

7.10.3. KPIs Report

KPI (Key Performance Indicators) report shows important indicators of the current project performance. Streamline calculates a variety of indicators. Most of them evaluate the inventory planning process.

New

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Settings

Report

KPIs

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Item

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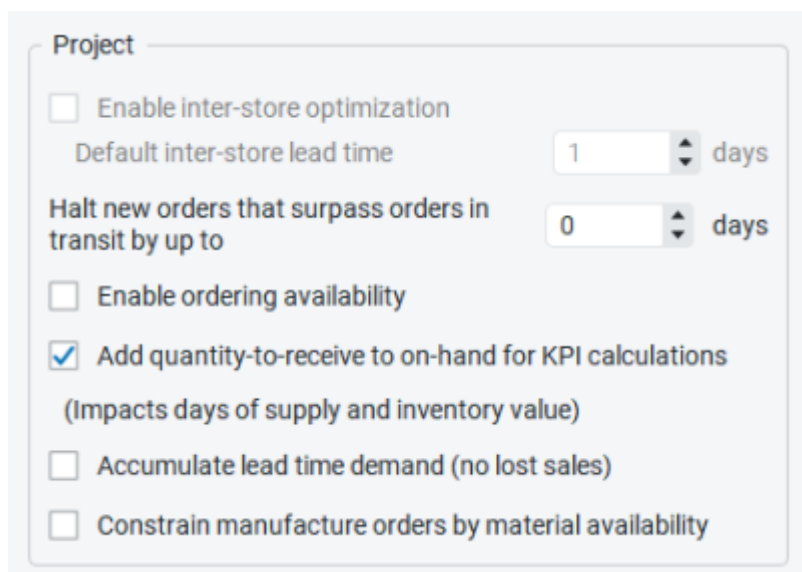
	Item code	Inventory value	Days of supply	Overstock	Stockout	Non-moving inventory value	Turnover		Gross margin	Turn-earn index	Annual gross profit	Annual revenue	Next year revenue	Annual sales	Next year sales	Purchase value, \$
							Turns/year	Days to sell								
1	562156-01	10,251,3...	43	0	0	0	7.1	52	0.2%	1.1	109,491.51	72,628,632	90,655,644	364,968	455,556	7,360,642.69
2	1866-MB	2,917,76...	60	133,245	0	0	5.9	62	0.3%	1.8	52,256.33	17,244,414	17,798,616	174,186	179,784	1,109,190.57
3	VB2166 150	627,615.67	36	0	142,838.67	0	9.1	40	1.9%	17.1	109,490.47	5,835,83...	7,276,66...	364,968	455,076	771,634.18
4	56213-P	563,081.90	37	0	0	0	8.5	43	0.8%	6.4	36,497.17	4,804,19...	5,996,63...	121,656	151,852	653,924.32
5	111565-02	523,724.46	41	0	5,363.12	0	7.4	49	2.7%	20.3	109,490.47	4,010,99...	5,006,56...	364,968	455,556	526,578.69
6	05-T48	427,610.67	36	0	98,173.66	0	9.1	40	2.7%	24.9	109,490.47	4,010,99...	5,001,28...	364,968	455,076	525,734.18
7	VR2156 200	328,781.06	36	0	71,850.35	0	9.7	38	1.6%	15.6	52,255.67	3,238,11...	3,342,18...	174,186	179,784	322,269.82
8	89654-T	604,975.27	62	49,461.28	0	0	5.7	64	1.5%	8.5	52,255.67	3,481,97...	3,593,88...	174,186	179,784	221,276.23
9	MB-50046	161,036.40	36	0	39,176.28	0	9	40	7%	63.2	109,490.38	1,565,71...	1,954,33...	364,968	455,556	196,499.52
10	056329 N PW	39,595.05	36	0	11,526.15	0	9.1	40	23.3%	212.2	109,490.38	470,808.71	587,048.02	364,968	455,076	48,690.18
11	500461	120,186.99	64	16,051.50	0	0	5.3	68	7.5%	40.2	52,255.79	695,002.14	717,338.16	174,186	179,784	41,490.36
12	562132	193,027.51	57	0	24,565	0	4.9	75	10.4%	50.8	109,490.47	1,054,75...	1,316,55...	364,968	455,556	40,124.28
13	056329 PU ...	14,156.01	36	0	4,267.35	0	9.7	38	27.5%	267.5	52,255.80	189,862.75	195,964.57	174,186	179,784	13,921.38

The table below is a brief description of the indicators.

