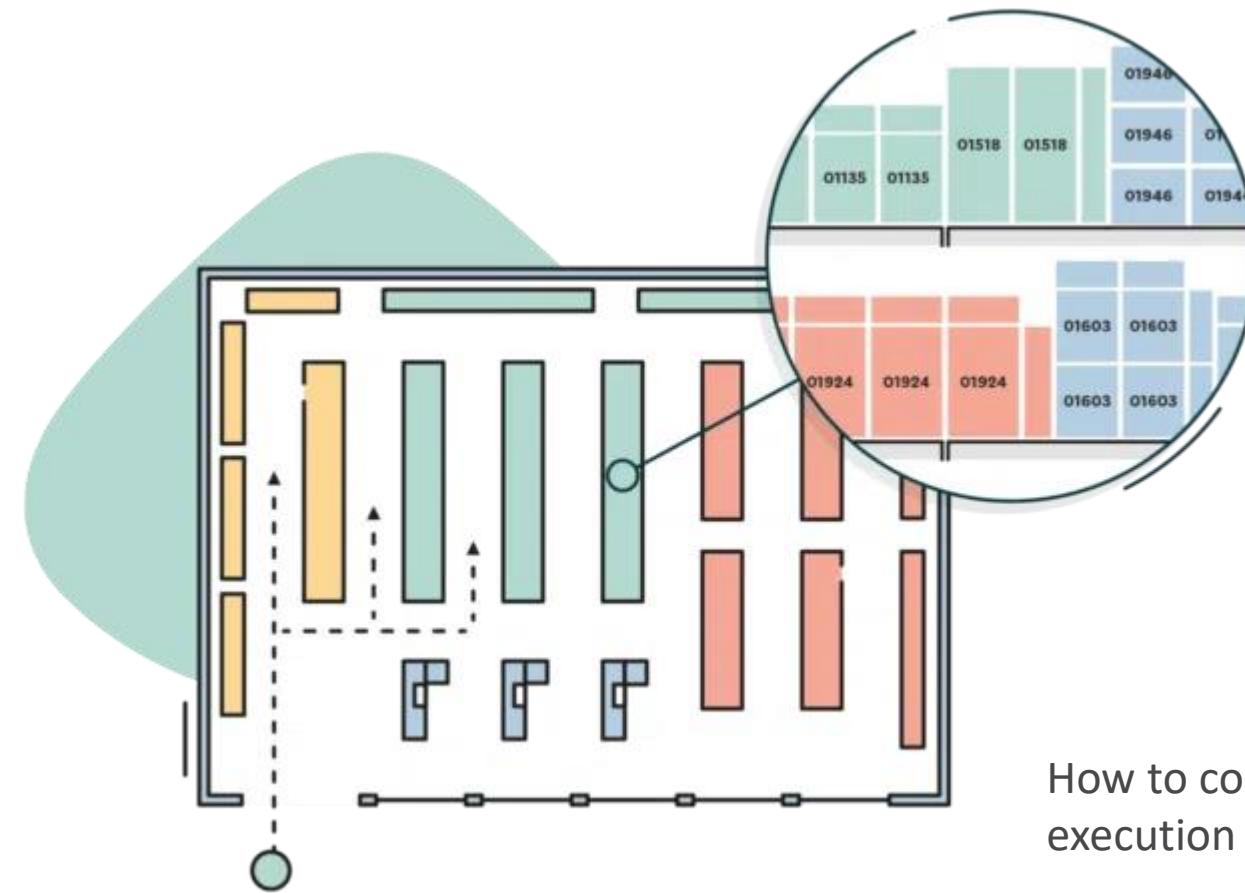
## 05 | Space AI

# Space Optimization

**Objective: Optimize Sales to Space (Space Productivity)**

Leverage Data Science to keep the store space in sync with changing customer demand while driving sales and increasing operational efficiency through optimized planograms.

What is the optimal category mix and layout?



What are the right products and layout?

How to communicate to store for execution in an effective way?

TODAY

# Space Ecosystem – built end-to-end modular solution



## Analysis & Insight



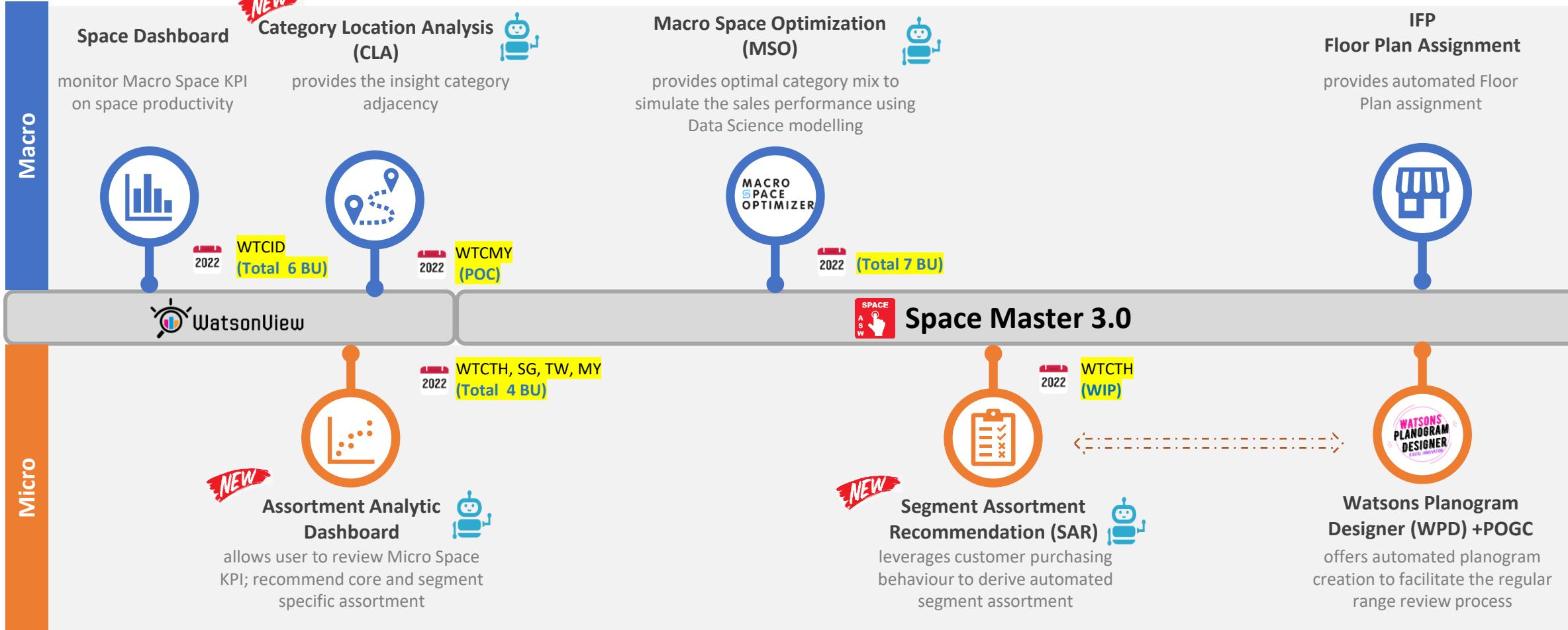
## Planning & Optimization



## Execution & Compliance



What is the optimal category mix and layout?



What are the right products and layout?

# 2022 Project Benefits

## Space Solution



- Successfully deployed to **total 8 BUs**
- Enhanced functions to support the new segmentation projects

**754** Hours saving in Macro Planning

## Assortment Analytics Dashboard NEW



- Successfully deployed to **total 4 BUs**
- AI-enabled dashboard** for users to identify the CORE vs Trivial SKUs for each category
- Incorporate customer and transaction data for insights

**624** Hours saving in Micro Planning in 4 BUs

## Segment Assortment Recommendation (SAR) NEW



- Data Science development completed
- Integration with WPD is working in progress (POG Automation)**
- Under UAT in WTCTH

