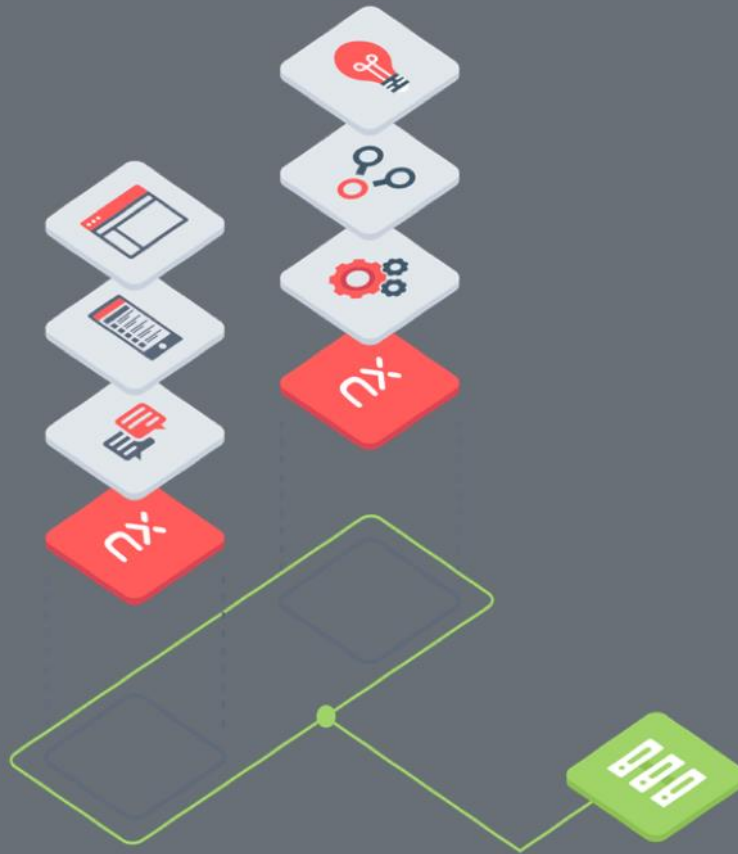# nextail

Store Transfers kick-off

July 2020

Private and confidential
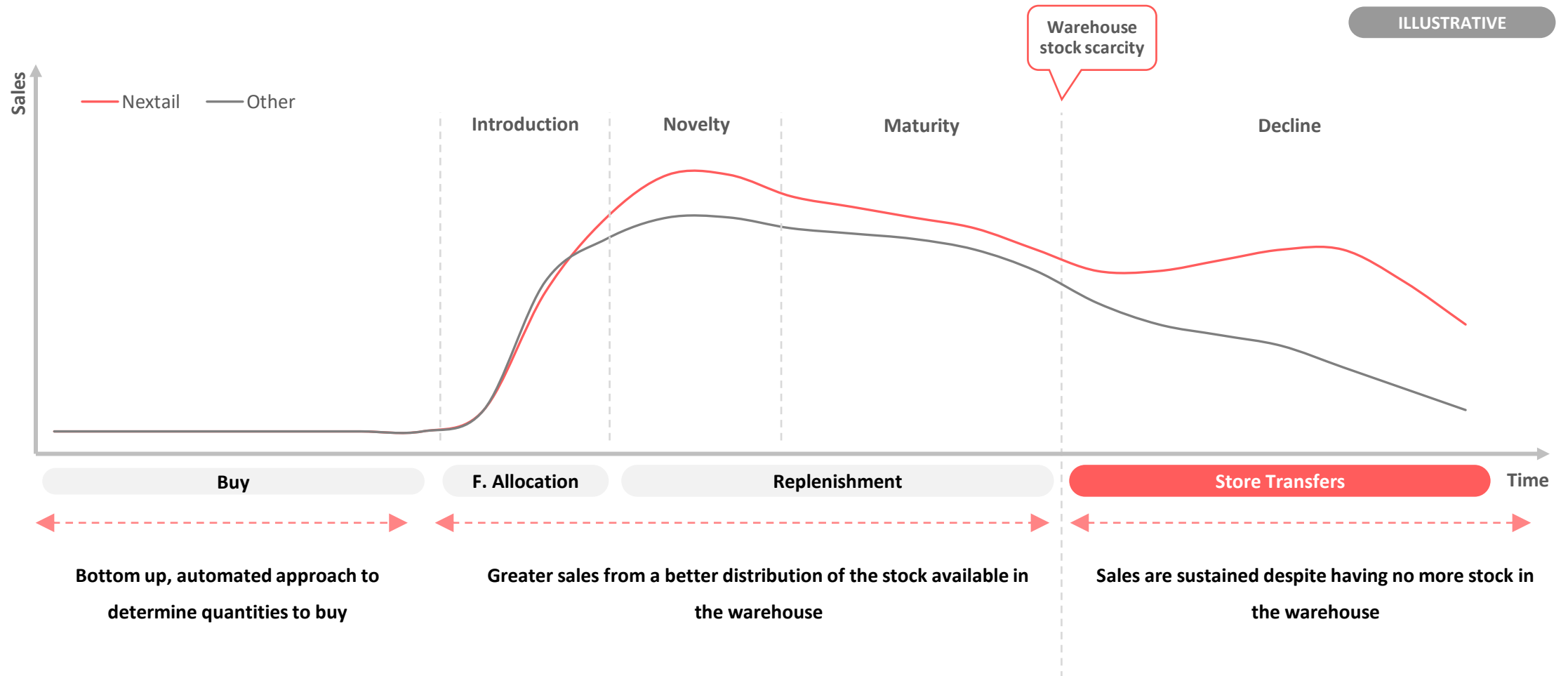
Content

1 **Overview of Nextail Store Transfers**

2 Criteria impacting the Demand Forecast

3 Criteria impacting Global Optimisation

Store Transfers are the key to maximizing sales when there is no stock left in the warehouse

ILLUSTRATIVE

Warehouse stock scarcity

Sales

Nextail — Other —

Introduction   Novelty   Maturity   Decline

Buy   F. Allocation   Replenishment   Store Transfers   Time

Bottom up, automated approach to determine quantities to buy

Greater sales from a better distribution of the stock available in the warehouse

Sales are sustained despite having no more stock in the warehouse

Store transfers help to maximize full price sales and reduce excess of units both at the end of the product's lifecycle and at any other moment throughout the season.