KPI	Description
Inventory value	Indicates the value of the item in stock
Days of supply	Shows how many days of the future demand, starting from the project date , the current On hand (including orders to ship) can cover. You can choose the representation units for this indicator between <i>days</i> or <i>months</i> in the Settings .
Overstock	Indicates the value of the expected item overstock
Stockout	displays the value of the expected item shortage
Non-moving inventory value	Specifies the balance value of the item in stock. It is calculated if the item will not be sold during the forecast horizon period according to the forecast.
Turnover	Turns/year Shows how many times an item was purchased and then sold out for the last 12 months
	Days to sell Indicates how many days it takes to complete one turnover cycle
Gross margin	Displays a gross profit margin for the item
Turn-earn index	Specifies an item gross margin accumulated over the last 12 months
Annual gross profit	Shows an aggregation of the transactions' profit over the last 12 complete months
Annual revenue	Shows the averaged item revenue over the last 12 months
Next year revenue	Indicates the expected item revenue for the next 12 months according to the forecasts
Annual sales	Displays the total amount sold in quantities over the last 12 months
Next year sales	Displays the expected amount to be sold for the next 12 months
Purchase value	Displays the purchase amount for each planning item

Streamline allows for changing the way the Inventory value and Non-moving inventory value KPIs are calculated. You can set Streamline to account for the To receive quantity of purchase orders when it

calculates these in Settings.



Project

☐ Enable inter-store optimization

Default inter-store lead time days

Halt new orders that surpass orders in transit by up to days

☐ Enable ordering availability

☒ Add quantity-to-receive to on-hand for KPI calculations
(Impacts days of supply and inventory value)

☐ Accumulate lead time demand (no lost sales)

☐ Constrain manufacture orders by material availability

Below we give a more detailed description of these KPIs.

Item Value-Dependent Indicators

There is a set of KPIs that depends on the *item value*. *Item value* is a characteristic that is taken as [Inventory value/unit](#) or [Purchase price/unit](#) data type. If both data types are given, the former is taken as the *item value*.

Item value-dependent indicators are the following:

- [Inventory value](#)
- [Expected overstock value](#)
- [Non-moving inventory value](#)
- [Gross margin](#)
- [Annual gross profit](#)

Below we explain how they are calculated.

Inventory Value

The **Inventory value** indicator shows the value of the item in stock. If it is not [imported directly](#) using the **Aggregated spreadsheet connection**, it is calculated as:

Inventory value = *item value* * **On hand**.

Expected Overstock Value

The **Expected overstock value** indicator indicates the expected overstock value for an item. It is

calculated as:

Expected overstock value = *item value* * [overstock_qty](#).

Non-Moving Inventory Value

The **Non-moving inventory value** indicator is calculated for those items that will not be sold during the [forecast horizon](#) according to the forecast. Streamline doesn't compute this KPI for items that are forecasted using an [intermittent demand model](#). The formula for this indicator is:

Non-moving inventory value = *item value* * **On hand**.

Gross Margin

The **Gross margin** indicator is the monthly gross profit margin. Its calculation is based on the [compound interest](#) and the formula looks like:

$$Gross\ margin = \left(1 - \frac{itemValue \times inflationCoefficient^{selloutTime}}{avgSalesPrice} \right) \times 100\%$$

inflationCoefficient = 1 + *interest rate*,

selloutTime = (*lead time* + [Days to sell](#)) / 365.25,

where:

- *avgSalesPrice* – the average selling price for the current month;
- *lead time* – is the **Lead time** or **DC lead time** depending on the echelon the item resides at;
- *interest rate* – the annual interest rate that is taken from the [Settings](#)

Annual Gross Profit

This indicator is an aggregation of transactions' profit over the last 12 complete months. It is calculated in two ways depending on the available data:

1. It is the sum of the [Transaction profit](#) imported from the data source.
2. It is calculated using the formula:

$$\text{Annual gross profit} = \sum_{t=1}^N (\text{avg sales price}_t - \text{item value}) \times \text{sales}_t$$

where:

- N – the number of data aggregation periods making up 12 months;
- avg sales price_t – the average sales price over the t -th period. It can be calculated if the **Sales price/unit** data type was imported;
- sales_t – the item quantity sold in the t -th period.

Streamline uses the first method primarily.

Expected Stockout Value

The **Expected stockout value** indicator is the expected inventory deficiency value in the base currency. It is calculated as:

$$\text{Expected stockout value} = \text{avg sales price} * \text{stockout_qty},$$

where avg sales price is the average sales price in the current period. If we don't have sales in the current period, data of the previous period is used.