**Expected 1-4% sales uplift**  
**~8,000** Hours saving in Micro Planning in WTCTH

## Product Data Enhancement NEW

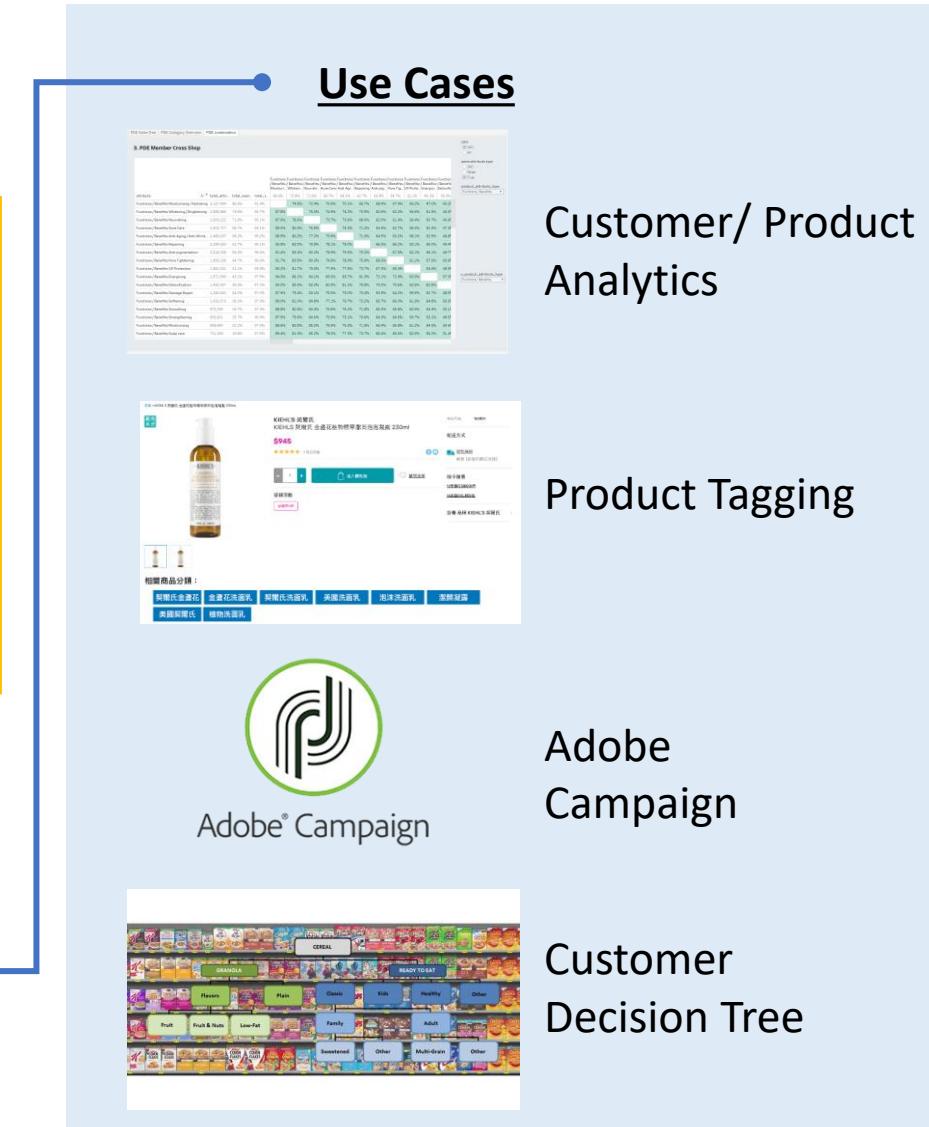
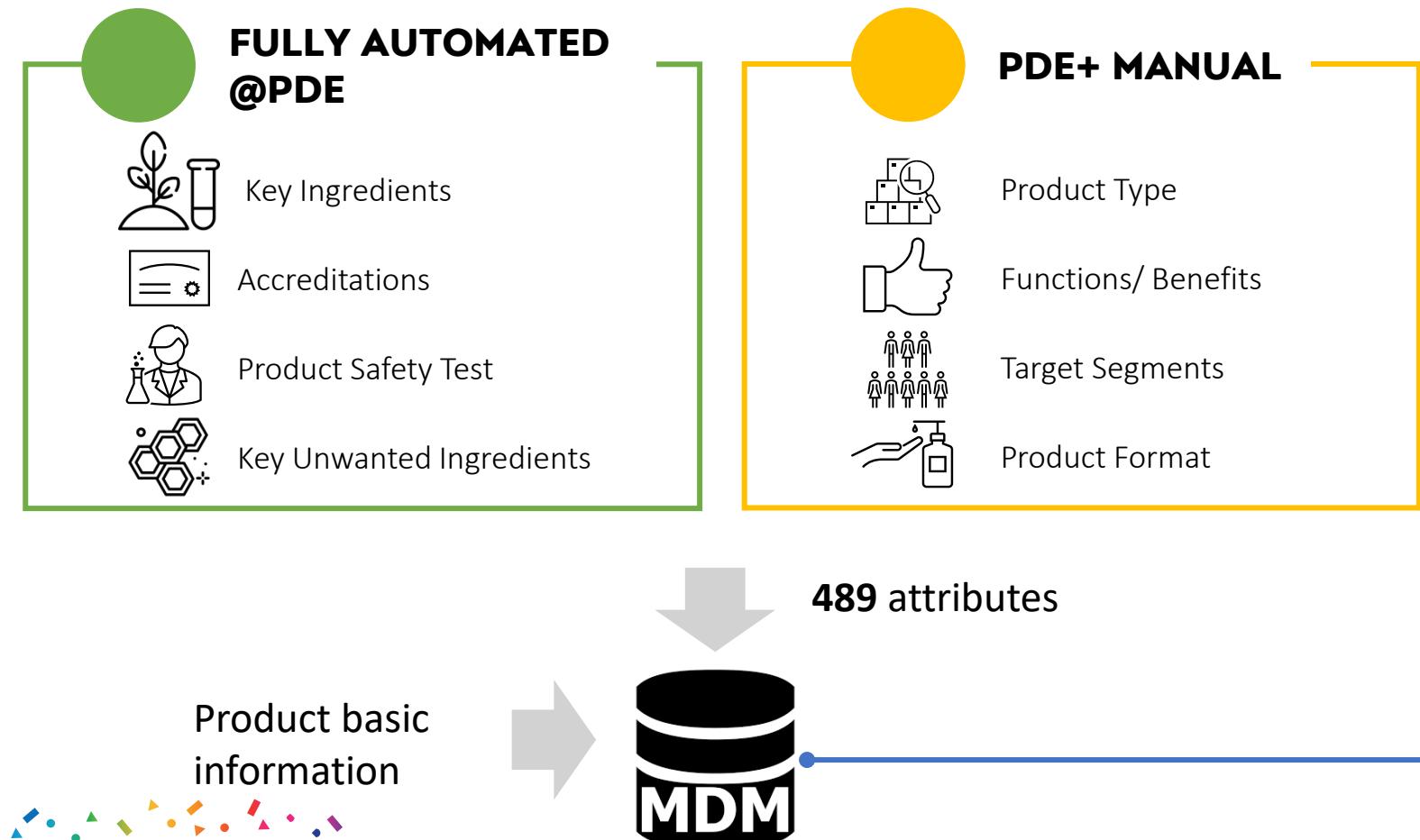


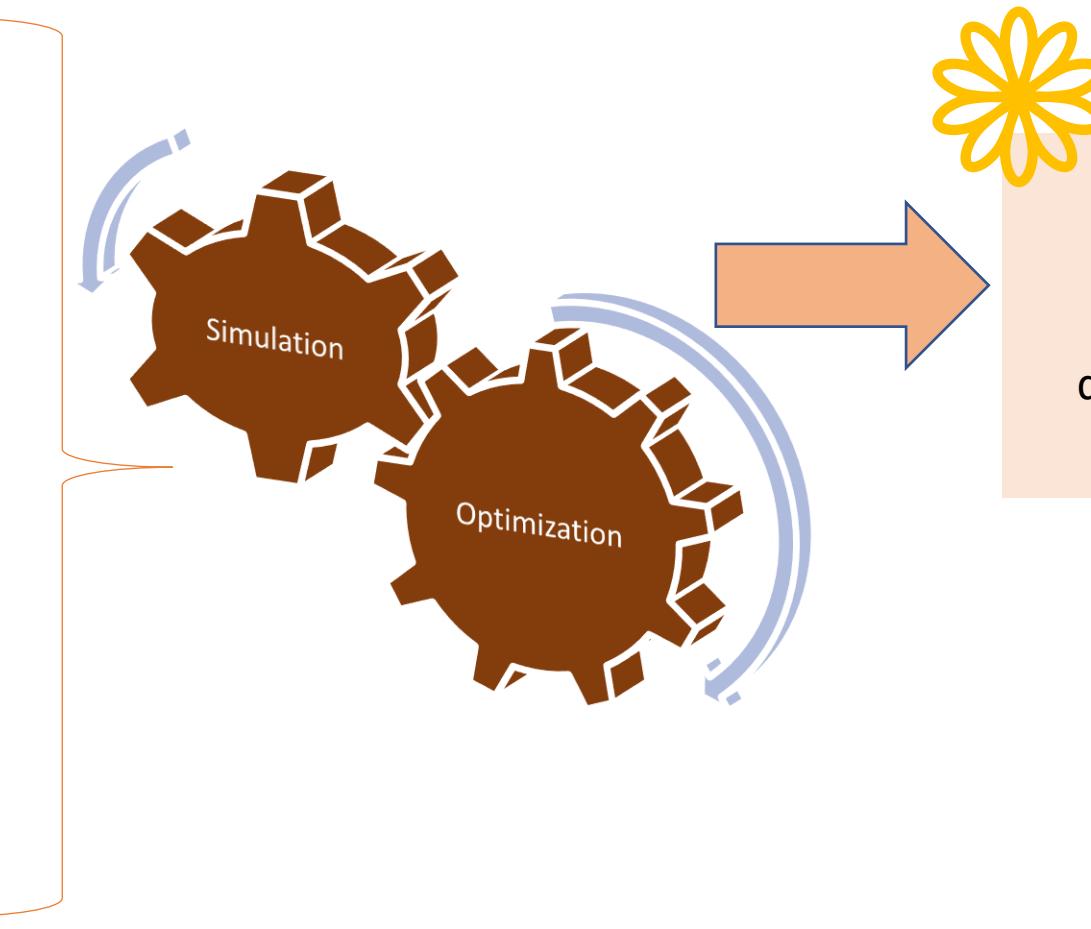
- 489 attributes added for 3 main categories
- Completed the one-off cleansing for 60,000 SKUs in 7 BUs by **NLP**
- Data passed to multiple platforms on **O+O experience improvement**