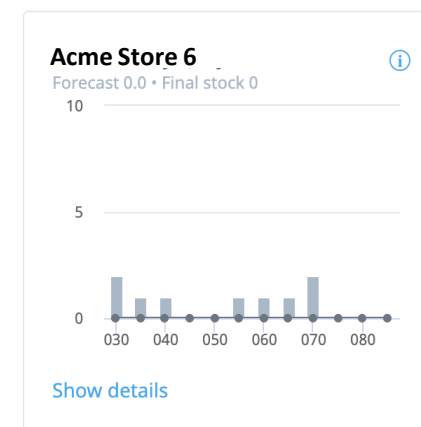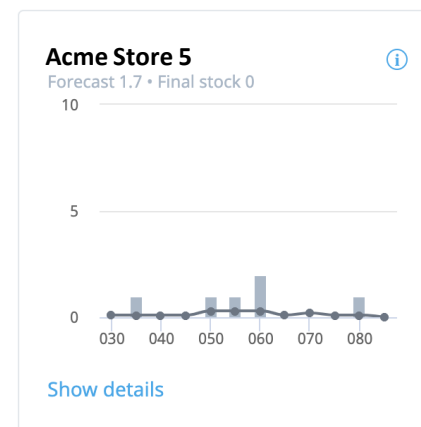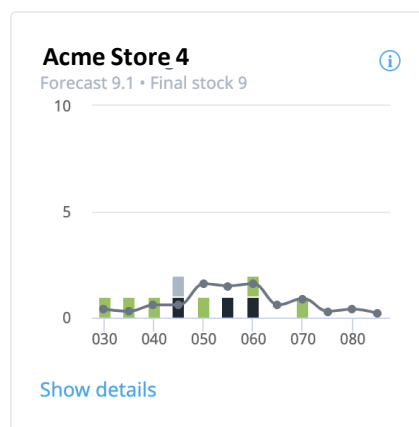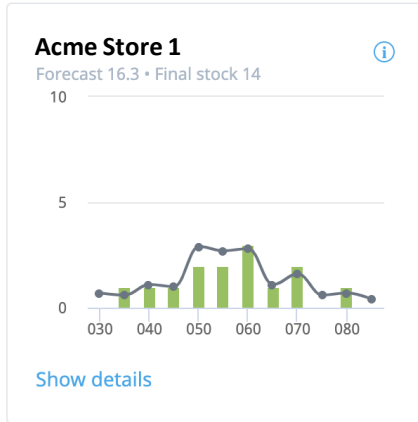# Store Transfers aligns stock availability with the demand

ACME PRODUCT 02776

182576 • 59.99 €

ESTIMATED SALES INCREASE

▲ £ 2,400

●—● Demand forecast   🟩 Units received

⬛ Units not moved   🔲 Units sent

Acme Store 1 ⓘ
Forecast 16.3 • Final stock 14

Show details

Acme Store 2 ⓘ
Forecast 15.3 • Final stock 13

Show details

Acme Store 3 ⓘ
Forecast 12.3 • Final stock 10

Show details

Acme Store 4 ⓘ
Forecast 9.1 • Final stock 9

Show details

Acme Store 5 ⓘ
Forecast 1.7 • Final stock 0

Show details

Acme Store 6 ⓘ
Forecast 0.0 • Final stock 0

Show details

Once the transferred units are received, sales start again in the receiving stores

Illustrative example

Acme Store 1
Forecast 15.0 • Final stock 15

Show details

Demand forecast
Units not moved
Units received
Units sent

Store Transfer execution

Sales

Stock

STORE STOCK (INCL. STOCK IN TRANSIT TO THE STORE)

The potential impact is measured as the Estimated Sales Increase (ESI) and considers sales that would have happened if store transfer was not executed
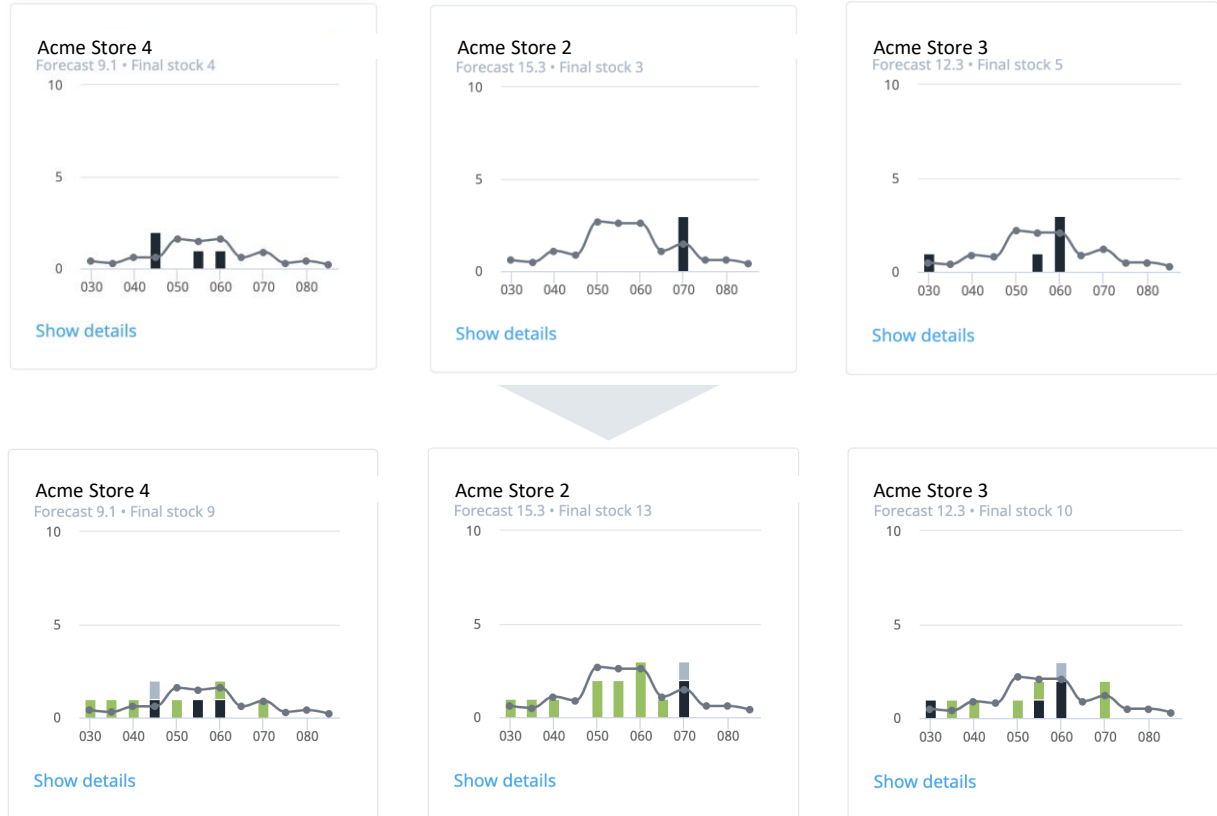
ACME PRODUCT 02776

182576 · 59.99 €

ESTIMATED SALES INCREASE

▲ £ 2,400

- ●─● Demand forecast
- 🟩 Units received
- ⬛ Units not moved
- ⬜ Units sent

Before the transfer:

Initial expected sales ~ 960£

After the transfer:

Final expected sales ~ 3,360£

Acme Store 4
Forecast 9.1 · Final stock 4

Show details

Acme Store 2
Forecast 15.3 · Final stock 3

Show details

Acme Store 3
Forecast 12.3 · Final stock 5

Show details

Acme Store 4
Forecast 9.1 · Final stock 9

Show details

Acme Store 2
Forecast 15.3 · Final stock 13

Show details

Acme Store 3
Forecast 12.3 · Final stock 10

Show details

ESI = Final expected Sales - Initial Expected Sales

Note: ESI takes into account the products prices and the demand forecast of both the sending and the receiving store (i.e. it corrects for sales that would have taken place, in the sending stores, if the stock had not been transferred).