Turnover

Inventory turnover tells how many times an item was purchased and then sold out over a particular period of time. Its formula looks like:

$$\text{Turnover}_{\text{period}} = \frac{\sum_{i=1}^N \text{Sales}_i \times K}{\sum_{i=0}^K \text{On hand}_i},$$

where:

- N – the number of days in the period;
- Sales_i – the item quantity sold on i -th day;
- K – the number of days in the period without stockout;
- On hand_i – stock on hand at the end of i -th day. It is determined based on **On hand change** or **On hand** (as remaining after a transaction) imported from the data source.

If sales history can't cover the period, it is brought to it proportionally using the formula:

$$Sales_{period} = \frac{\sum_{i=1}^K Sales_i \times N}{K},$$

where:

- N - the number of days in the period;
- K - the sales history length in days;
- $Sales_i$ - the item quantity sold on i -th day.

The **Turns/year** column of this report shows the turnover over the last 12 months.

Turn-earn Index

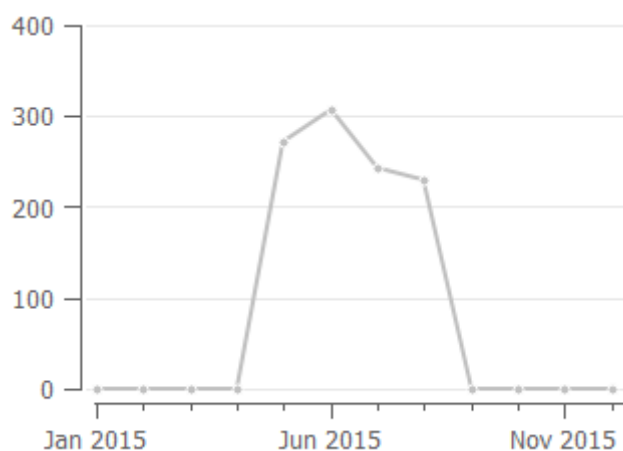
This indicator shows an item gross margin accumulated over the last 12 months and calculated as:

Turn-earn index = **Gross margin** * **Turns/year**.

This indicator is usually used to rank products and find the most profitable items.

Annual Revenue

Let's explain how this indicator is calculated. Consider the product sales history depicted in the figure below.

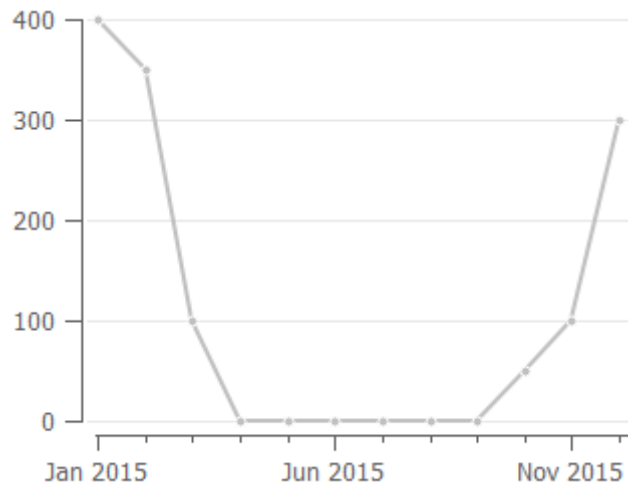


To calculate annual revenue in this case, Streamline always skips zero demand before the sales have started. So only the sales of the last 8 months are taken into account. The formula looks like:

Annual revenue = $Revenue_{May-Dec} / 8 * 12$

If we have sales history shown in the figure below, then sales of all the months are taken into account:

$$\text{Annual revenue} = \text{Revenue}_{\text{Jan-Dec}} / 12 * 12$$



So, as you see, this indicator depends on the sales history of the last 12 months, and thus, may significantly change from month to month.

Revenue data of the current period is taken into account only if this period is complete. Thus, **Annual revenue** accounts for the data of the last 12 complete months.

Next Year Revenue

If the forecast horizon is one year, the next year's revenue is the summed revenue of the next 12 months. Otherwise, it is calculated proportionally using the available data. For example, if data aggregation period is one month, this indicator is calculated as:

$$\text{Next year revenue} = \text{Revenue}_n / n * 12,$$

where:

- n is the number of months to forecast ahead;
- Revenue_n is summed revenue over the future n months.

Annual sales

The annual sales value sums up the quantity sold over the past 12 months. It can be found in the Actual sales line in the Demand Tab.

Next year sales

The next year sales value indicates a possible amount to be sold. It's a sum up of the forecast in quantities for the next 12 months.

Purchase Value

This indicator shows the purchase amount for each planning item. It is calculated based on the current purchase recommendations. This column allows you to view the total purchase amount by each supplier if you group this report by the **Supplier** using the [Aggregate by](#) drop-down.

[Next: Inventory Planning](#)

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