**15,000+** Hours saving on enriching product attributes

# Product Data Enhancement

Instead of tagging the product attributes one – by – one manually, Product Data Enhancement (PDE) helps tagging the product attributes by mapping the online search result/ internal data with keywords defined.



**TODAY Macro Space Optimization****Factors Being Considered**

**Recommendation**  
Suggested meterage for every department/sub-department for each store

# Macro Space Optimization (MSO)

Insights on meterage's impact on sales

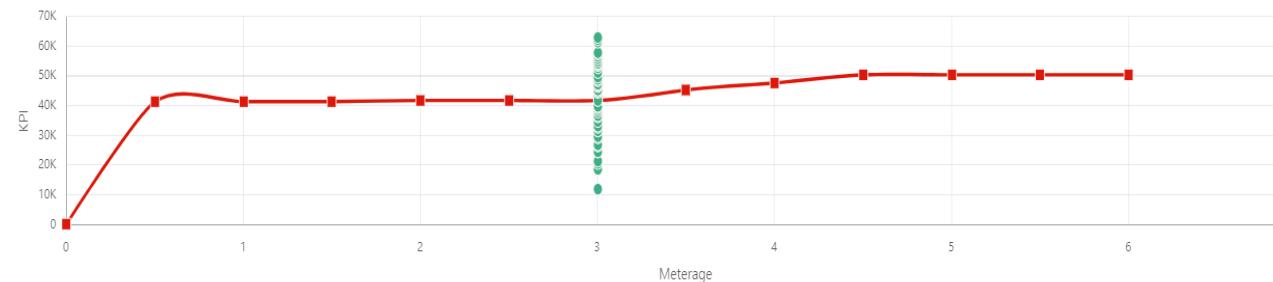
- Visualize the relationship between meterage and sales in the department/subdepartment level.

Optimization for meterage split

- Recommend the optimal POG Hierarchical Mix.

Results

POG Usage Type	Division	Department	Sub-Department
Regular	03 - Skincare	47 - Facial masks	--Select--



Division	Department	Simulated Results							Simulated Results (Original)				
		Meterage	%	Sales	%	Margin	%	Margin %	Meterage	%	Δ	Sales	%
Total (Regular)		261.50	76.5 %	996,933.74	74.3 %	313,060.06	77.5 %	31.4 %	261.50	76.5 %	0.0 %	996,933.74	74.3 %
0 - CASHIER	00 - Company - Cashier Front	1.50	0.4 %	1,089.56	0.1 %	345.60	0.1 %	31.7 %	1.50	0.4 %	0.0 %	1,089.56	0.1 %
A - CONFECTIONERY	36 - Gift Confectionery	2.50	0.7 %	4,473.44	0.3 %	851.89	0.2 %	19.0 %	2.50	0.7 %	0.0 %	4,473.44	0.3 %
A - CONFECTIONERY	37 - Chocolate / Candy	1.50	0.4 %	1,198.07	0.1 %	231.15	0.1 %	19.3 %	1.50	0.4 %	0.0 %	1,198.07	0.1 %
A - CONFECTIONERY	38 - Snack	0.00	0.0 %	0.00	0.0 %	0.00	0.0 %	NA	0.00	0.0 %	NA	0.00	0.0 %
A - CONFECTIONERY	39 - Drinks	1.50	0.4 %	1,023.91	0.1 %	523.05	0.1 %	51.1 %	1.50	0.4 %	0.0 %	1,023.91	0.1 %
E - GENERAL MERCHANDISE	14 - Sundries	0.50	0.2 %	561.80	0.0 %	111.03	0.0 %	19.8 %	0.50	0.2 %	0.0 %	561.80	0.0 %
E - GENERAL MERCHANDISE	23 - Home & Travel	0.00	0.0 %	0.00	0.0 %	0.00	0.0 %	NA	0.00	0.0 %	NA	0.00	0.0 %
E - GENERAL MERCHANDISE	25 - Hair Accessories	0.00	0.0 %	0.00	0.0 %	0.00	0.0 %	NA	0.00	0.0 %	NA	0.00	0.0 %



# Macro Space Optimization – Revamp



## Actions

- change the core programming language from R to Python.
- Re-design code structure.
- Review and re-design algorithms.



## Benefits

- ✓ Reduce the maintenance effort of data science team.
- ✓ Easier and more efficient for bug fix, feature enhancement and product integration.
- ✓ More robust and reliable results.
- ✓ Faster calculation response.

Improve the product stability maintainability

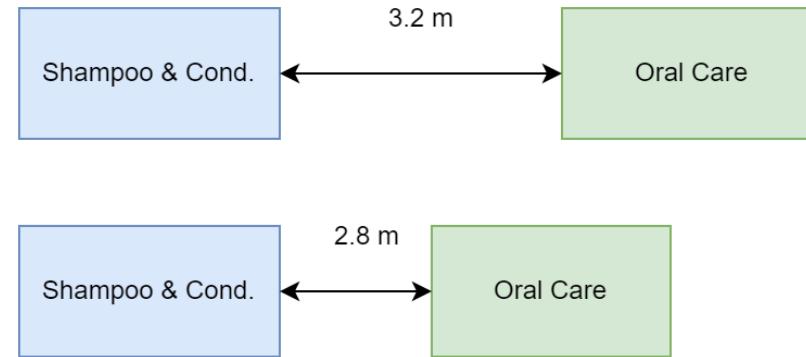
More reliable results

Better User Experience



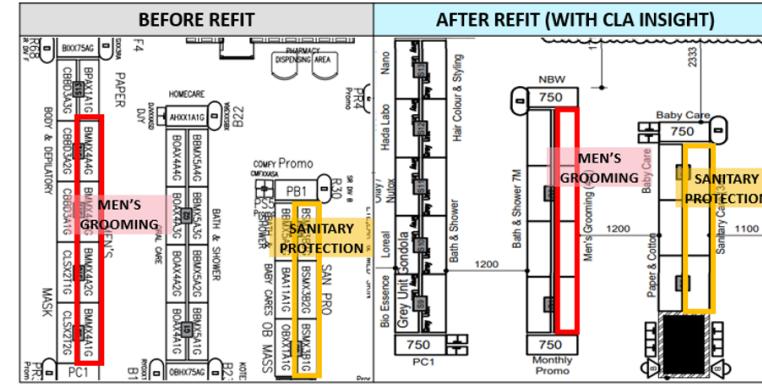
# Category Location Analysis (CLA)

Answer the question:



Mean sales = \$200,000

Mean sales = ???



## Phase 1

### Indicator of each pair

### Departments Adjacency Recommendation

- Calculate the linear relationship between the pairwise distance of department pairs and their sales related figures.



## Phase 2 (TBC)

### Department Sales Simulation

- Simulate the forecasted sales by non-linear and multi-dimensional regression model.



### Departments Location Recommendation

- Recommend the locations of different department in terms of fixture coordination.