The level of implementation and the impact on sales can be monitored in the submitted scenario

IMPLEMENTATION

Summary
Days from submit: 21

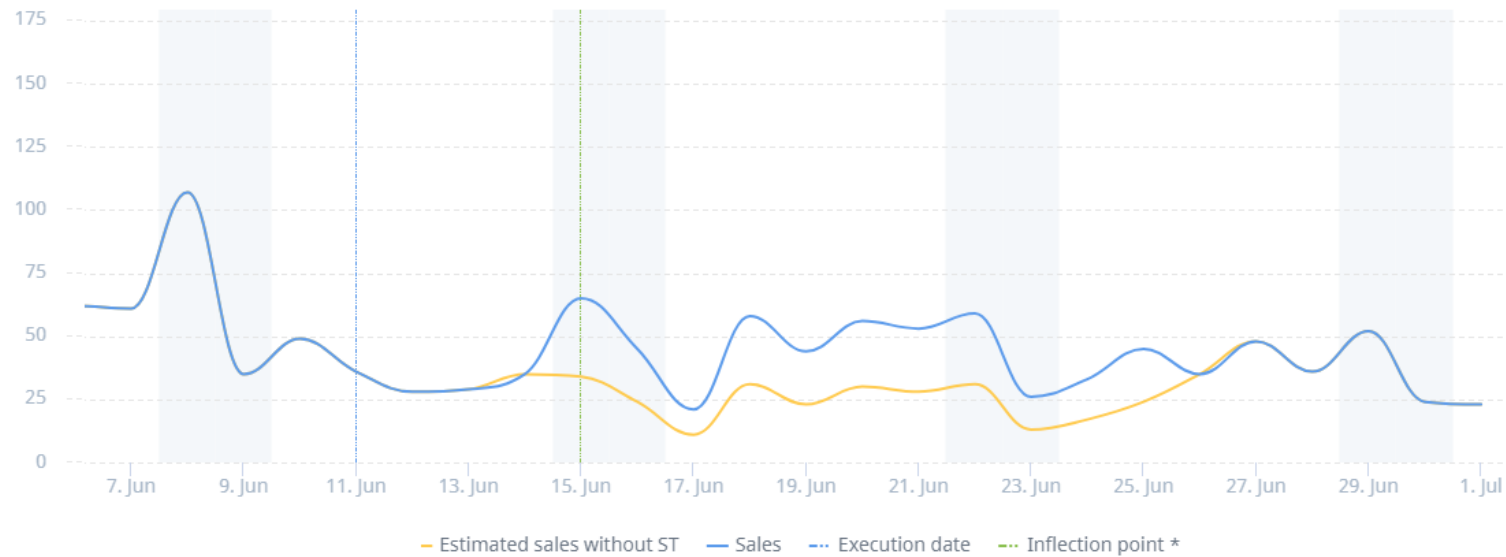| TRIPS	UNITS	TRANSFERRED VALUE
76 % 82 / 107	63 % 1,869 / 2,944	64 % 233,385 € / 365,579 €

Actual Sales Increase ▲ 239 units
May 21, 2019 - Jul 1, 2019 • 63% transferred

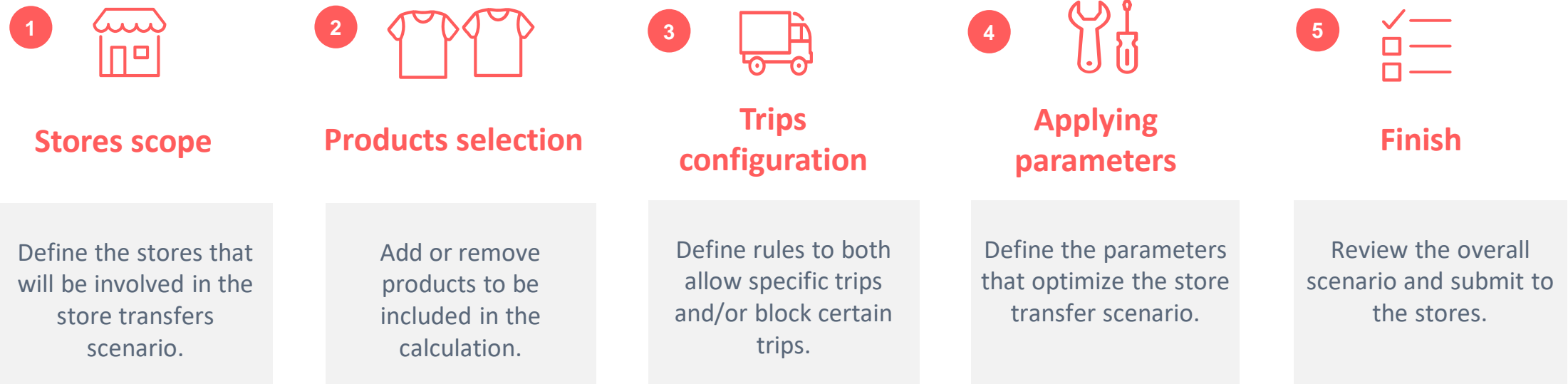UNITS VALUE   Only transfered

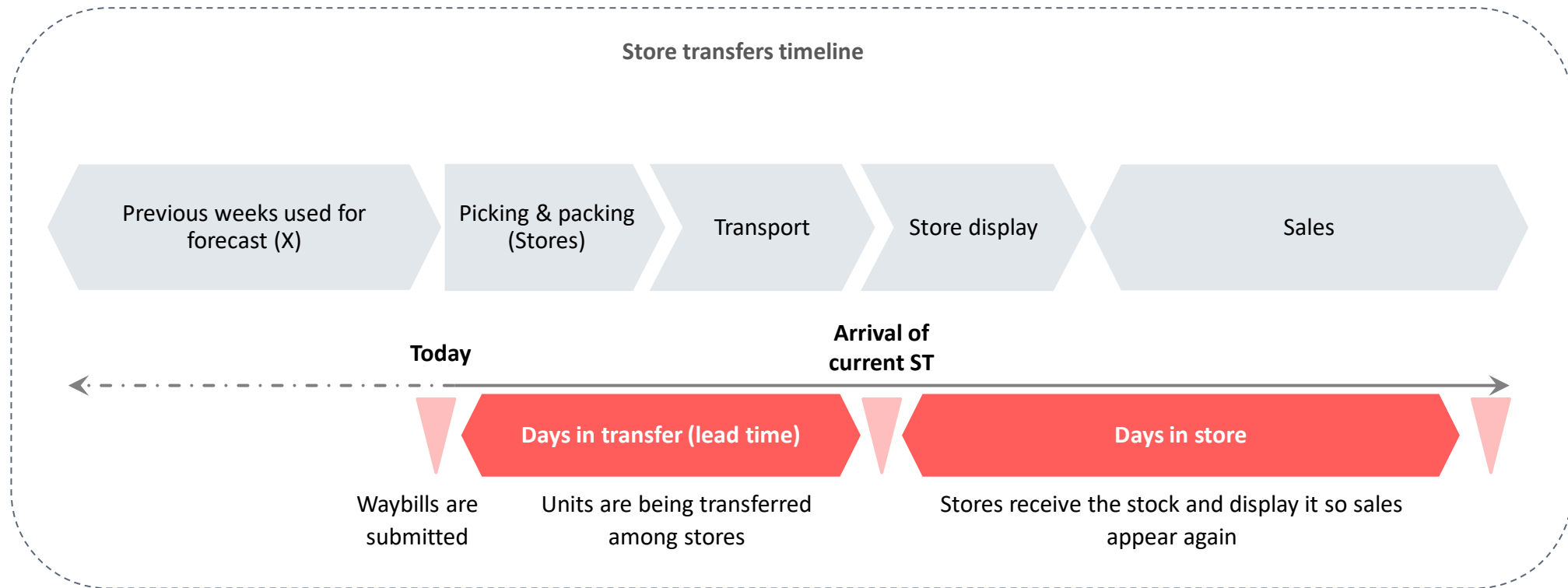— Estimated sales without ST — Sales -·- Execution date -·- Inflection point *

(*) Date when stores moved at least 75% of the final transferred units.

