

10 MANUFACTURING KPIs

you need to learn



INDEX

- 1 PRODUCTION ACTIVITY (OR VOLUME)**
- 2 CYCLE TIME**
- 3 TAKE TIME**
- 4 INVENTORY TURNOVER**
- 5 RETURN ON ASSETS (ROA)**
- 6 FIRST PASS YIELD**
- 7 YIELD FACTOR**
- 8 OVERALL EQUIPMENT EFFECTIVENESS (OEE)**
- 9 ON-TIME DELIVERY**
- 10 AVOIDED COSTS**

PRODUCTION ACTIVITY

/VOLUME

Description: Calculates the value of the production output in monetary value

Formula: Sum of monetary value of all finished goods produced within a defined period



CYCLE TIME

Description: Average amount of time to make one product, including process, inspection, move and queue time

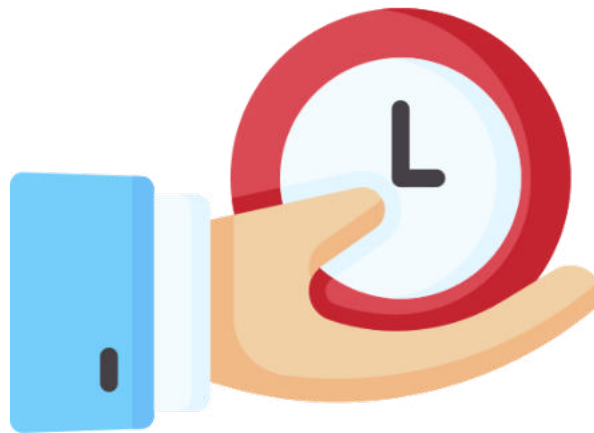
Formula: Process time + Inspection time
+ Move time + Queue time



TAKE TIME

Description: Rate at which you need to complete a product to meet customer demand

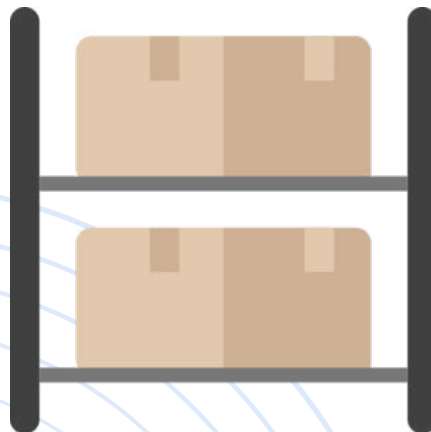
Formula: $\text{Production available time} / \text{Customer demand}$



INVENTORY TURNOVER

Description: Amount of time that passes from the day an item is purchased by a company until it is sold

Formula: $\text{Cost of Goods Sold} / \text{Average Inventory (over period of time)}$



RETURN ON ASSETS (ROA)

Description: Measures how effectively a company is using its resources (machine and inventory) to make a profit

Formula: $\text{Net Income} / \text{Average Total Assets}$



FIRST PAST YIELD

Description: Measure of quality and performance and is at the heart of production efficiency and profitability

Formula: Number of good products finished / Number of production orders started (expressed in percentage)



YIELD FACTOR

Description: Calculates the number of items to start to have one good finished product.

Formula: Number of production orders started / Number of good products finished (same formula than First pass yield, but inverted as we look for the number of orders to start)



OVERALL EQUIPMENT EFFECTIVENESS

Description: Compares the performance of a machine to its relative capacity

Formula: $\text{Good Count} \times \text{Ideal Cycle Time} / \text{Planned Production Time}$



ON-TIME DELIVERY

Description: Measures if an organization is meeting its goals in regards to promised delivery times

Formula: On time units / Total units



AVOIDED COSTS

Description: How much money you saved by using preventive maintenance

Formula: Assumed Repair Cost +
Production Losses – Preventative
Maintenance Cost



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