# Category Location Analysis (CLA) in 2023

**watsons**

**Category Location Analysis Dashboard (CLA)**  
Provides Insights into category adjacency for a particular store segment

Period: Others (202027 - 202126) Segment: 2 - International Mall Area: 0 - All POG Division: B - PERSONAL CARE POG Department: BC - CONDITIONER & SHAMPOO Target Division: B - PERSONAL CARE \* All mandatory, single select

Selected: Department "BC - CONDITIONER & SHAMPOO"

**Neighbouring Department Ranking within Division**

Neighbour	POG Division	POG Department	Projected Gain/Loss Per Meterage	Cross-Shopping %
1	B - PERSONAL CARE	BO - ORAL CARE	\$ 112	11.38%
2	B - PERSONAL CARE	BM - MEN'S GROOMING	\$ 65	7.31%
3	B - PERSONAL CARE	BI - IMPLEMENTS FOR HAIR	\$ 51	2.24%
4	B - PERSONAL CARE	BS - SANITARY CARE	\$ 50	4.96%
5	B - PERSONAL CARE	BB - BATH & SHOWER	\$ 43	13.78%
6	B - PERSONAL CARE	BP - PAPER GOODS & COTTON	\$ 40	7.33%
7	B - PERSONAL CARE	BH - HAIR COLOR & STYLING	\$ 29	4.54%

Reference on Sales versus Distance  
(Display upon clicking on a department indicator bar)

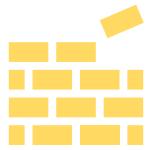
Subject Department : CONDITIONER & SHAMPOO  
Target Department : ORAL CARE

Weekly\_Sales\_per\_Meterage versus Distance

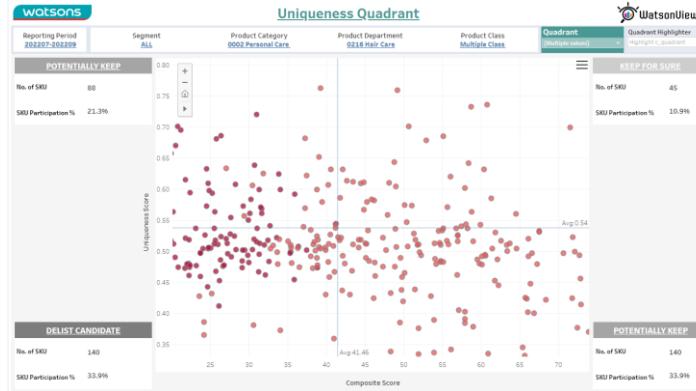
Store Code : 312  
Sales/Meterage : \$3,065  
Distance(m) : 4.25

Insights on :

- Projected gain/loss per meterage: Projection on gain/loss per meterage with department-pair distance change.
- Cross-shopping %: The mutual transaction count rate of the selected and neighbor departments.



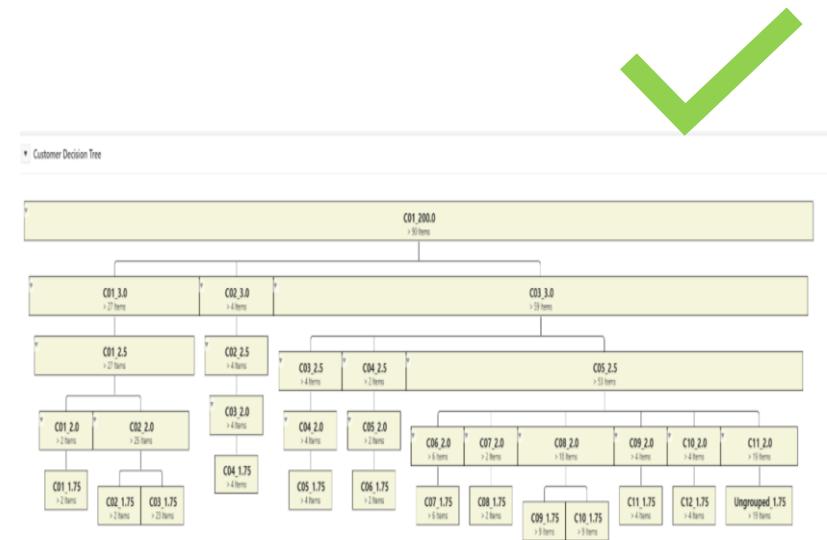
# Segment Assortment Recommendation (SAR)



## Assortment Analytics Dashboard

Providing insights for planning product assortment for each store segment on SKU or brand level based.

- Need states identification
- Product Uniqueness Score



## Customer Decision Tree

Providing insights about customer purchasing behaviour on product substitutability

- Product clustering based on product substitutability.



## Item Recommendation (Verion 2.0)

Providing recommendation and help automate the decision-making process on assortment selection by considering the predictive KPI and store space constraints.

- Predictive composite score which consists of the elements of product sales, quantity, etc.
- Recommend the product assortment by maximizing the composite score of the selected items with the consideration of space and other constraints.



# Segment Assortment Recommendation (SAR)

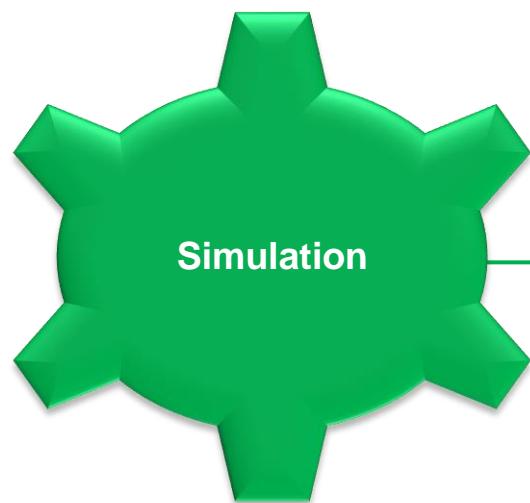
## - Item Recommendation

### Factors

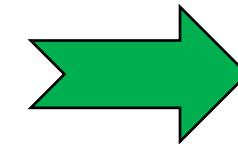
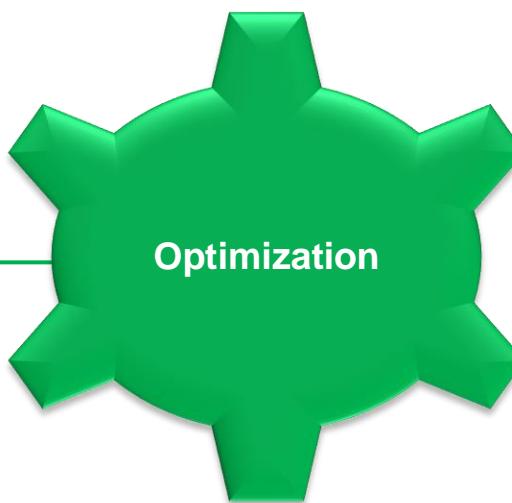
- Product substitutability
- Historical sales and quantity.
- CRM information: VIP penetration

### Constraints

- Space Constraints:
  - Space of the fixture/planogram
  - Product width
- Business rules:
  - Must-included items
  - Must-excluded items