Only 5 steps are required in order to execute a Store Transfer

1

Stores scope

Define the stores that will be involved in the store transfers scenario.

2

Products selection

Add or remove products to be included in the calculation.

3

Trips configuration

Define rules to both allow specific trips and/or block certain trips.

4

Applying parameters

Define the parameters that optimize the store transfer scenario.

5

Finish

Review the overall scenario and submit to the stores.

Nextail automatically takes into account the customer's timelines and lead times

Store transfers timeline

| Previous weeks used for forecast (X) | Picking & packing (Stores) | Transport | Store display | Sales |

Today

Arrival of current ST

Days in transfer (lead time)

Days in store

Waybills are submitted

Units are being transferred among stores

Stores receive the stock and display it so sales appear again

Nextail Store Transfers algorithm is divided in two phases: Demand Forecast and Global Optimisation

Store Transfers algorithm:

1. Demand Forecast

2. Global Optimisation
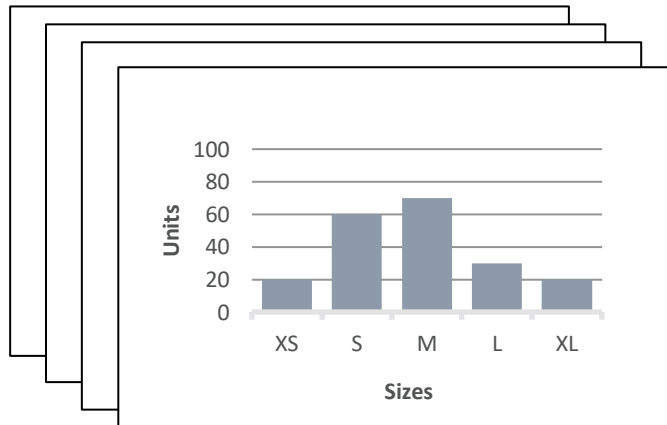
What's the best I can do with each item I have while...

- Maximizing the probability of sales
- Considering logistics costs
- Considering cost of opportunity of moving it across different stores
- Making sure constraints and business rules are followed

Main forecast criteria

Main optimisation criteria

nextail

Different criteria such as sizes, size curves and past sales play a key role in the demand forecast...

Main forecast criteria

Sales forecast at product level

- Previous weeks sales
- Weight of weeks
- Planning horizon
- Store stockouts
- Seasonality
- Promotions
- Same family products
- Other conditions

