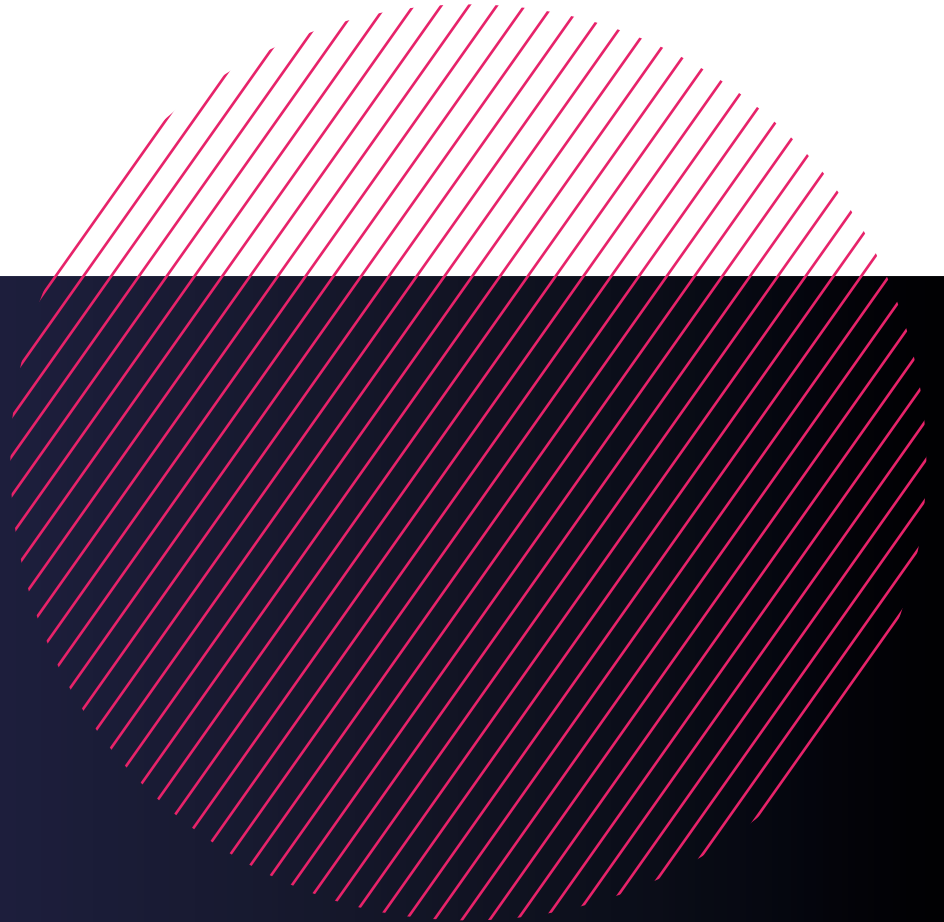**DEMAND FORECASTING & SUPPLY CHAIN PLANNING**

How to fill out our template?

1.   WHAT YOU NEED TO KNOW BEFORE STARTING YOUR AI JOURNEY!

Are you ready for us to embark on this AI journey together and get to know our AI-based optimization platform better? We assume your answer is yes, and we are glad to inform you that you are on your way to **better inventory control** and **sales forecasting**. The core of our journey together is to lower the risk and help you understand all the benefits before deploying the whole solution in your organization.

Before you start the journey, it's wise to plan all the necessary steps in the right way at the very beginning. We would ask you to keep in mind these **two key points** before you start filling out our pre-defined template:

- 2 years of data per item is required for the best simulation, and
- You can create one Excel file or three CSV files (one file per sheet) in case of a large amount of data that does not fit Excel.

For this purpose, we would kindly ask you to **fill out the following sheets:**
- **Sales** (required),
- **Items** (required),
- **Vendor** (required),
- **Orders** (optional),
- **Substitutes** (optional),
- **Item Status** (optional),
- **Promotions** (optional),
- **Package conversion** (optional).

2.   SALES - REQUIRED

The sales sheet is composed of 6 columns:
- **Date** contains dates starting from today – 2 years (or less),
- **Item code** is the item code for current item,
- **Sales – Quantity** is the real sale of this item on this day:
    ◊ On 24.2.2019 we sold 30 units of itemcode1 (all retail stores, wholesale, web, etc.),
- **Stock – Quantity** contains stock level at the end of the month (one value per month):
    ◊ On 28.2.2019 we had 7012 items on stock,
- **Purchase - Quantity** is the number of units put on stock:
    ◊ On 28.3.2019 we put on stock 1800 units of itemcode1, which increased overall stock to 5431 units,
- **Daily Stock – Quantity** is the amount of units at the end of the day.