Composite score



**Recommendation of  
items for each planogram**



TOMORROW

# Space Ecosystem – a more Integrated Solution



Analysis & Insight



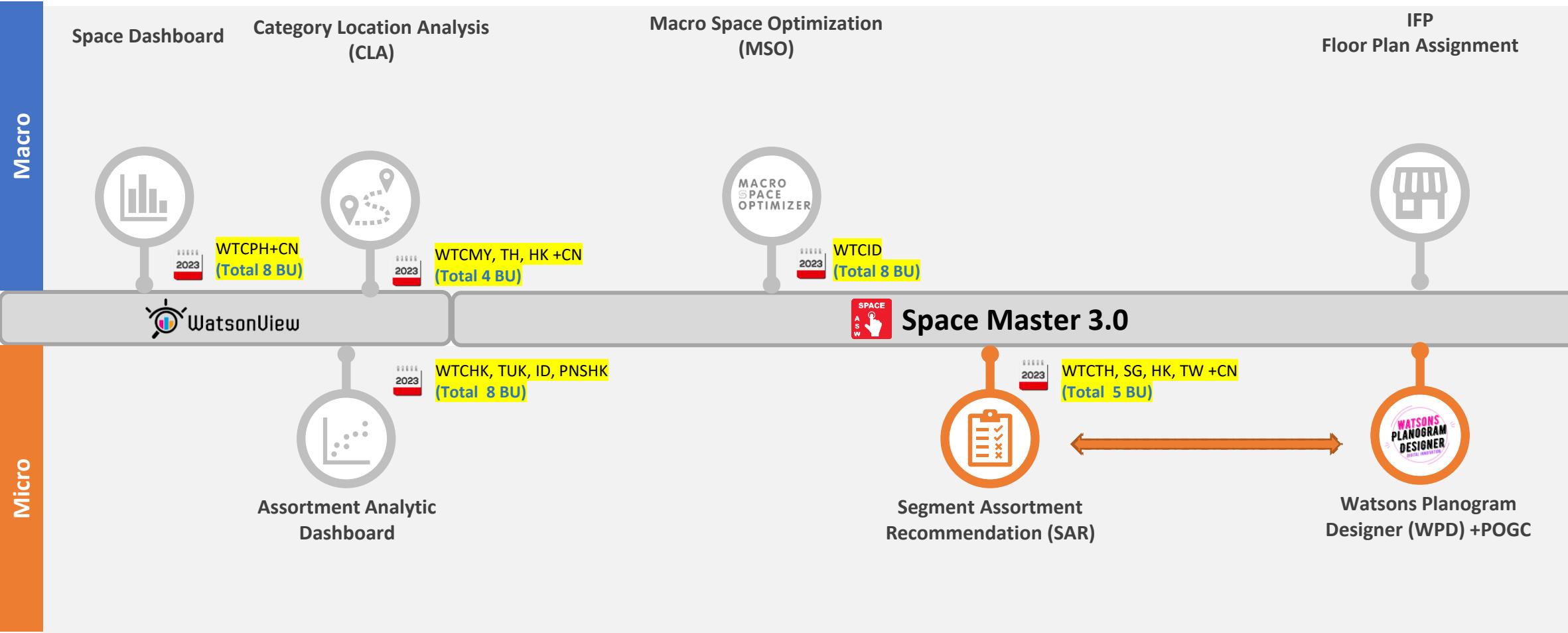
Planning & Optimization



Execution & Compliance

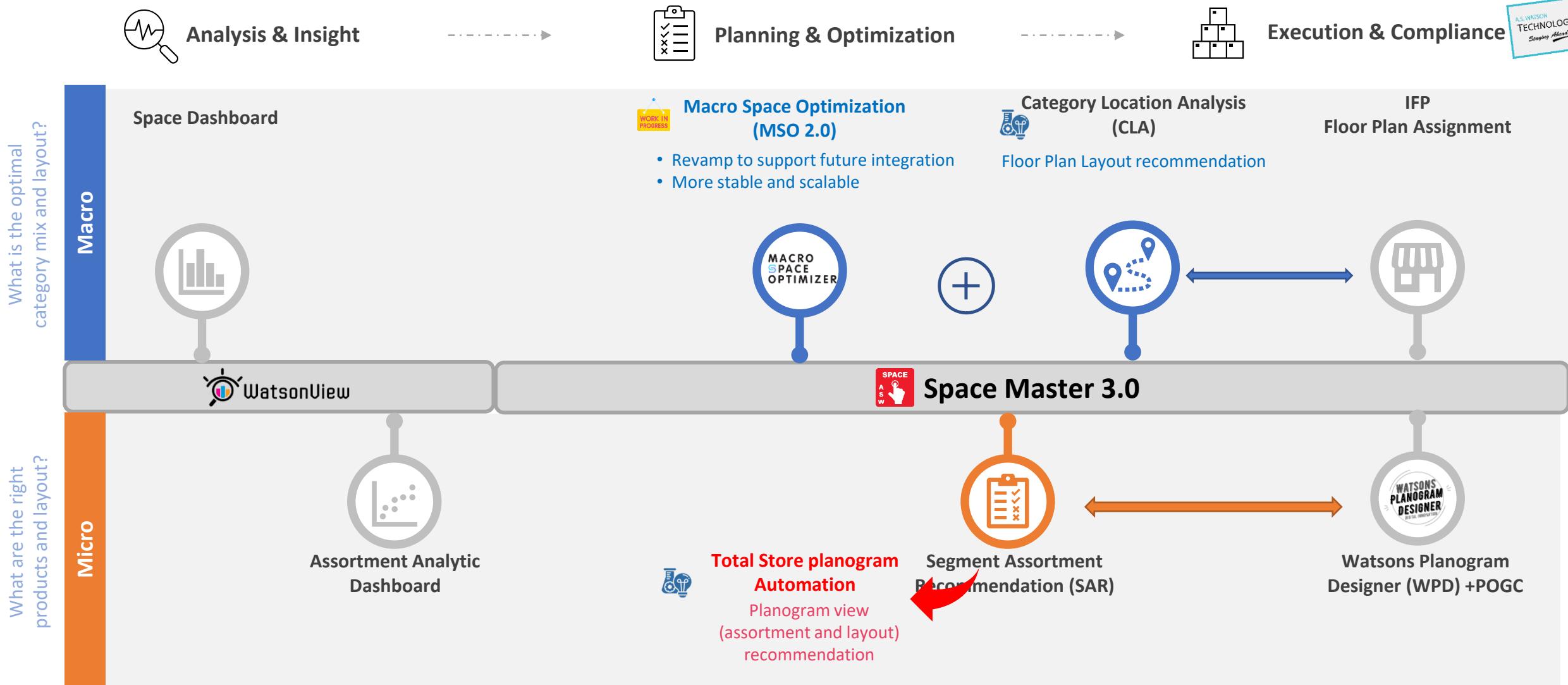


What is the optimal category mix and layout?

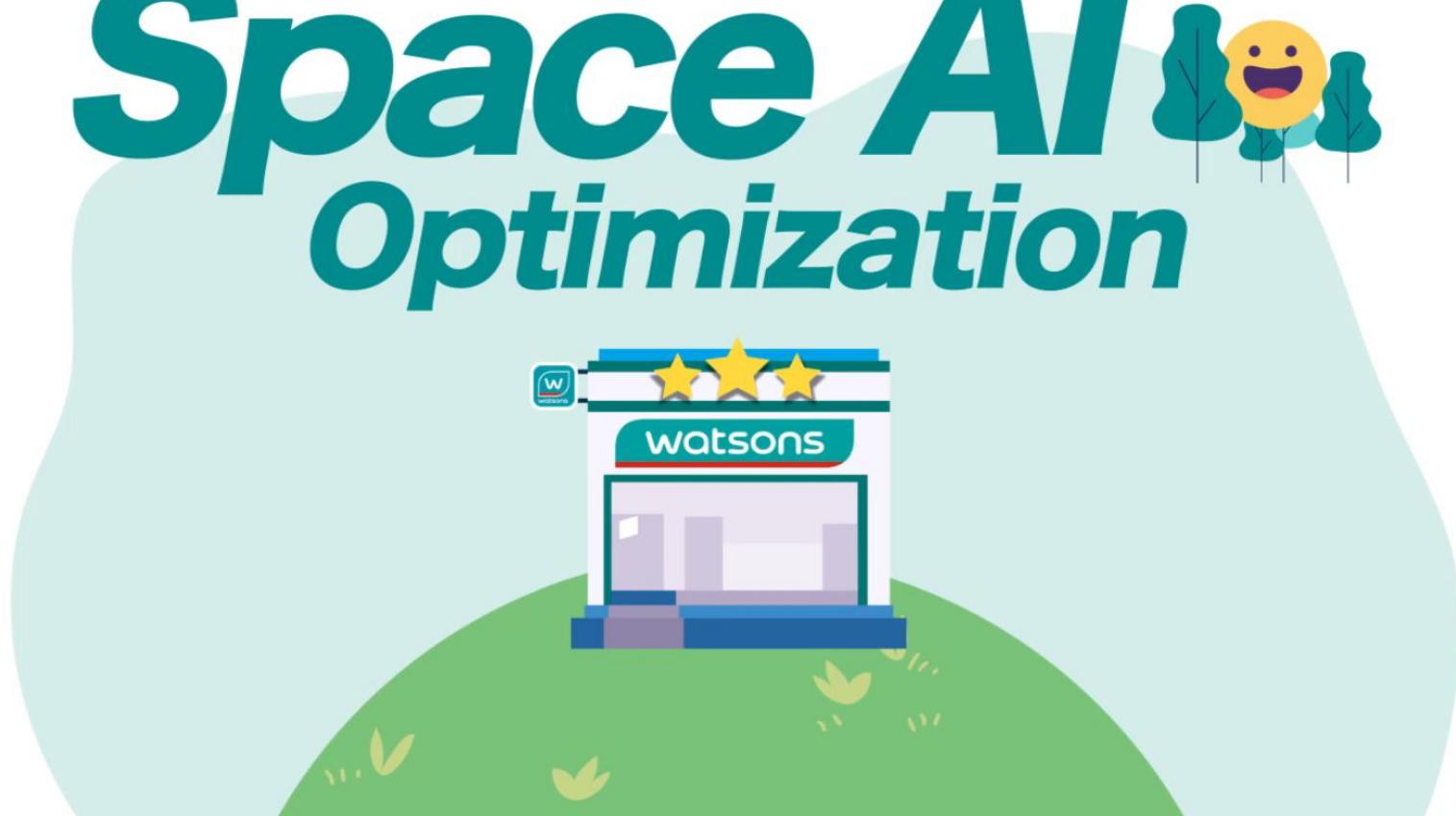


What are the right products and layout?