Forecast at product level

+

Size curve at the product level

XS	S	M	L	XL
10%	20%	30%	30%	10%
1	2	3	3	1

▶

Demand Forecast at SKU-level

XS   S   M   L   XL
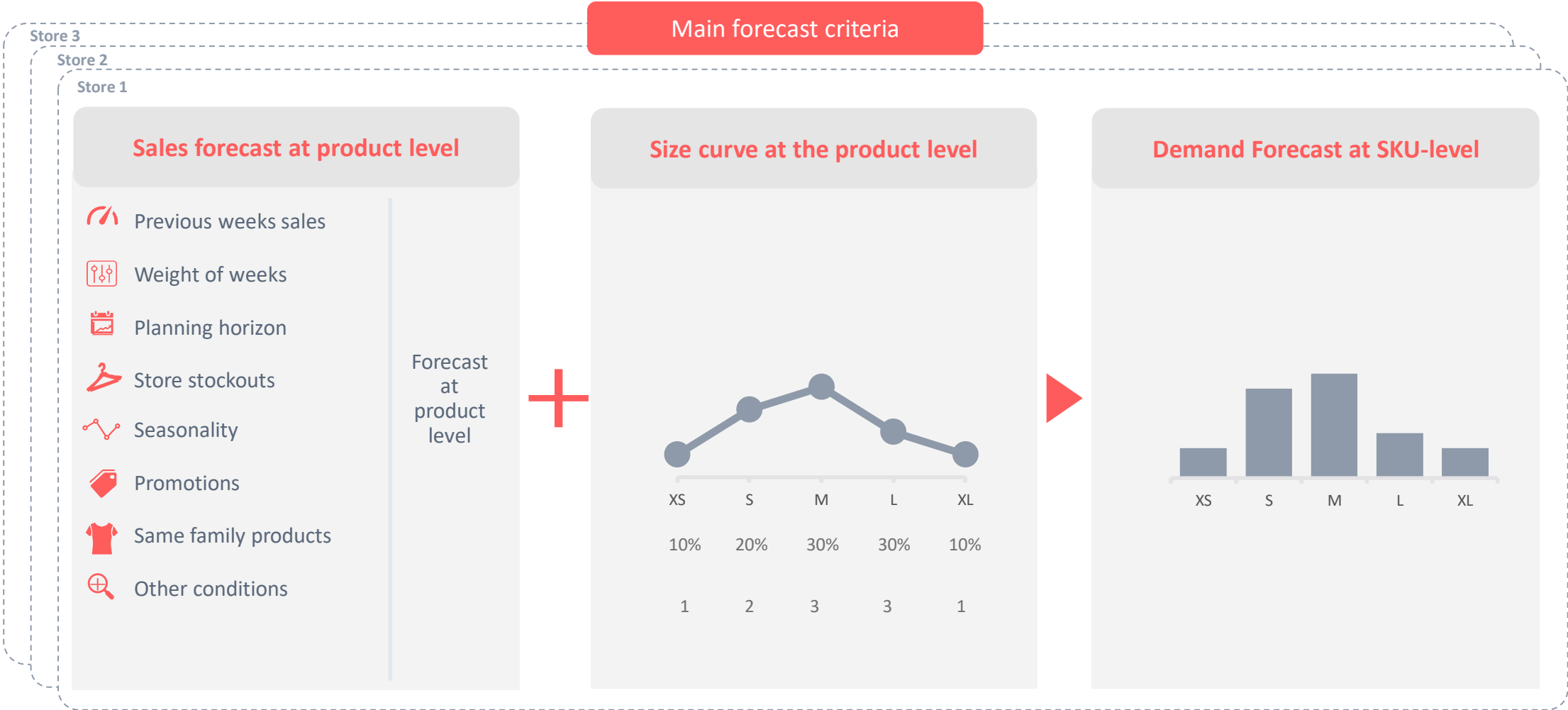
... while other criteria such as stock positions in stores and logistics costs are considered when running the Global Optimisation
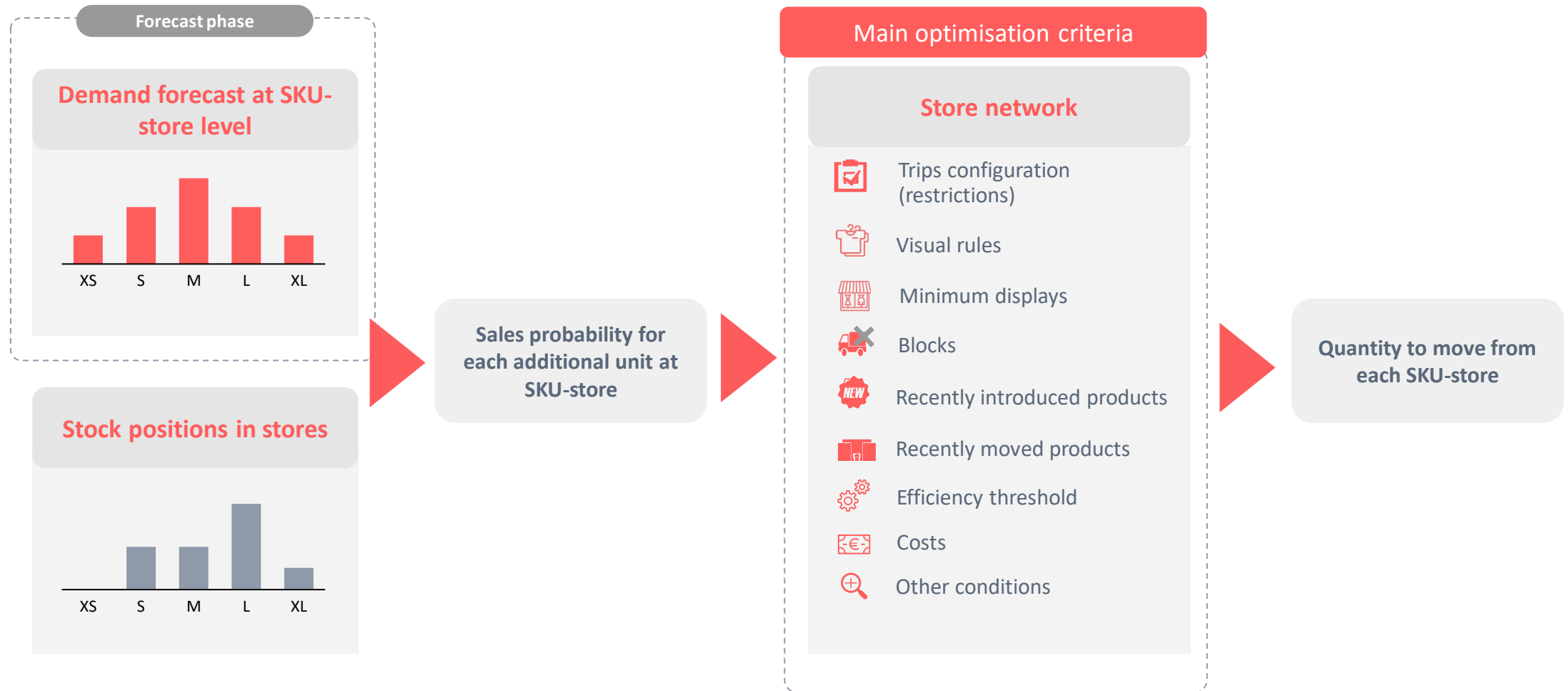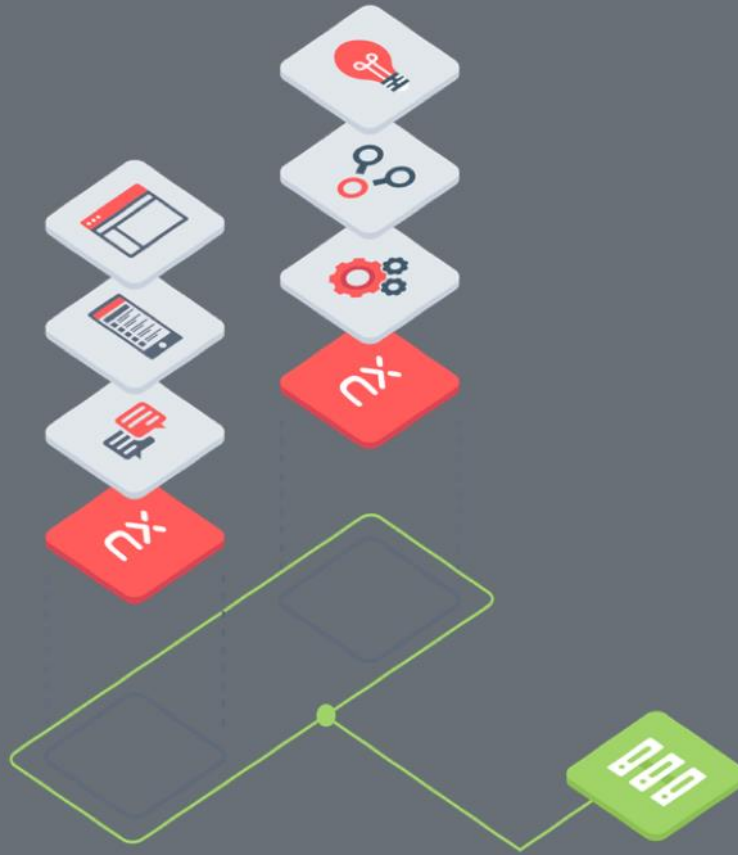
Forecast phase

Demand forecast at SKU-store level

XS S M L XL

Stock positions in stores

XS S M L XL

Sales probability for each additional unit at SKU-store

Main optimisation criteria

Store network

- Trips configuration (restrictions)
- Visual rules
- Minimum displays
- Blocks
- Recently introduced products
- Recently moved products
- Efficiency threshold
- Costs
- Other conditions

Quantity to move from each SKU-store

Content

The aim of the Demand Forecast phase is to have a reliable demand prediction

Store Transfers Demand Forecast (DF) engine

It is used twice for each SKU-store combination:

① **DF of receiving stores:** To estimate how many units will be sold before the stock arrives

DF of sending store: To estimate the lost sales of sending units and decide if it is worthy to send them or not

② ... and to estimate how many additional units are needed to cover demand until the end of the "demand forecast" period

Store transfers calculation   **Stock arrives to the correspondent store**   **End of planning horizon**