	A	B	C	D	E	F
1	Date	Item Code	Sales - Quantity	Stock - Quantity	Purchase - Quantity	Daily Stock - Quantity
2	24.2.2019	itemcode1	30	0	0	7250
3	25.2.2019	itemcode1	65	0	0	7185
4	26.2.2019	itemcode1	91	0	0	7094
5	27.2.2019	itemcode1	47	0	0	7047
6	28.2.2019	itemcode1	36	7012	0	7012
7	1.3.2019	itemcode1	81	0	0	6931
8	2.3.2019	itemcode1	64	0	0	6867
9	3.3.2019	itemcode1	56	0	0	6811

3.   ITEMS - REQUIRED

Items sheet contains information about the items for which we run the inventory optimisation service. Items sheet contains five columns, three of which are mandatory and two are optional:

- (mandatory) **Item Code** is the item code for the item
- (mandatory) **Item Name** is the name of the item
- (mandatory) **Vendor Code** is the vendor code
- (optional) **Unit Cost** is the purchase price per unit
- (optional) **Unit Price** is the selling price per unit

	Item Code	Item Name	Vendor Code	Unit Cost	Unit Price
1	Item Code	Item Name	Vendor Code	Unit Cost	Unit Price
2	itemcode1	Blue candy	Sumi	10	15
3	itemcode2	Green candy	Sumi	12	25
4	itemcode3	White chocolate	Godiva	100	120
5	itemcode4	Dark chocolate	Godiva	50	100
6	itemcode5	Orange chocolate	Godiva	500	800
7	itemcode6	Milk chocolate	Godiva	1000	1500

4.   VENDORS - REQUIRED

The sheet contains all vendors associated with items in the items sheet and their ordering parameters. We can have one or multiple vendors. Vendor sheet contains six columns all required for generating the order recommendations.

The columns are:

- **Vendor Code** is the vendor code
- **Vendor Name** is the vendor name
- **Order Frequency in Days** is the number of days between two orders
- **Lead Time** is the time in days required for items to be delivered
- **Manipulation Days** is the time in days required for items to be put on stock in the warehouse
- **Next Order Date** is the date of the next order on which we will generate the oreder recommendations

Note: In the example below we see that we want to order Godiva vendor on monthly bases (30 days) and that we would like to make first order on 1/4/2021. The time between the order and items being put on stock is 23 days (lead time + manipulation days).

	Vendor Code	Vendor Name	Order Frequency In Days	Lead Time	Manipulation Days	Next Order Date
1	Vendor Code	Vendor Name	Order Frequency In Days	Lead Time	Manipulation Days	Next Order Date
2	Godiva	Godiva chocolate	30	21	2	1.04.2021
3	Sumi	Sumi candy	45	10	2	2.04.2021

5. ORDERS - OPTIONAL

In case we have already put some orders and we are expecting the items to be put on stock in the future we can list the items and quantities in this sheet.

The sheet contains four columns:
- **Expected Date of Delivery** is the date we expect the order to be put on stock
- **Item Code** is the code of an item we expect delivery for
- **Vendor Code** is the vendor code for the item
- **Incoming – Quantity** is the expected quantity

Note: *This information is used to simulate the future stock and use this in generating next order recommendations.*

6. SUBSTITUTES - OPTIONAL

In many cases we have certain amount of substitute items on stock. We can use this sheet to connect two items together. For example, if we discontinue one item that has a substitute, we can use the remaining stock for sell out and order only the new item. We also use historic data of the discontinued item to forecast the future of the new substitute item.

The substitutes have only two columns:
- **Item Code** the item for which we generate the recommendations
- **Substitute For Item Code** the item that is discontinued, blocked or not available for orders

7.   ITEM STATUS - OPTIONAL

In case we included items that are not active anymore into the PoC, we should indicate which items are active, blocked or discontinued. We can give that information in this sheet.
The item status sheet contains two columns:

- **Item Code** the item for which we generate the recommendations
- **Status** which indicates the current status of the item
  - ◊   It can be active, blocked, or discontinued

8.   PROMOTIONS - OPTIONAL

In case we would like to evaluate promotional items or promotions in general, we can include historic and future promotions per item in this sheet.

The sheet contains four columns:
- **Item Code** the item for which we state the promotion interval
- **From** start date of the promotion
- **To** end date of the promotion
- **Promotion Type** is the type of promotion
  - ◊   We can have one or multiple types of promotion
  - ◊   By default, we have discounts, seasonal and vendor discount types

9. PACKAGE CONVERSION - OPTIONAL

If we want to evaluate the rounding of recommended orders to packages or palettes, we can include the conversion types in this sheet. We can have one or multiple conversions per item.

The package conversion contains four columns:

- **Item Code** the item for which we have a conversion rule
- **Unit From** is the package from which we converse to larger package
  ◊ ST is piece, KAR is carton and PAL is pallet
- **Unit To** is the package type to which we converse smaller package
  ◊ ST is piece, KAR is carton and PAL is pallet
- **Quantity Unit Measure** is quantity representing how many units go from smaller unit (From) to larger unit (To)

Note: An example, itemcode1 can be ordered in pieces, cartons, or pallets. Pallet contains 1000 pieces and carton contains 200 pieces. One pallet contains 5 cartons.

If you have any question, don't hesitate to contact us:

ai.inventory@be-terna.com

Note: *Your submitted data will be used only for the purpose of demonstrating all the great possibilities of our AI-based optimization platform, as well as giving you useful recommendations on how to improve your inventory management and sales forecasting. Your submitted data will not be distributed outside our organization.*