# Space Roadmap – Hyperautomation



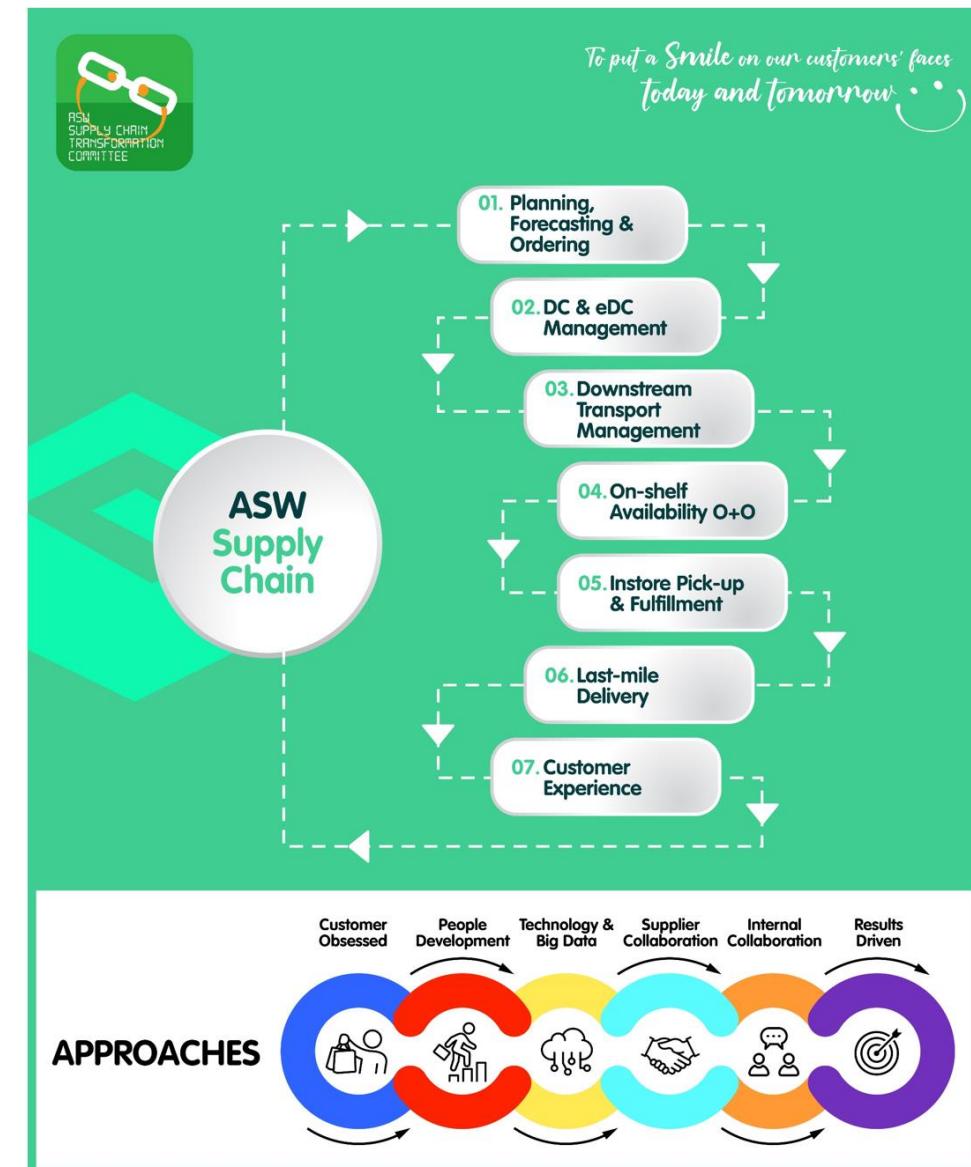
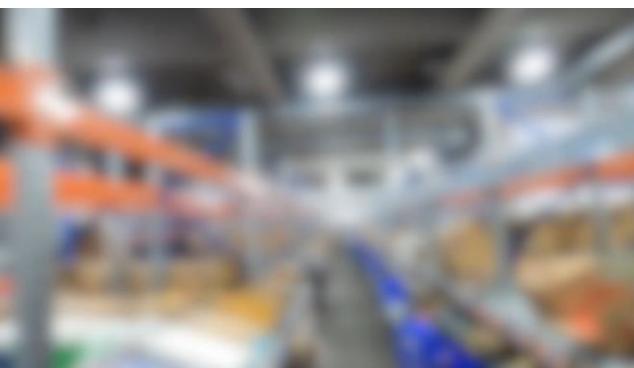
# Space AI Optimization





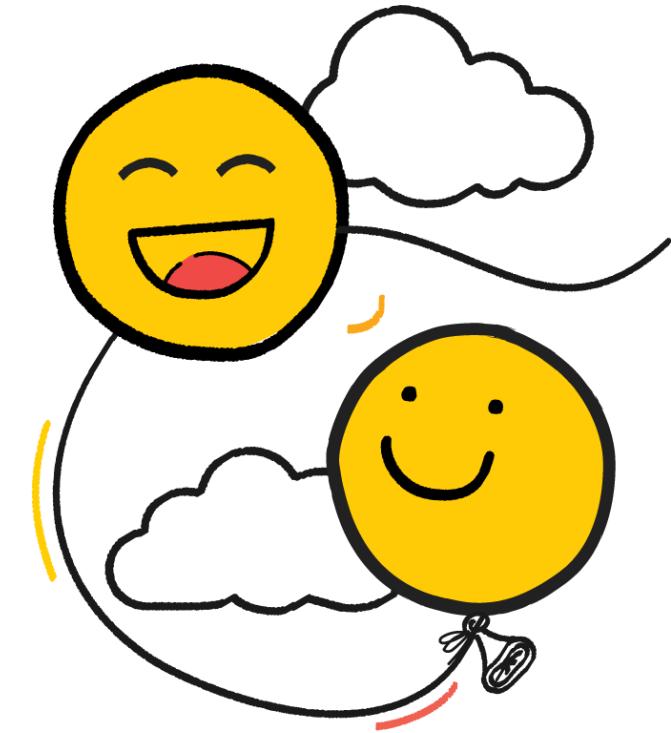
To put a Smile on our customers' faces  
today and tomorrow 😊

# 06 | Supply Chain Initiatives



A *Smile* IS THE  
SHORTEST DISTANCE  
BETWEEN TWO PEOPLE!

## 07 | Other Projects



Smile! AND THE DAY  
WILL SMILE WITH YOU.



## 07 | Web Scrapper

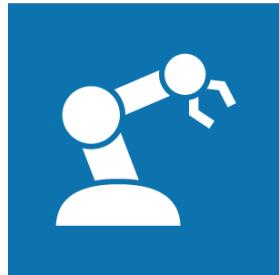
A.S. Watson Group



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SHORTEST DISTANCE  
BETWEEN TWO PEOPLE!

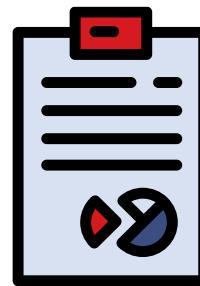
# Scraping Bot – Provide competitor pricing data

bigdata



## The Scraper

Scrape price, promo mechanics, on top promotion and price trend on the competitors' website



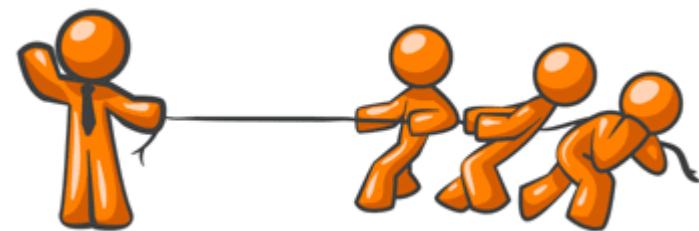
## Generate competitor report

- ✓ Reduce manpower to check competitor price
- ✓ Ensure competitor price on report accurate to 100%
- ✓ Knowing competitor promotion mechanism
- ✓ Better pricing strategies



## Data to EDP

- Convert report to data and transfer to EDP
- Storage all competitor data inside EDP
- Leverage the scraped data to another program



promo<sup>right</sup> WatsonView



## 07 | CLS NLP Initiatives

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BETWEEN TWO PEOPLE!