Days in transfer (Lead time)   **Days in store**
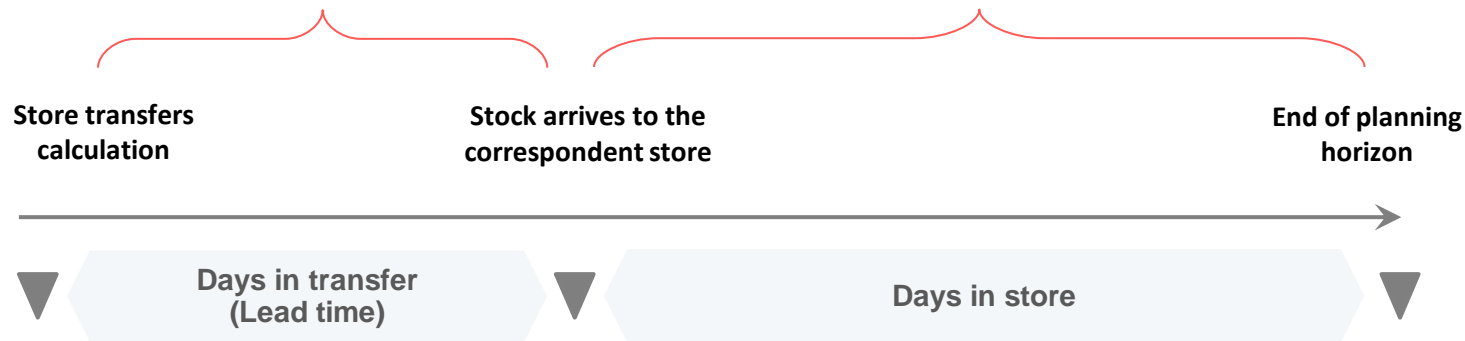
It considers not just past sales, but also the opportunity to sell that the product had (stockouts, period on display, etc.)

Several criteria are considered in building a reliable Demand Forecast

Criteria when forecasting	Embedded within the algorithm	Inputs user can influence
Previous weeks sales		✔*
Weight of weeks		✔*
Planning horizon		✔*
Store stockouts	✔	
Seasonality	✔	
Promotions		✔
Same family products	✔	
Other conditions	✔	

* This parameter can be modified while launching the store transfer

Using weighted past sales to cover processing days is key in building the Demand Forecast (Input)

Criteria when forecasting

- Previous weeks sales
- Weight of weeks
- Planning horizon
- Store stockouts
- Seasonality
- Promotions
- Same family products
- Other conditions

Previous weeks of sales:

- Number of previous weeks used for the forecast.

Weight of weeks:

- Percentage of weight assigned to each of the previous weeks.

Planning horizon:

- Number of future sales days to be covered in the forecast calculation

These parameters can be modified in every execution depending on the type of transfer needed

Information about store stock availability allows Nextail to have a real time understanding of demand

Criteria when forecasting
Previous weeks sales
Weight of weeks
Planning horizon
Store stockouts
Seasonality
Promotions
Same family products
Other conditions

Store

XS 1 · S 2 · M · L · XL

Warehouse

XS 1 · S 3 · M · L 1 · XL 1

Store

XS 1 · S 2 · M · L · XL

Warehouse

XS 1 · S 3 · M · L 1 · XL 1

Absolute Stockouts

Definition: measures SKU size gaps in a store vs. the SKU sizes it should have.

Calculation: 3 sizes with 0 stock in the store, out of 5 sizes in the store (Absolute stockout = 60%)

Real Stockouts

Definition: measures SKU size gaps in a store vs. the SKU sizes it should have adjusting for stock availability in warehouse.

Calculation: 2 sizes with 0 stocks in the store but with stock in the warehouse, out of 5 sizes in the store (Real stockout = 40%)

Nextail considers stockouts to understand the real demand of a product in a store
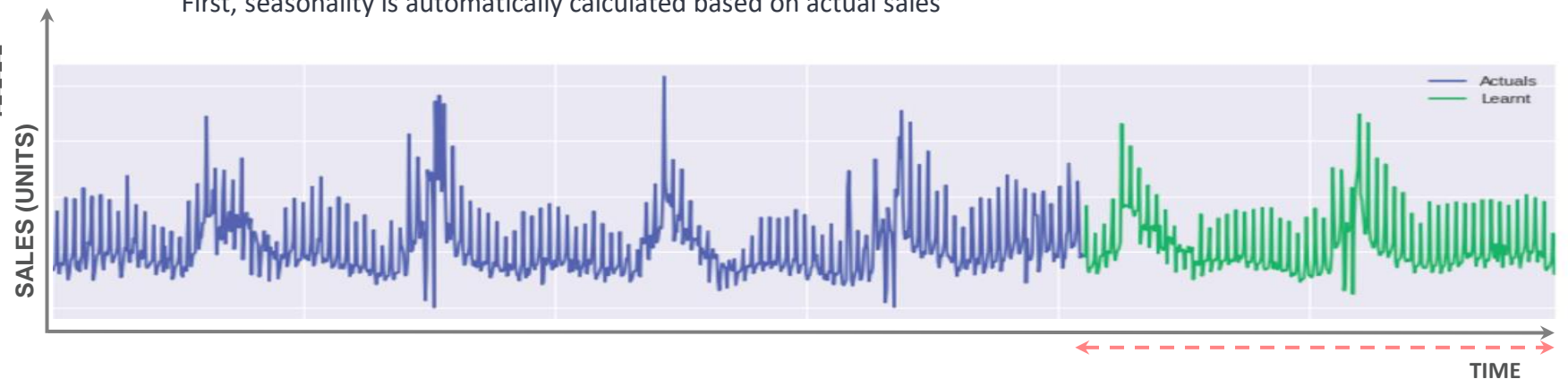
The effect of recurring events (seasonality) is automatically calculated by Nextail

ILLUSTRATIVE
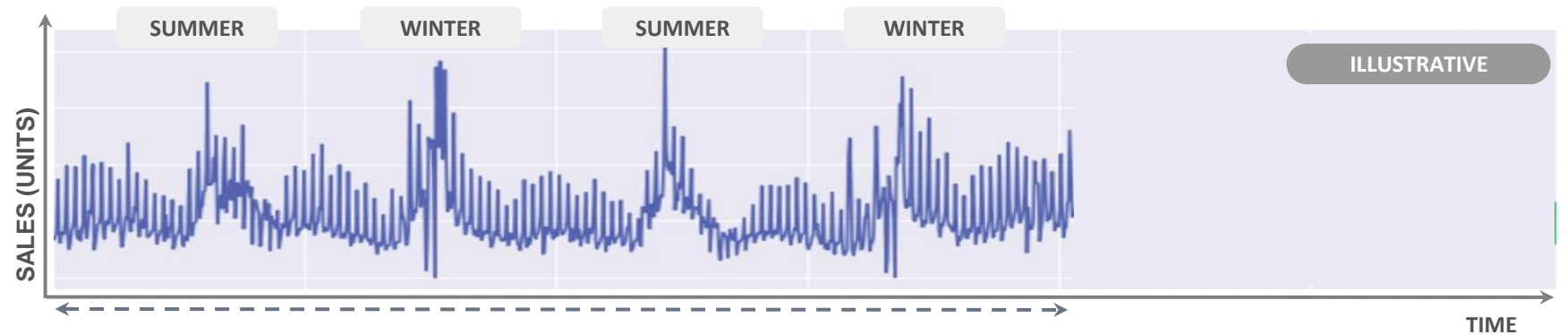
First, seasonality is automatically calculated based on actual sales

It is then automatically calculated for the near future, based on historical data