# AI powered approach on customer survey comments

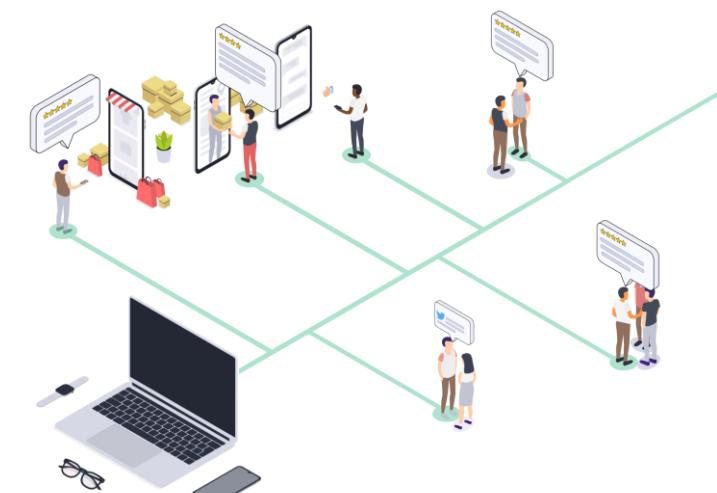
We developed an AI-driven approach to track how our customers feel and to support better business making from their feedbacks

## Artificial Intelligence for customer **feedbacks**

Leverage state-of-art language model knowledge to enhance survey analysis efficiency and convert feedback into actionable insights and trends.

### The Problem

- **Open-ended comments** are received at Customer Love Score Survey to reflect comments and areas can be improved across different business units across the globe in A.S. Watsons. **Volume can be up to ~50k.**
- Comments could be in local language, which makes it hard to analyze and conclude manually
- Comments cover **wide range of topics; multiple topics** may appear in same comment



### Our solution

- **Feedback understanding by state-of-art language model:**
  - **Sentiment Analysis:** Understand the attitudes behind the comments (e.g. Positive/Neutral/Negative)
  - **Topic Modeling:** To help Wise team to identify what the comments is about. (e.g. ~15 Topics currently: Shipping & Delivery services, Membership Programme, Customer Services)
- **Comment translation:** Translating comments to English for easier summarization.

### Example

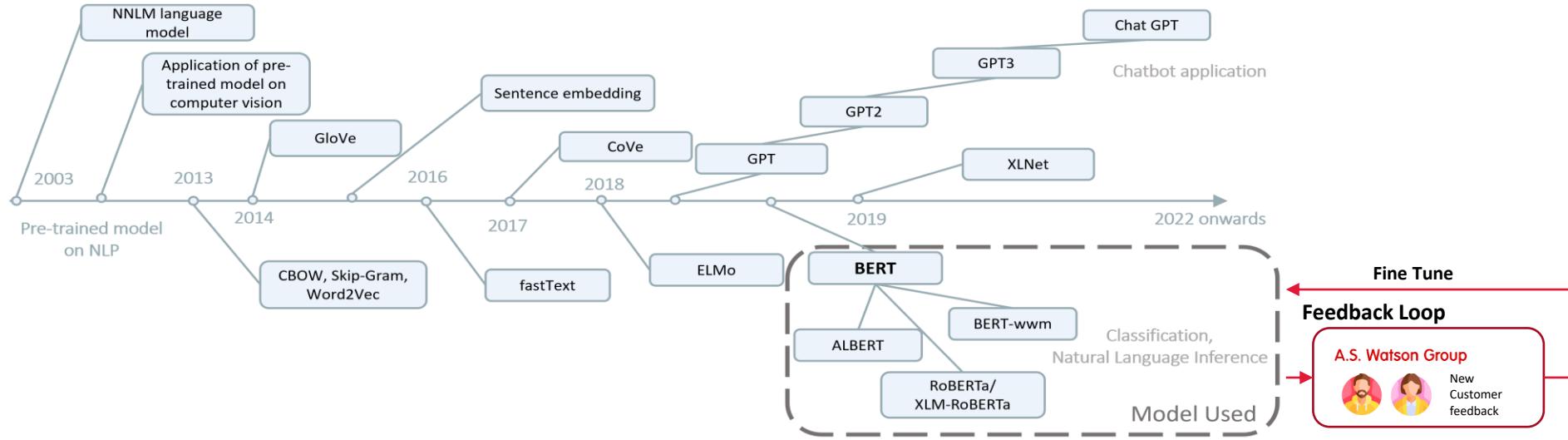
		Sentiment	Topic	Translated comment for WISE Team
	...การจัดเตรียมจัดส่งspinคำใช้เวลานานไปหน่อยค่ะ	By model Negative	Shipping & Delivery services	The preparation of delivery takes a little too long.
	...Very convenient...free shipping on elite holder..	Positive	Membership Programme Shipping & Delivery services	

# State-of-Art language model

We leverage state-of-art model knowledge to understand our customers' feedback from diverse backgrounds and languages

## Handling human language with the latest approach

BERT is a pre-trained language model developed and released in 2018 by Google, which **to learn a general language representation and the language knowledge can be further transferred to perform a wide variety of tasks with little or no further training.**



### Why it is powerful?

- Some models are pre-trained with multilingual corpus which **equipped with a cross-lingual ability**
- BERT and some latest modified versions **are pre-trained on large amounts of training data** (from 2.5TB with 3.3 billions words) from different language sources to learn general language representations
- It is a general-purpose model **which can adapt to different language tasks with no/ little pre-processing of custom data**

### How does it help in our case?

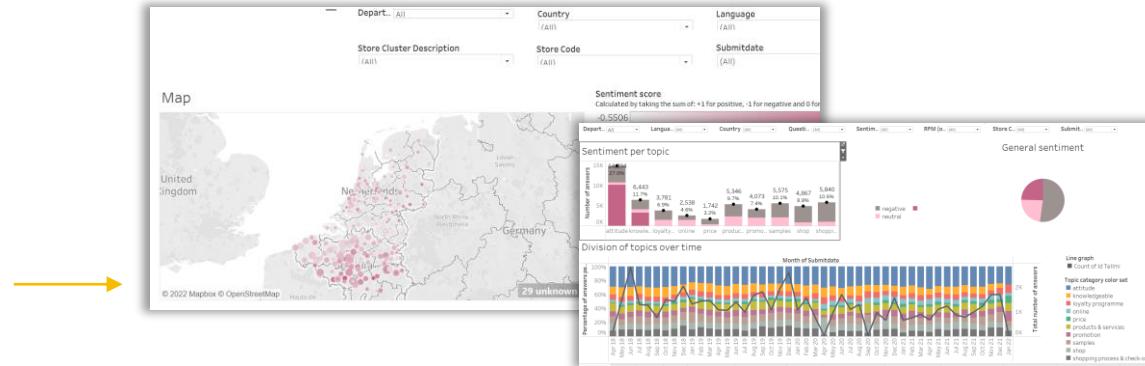
- Faster** – Leveraging pre-trained model knowledge saves effort and time to build models from scratch to achieve similar performance
- Easy application** – The model can understand the comments from a wide range of topics with little or no further training, which can be used for various BU and diverse topics easily
- Multilingual Supported** - The model is pre-trained with multi-lingual data and able to understand across different languages. It can handle comments in local languages in different BUs

# Our Solution

Integrate the model results into existing working tools helps business to detect customers' trends and patterns

## Planned Phase

BU	SID	RID	Subject	Comments	translated_comment	sentiment_by_score	Max_score	>0.5_top3
WTCPH	128869	34017	Unspecified	very friendly and accomodating	very friendly and accomodating	positive	['Ease of use of online platforms', 0.3315956473350325]	Ease of use of online platforms
WTCTW	215151	40831	Checkout	看到資訊說有電子折價券可以使用，所以就去APP裏東西，結果要經過點，還折價券一直不出來，買了好幾樣，過才可以用，後來最後才可以使用，	Seeing a newsletter saying that there are electronic discount scrolls that can be used, so when you go to the app to buy things, when you have to check out, you can't run out of the discount volume. You can use it for several hours before you can use it. Fortunately, you can use it in the end. Unfortunately, you can't use it until the end.	neutral	['Payment options', 0.9927911162736404]	Payment options, Promotion, Ease of use of online platforms
WTCIO	279558	1191	Membership	uk mini	Misal setiap pembelian 300k, 600rb, 900k mendapat merchandise atau produk	neutral	['Membership programme', 0.9962068796157837]	Membership programme, Promotion, Samples/free gift
WTCID	279558	1208	Promotion	SUKA DENGAN PROMO - PROMO NYA	Like the promos	neutral	['Promotion', 0.9945083260336194]	Promotion, Membership programme, Customer service (e.g. Live chat/ E-mail/ Phone)
WTCTW	215151	42238	Stock availability	1. Stoknya agak lebih cepat diisi kembali, terutama di event besar jangan terlalu lama..._x0000_ 2. Stoknya di perpanjang jangan hanya 11SN maksimal, naikkan jadi 21SN..._x0000_ 3. The application is updated, especially for	After checkout, I jumped out of the invention immediately, but I still know you need to delete your own checklist to see before you can rule out this problem. 1. The stock is to be filled more quickly, especially in big events not too long... ~x0000_ 2. Stock in multiplying not only 11SN maximum, raise to 21SN..._x0000_ 3. The application is updated, especially for	negative	['Stock availability', 0.9964136481285095]	Stock availability
WTCID	279558	1282	Stock availability	3. Aplikasinya diupdate terutama ntar yg	Stock availability, Communication of order status, Store navigation	neutral	['Stock availability', 0.9971644282341003]	Stock availability, Communication of order status, Store navigation