Criteria when forecasting
- Previous weeks sales
- Weight of weeks
- Planning horizon
- Store stockouts
- Seasonality
- Promotions
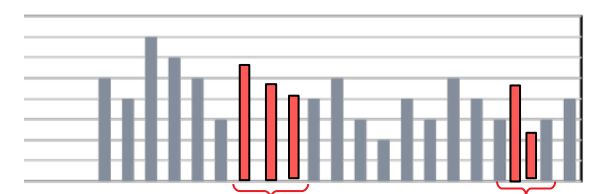- Same family products
- Other conditions

The effect of non-recurring or movable events can be set up in Nextail's platform as Promotions

Criteria when forecasting
📈 Previous weeks sales
🎚 Weight of weeks
📅 Planning horizon
🧥 Store stockouts
〰 Seasonality
🏷 Promotions
👕 Same family products
🔍 Other conditions

Sales SS17   Back to school   MSS   Black Friday   Sales AW17
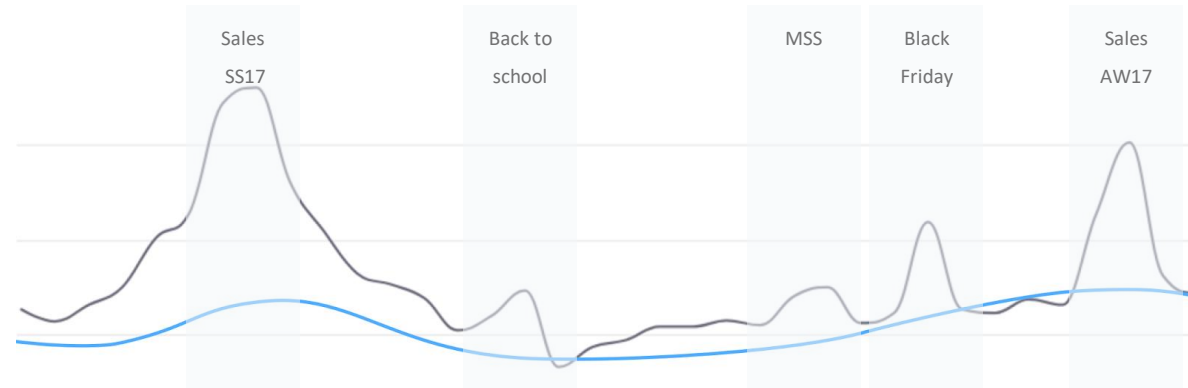
Overview of the promotions
Select the promotions available for your network of stores and products

ONGOING   FUTURE   **FINISHED**

Sales February		-20%	
Period from 14 Feb to 16 Feb, 2019	👁 🗑	Period from 8 Jan to 31 Jan, 2019	👁 🗑
🏬 92 stores 🏷 7 products		🏬 10 stores 🏷 3 products	

A promo coefficient increases demand though not necessarily the stock assigned

Defining which level of product categorization to use is key when there is not enough information at product-store level

Criteria when forecasting
Previous weeks sales
Weight of weeks
Planning horizon
Store stockouts
Seasonality
Promotions
Same family products
Other conditions

Same family products:

- When there is not enough past sales information at product-store level, we use data from similar product in order to calculate the forecast.
- The customer gives us the information about which level of categorization to use (by family, sub-family, departments).
- The level of categorization must not too specific nor too broad.
- It is important to make sure there are enough products in each category.

There are other conditions impacting forecast when store data is not robust enough

Criteria when forecasting

- Previous weeks sales
- Weight of weeks
- Planning horizon
- Store stockouts
- Seasonality
- Promotions
- Same family products
- Other conditions

Description of problem

Nextail's solution

Lack of sales data

Data transmission

Enough historic data although there is some **missing data** of stock-outs

Fill in blanks by using the rest of the days and assigning them weight according to seasonality

Products reintroduced in the warehouse after a long period without stock

This means that we will not need to re-initial

There is **not enough past-data** to elaborate a proper forecast

Delve deeper into the historic data until the product was available in the store and there is relevant data available

Size curves are calculated once a week based on the last 60 days of sales at family-size set-store level

- Size curves are used to understand the sales behavior of each size in each store and break down the total product forecast into a demand forecast at SKU level.

- Normally, size curves are calculated considering the following levels:

  o Store

  o Product categorization (family /subfamily/ department)

  o Size set

- You can request to change the number of days to calculate the size curve as needed:

  o Number of past days to calculate size curves

  o Maximum number of past days without activity when calculating size curves

  o Minimum number of past days needed to calculate size curves

If data is not enough to calculate the size curves at this level, Nextail algorithms goes one level above to ensure size curves are robust
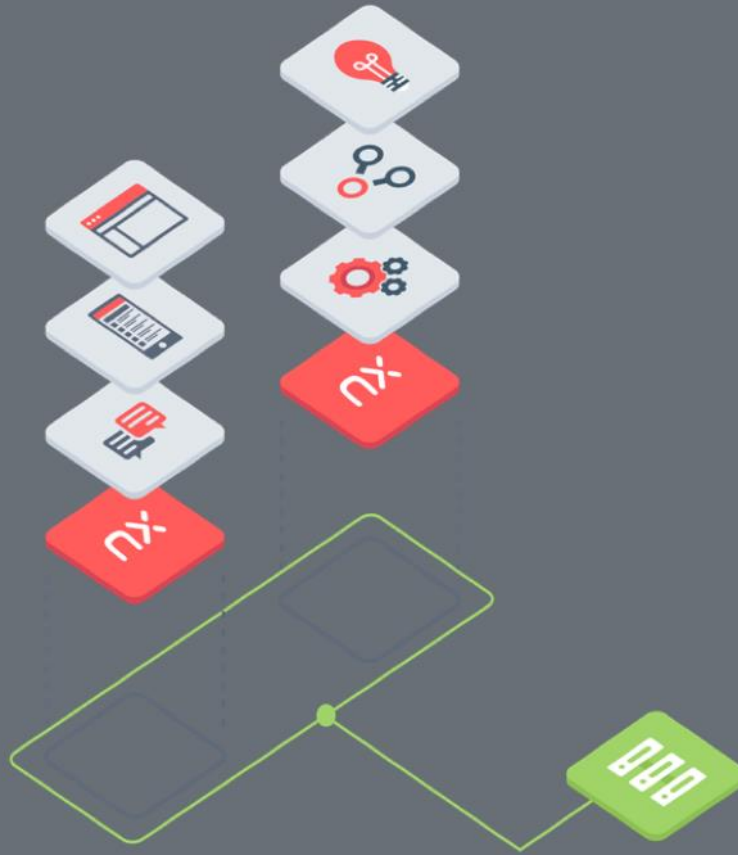
Content

The aim of Global Optimisation is to re-assign stock among stores that maximizes the sales potential across the network

Store transfers optimisation engine

Move units from overstocked stores with low turnover to understocked stores with high turnover.