### Phase 1: Excel Deliverables for Sentiment and Topic Modelling

The score for the overall sentiment and top topics prediction based on each comment

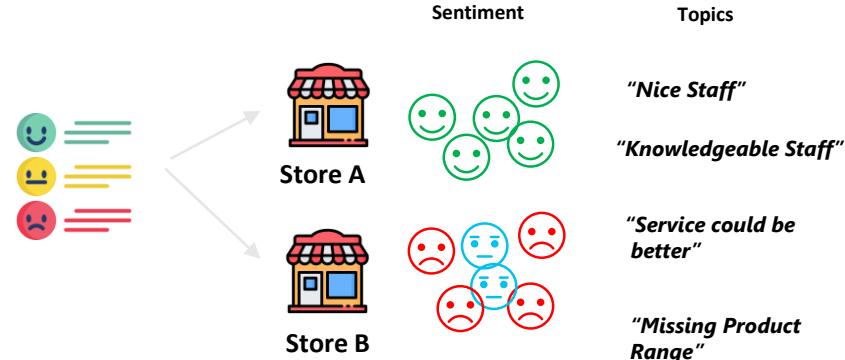
### Phase 2: Feedback Monitoring Dashboard

- Provide a Single platform for Holistic understanding on the sentiment and topics from aggregated view and individual view
- With the mapping to other data such as location data, the dashboard provides the extent that is impacting our customers like delivery, and service.

## How we impact?

- Multi-Language supported
- State-of-Art Models with compressed NLP knowledge and Perform Fined Tuning for CLS comments
- Automated and integrated

### Detect Pattern and trends



Year of  
**Smile**  
MAKE 2023

## 07 | Latest AI

A.S. Watson Group



A *Smile* IS THE  
SHORTEST DISTANCE  
BETWEEN TWO PEOPLE!

# AI is ever-changing...

The AI field is constantly evolving, with new technologies emerging daily. As the Big Data team, it is vital for us to stay ahead of the curve. Advancements in language models and image generation have led to a variety of commercial applications. These technologies can greatly improve efficiency and provide valuable insights in various industries. To remain competitive, it is important for us to stay informed and adapt to these advancements.



Personal coding assistant



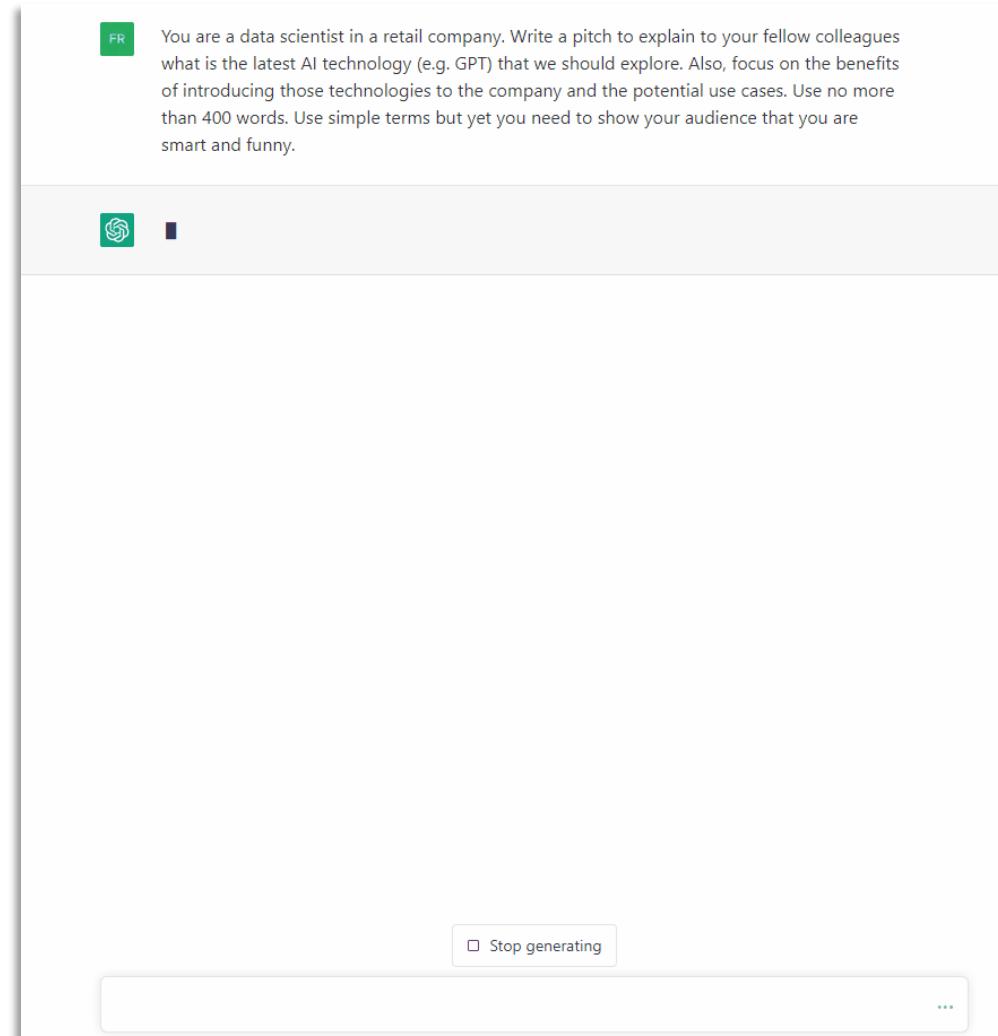
Generate content (e.g. emails, Ads)



Design your presentation



Create art by text input



FR You are a data scientist in a retail company. Write a pitch to explain to your fellow colleagues what is the latest AI technology (e.g. GPT) that we should explore. Also, focus on the benefits of introducing those technologies to the company and the potential use cases. Use no more than 400 words. Use simple terms but yet you need to show your audience that you are smart and funny.

[Input field]

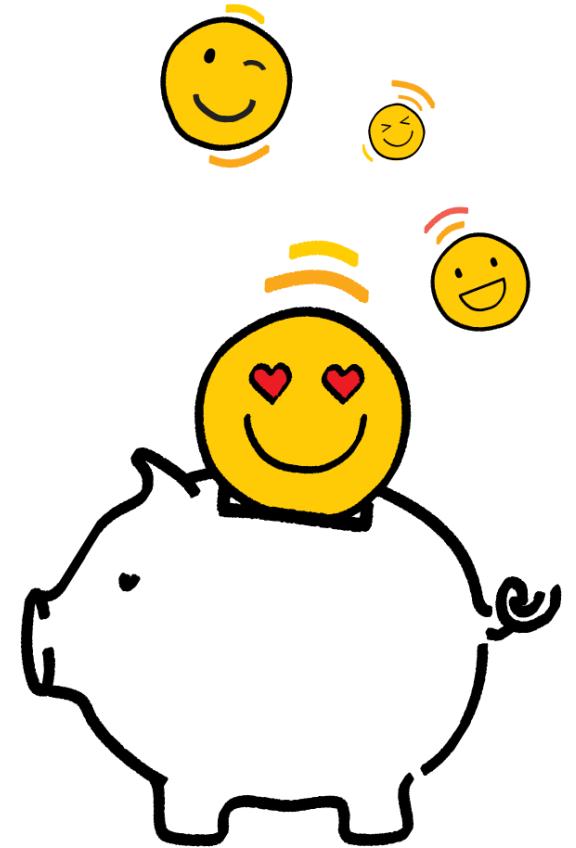
Stop generating

ChatGPT

## Potential Use Cases ...?

- Product description generation
- Social media content generation
- Product search engine
- Customer service chatbot
- And more...

Year of  
*Smile*  
MAKE 2023



# Thank you!

A.S. Watson Group

*Smile! IT INCREASES  
YOUR FACE VALUE.*