Consolidate size sets across stores in order to reduce stockouts and improve product image.
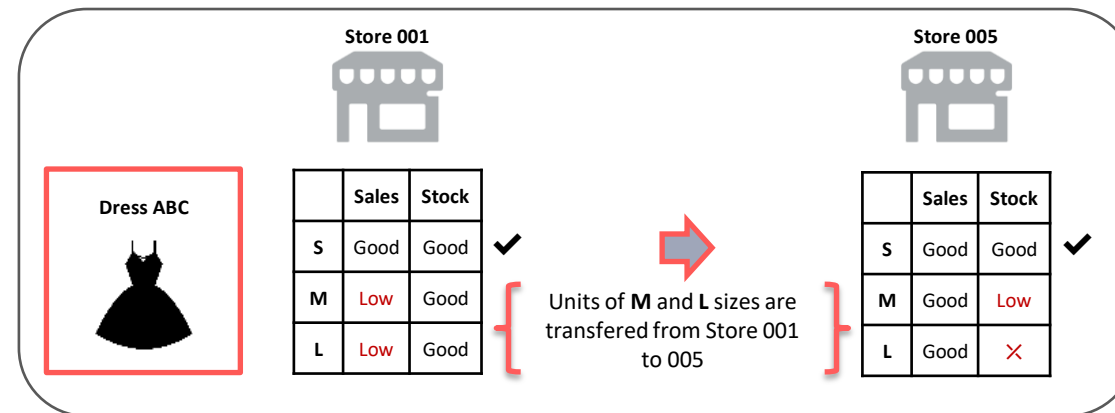
Several criteria are considered in Global Optimisation

Criteria for Global Optimisation	Embedded within the algorithm	Inputs user can influence
Trips configuration (restrictions)		✔ *
Visual rules		✔
Minimum displays		✔
Blocks		✔ *
Recently introduced products		✔ *
Recently moved products		✔ *
Efficiency threshold		✔ *
Costs	✔	✔
Other conditions	✔	✔ *

* This parameter can be modified while launching the store transfer

"Trips configuration" allows you to forbid specific trips or force others when needed

Criteria for Global Optimisation
Trips configuration (restrictions)
Visual rules
Minimum displays
Blocks
Recently introduced products
Recently moved products
Efficiency threshold
Costs
Other conditions

- "Allowed trips" allows setting up which stores will be the only ones sending / receiving stock.

- "Forbidden trips" allows adding certain restricted journeys.

Visual rules capture conditions that need to be met for a product to be displayed at a potential store

Criteria for Global Optimisation
Trips configuration (restrictions)
Visual rules
Minimum displays
Blocks
Recently introduced products
Recently moved products
Efficiency threshold
Costs
Other conditions

Minimum units per product

Min units required at product level to expose the product in the shop floor

Example: 8 units

+

Minimum % of sizes

Min % of demand of the size curve at product level required to expose the product in the shop floor

Example: 60%

**Products will not be transferred to a store if the visual rules are not fulfilled.
Visual rules have been previously agreed and can be changed only by the Nextail team.**

Minimum displays are not often used when executing store transfers but there could be some products that need them

Criteria for Global Optimisation
Trips configuration (restrictions)
Visual rules
Minimum displays
Blocks
Recently introduced products
Recently moved products
Efficiency threshold
Costs
Other conditions

Min. displays:

- Minimum amount of units of a product required in order to present it in a store.
- They can be configured at sku or product level.

Legend:
- Units sent over min display
- Min display
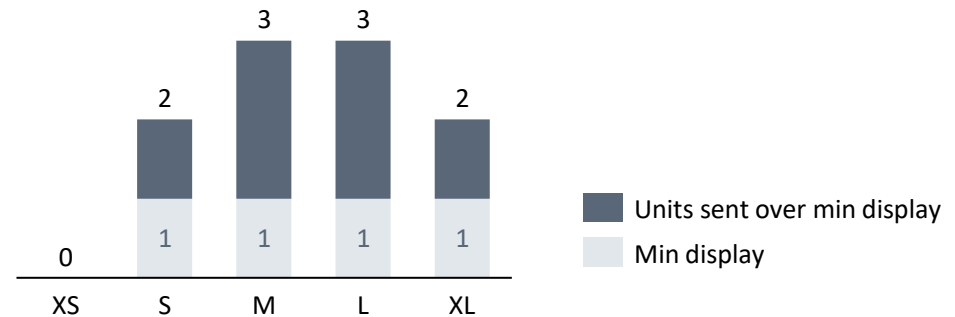
The ability to block products allows us to change store layout when needed

Criteria for Global Optimisation
Trips configuration (restrictions)
Visual rules
Minimum displays
Blocks
Recently introduced products
Recently moved products
Efficiency threshold
Costs
Other conditions

Blocks:

- It is the ability of stopping stock meant to be sent or received.
- The status can be easily changed in Nextail admin – through data upload or visual merchandiser screen.

Blockages

Block	Unblock		Massive Edition

	STATUS	PRODUCTS	FAMILY
☐	●	631320	Accessories
☐	●	631320	Accessories

In order to give a recently introduced *product* a chance to sell, an option exists to not move products for a specific period of time

Criteria for Global Optimisation

- Trips configuration (restrictions)
- Visual rules
- Minimum displays
- Blocks
- Recently introduced products
- Recently moved products
- Efficiency threshold
- Costs
- Other conditions

NEW **Recently introduced products**

- Block the products that were introduced in the last days, weeks or on a specific date.

OPTIONS

Block recently introduced products:

Range
Weeks

Number of weeks
5

In order to give *stores* the opportunity to sell a product recently received from a a transfer, an option exists to not move those units for a specific period

Criteria for Global Optimisation
Trips configuration (restrictions)
Visual rules
Minimum displays
Blocks
Recently introduced products
Recently moved products
Efficiency threshold
Costs
Other conditions

Recently moved products:

- Block product-store combinations that had proposed movements in all submitted ST scenarios of the past weeks. The user defines the number of past weeks to be used.

OPTIONS

Block recently moved products:

Number of weeks

3

Leave blank to use scenarios within planning horizon

Efficiency threshold allows you to balance the number of moved units

Criteria for Global Optimisation
Trips configuration (restrictions)
Visual rules
Minimum displays
Blocks
Recently introduced products
Recently moved products
Efficiency threshold
Costs
Other conditions

Efficiency Threshold

- Move products when each SKU meets the desired percentage of the expected sales increase (relative to its price) taking into account the cost per trip.

- Force the engine to select only the SKUs that achieved the parameter without manual adjustments.

OPTIMIZATION PARAMETERS

Efficiency Threshold (%)

20

The costs are considered in the scenario to optimize the trips

Criteria for Global Optimisation
Trips configuration (restrictions)
Visual rules
Minimum displays
Blocks
Recently introduced products
Recently moved products
Efficiency threshold
Costs
Other conditions

Cost per trip (€)
- Is the cost of making a trip between stores. The module will suggest only trips whose ESI (Estimated sales increase) is higher than this value.

Cost per unit (€)
- Is the cost of packaging an additional unit in the box being transferred.

Cost per product (€)
- Is the average cost of the time spent by a person picking and packing ST stock.

Cost per unit and cost per product are configured by the Nextail staff

Nextail allows you to include additional business restrictions for Store Transfers calculations

Criteria for Global Optimisation
Trips configuration (restrictions)
Visual rules
Minimum displays
Blocks
Recently introduced products
Recently moved products
Efficiency threshold
Costs
Other conditions

Visual merch. weight (%)
- The importance giving to image in the stores. Set the percentage of sizes to be completed to display the product.

Number of trips
- The total number of trips that can be handled. If this is used, then the cost per trip won't be taken into account.

Store limitations
- To define a maximum capacity a store can handle when receiving stock.