# Case Study: Process Manager

# Optimizing Fulfillment Center Operations

## Background

You are a Process Manager at a rapidly expanding e-commerce grocery company. The company has several fulfillment centers across different countries, each with its own set of operational challenges. Your task is to optimize the operations of these fulfillment centers to enhance efficiency and reduce the costs.

## Scenario 1

Outbound performance of our fulfillment center in Munich (MUC) is not reaching expected productivity in recent weeks. As the site possesses equipment for automated picking and expedition we should be able to reach 110 SKU / man-hour weekly average outbound performance.

We need to assist the local team in finding root causes and help them draft corrective actions.

Context

* Outbound consist of 3 main processes:
  + Picking: picking of products to the bags which are placed to the totes for transport via conveyors
    - Part of SKUs is picked in Autostore
    - Rest in sectors with standard manual picking
  + Expedition buffer: manipulation of bags from totes arriving on conveyor to buffer shelves in expedition
    - This process happens only for part of volume which does not go to automated expedition (in automated expedition totes with bags are placed to buffer shelves without consumption of labor)
  + Courier buffer: loading of bags from expedition buffer to trolleys which are later picked up by couriers for loading to cars
    - In case of automated expedition worker picks bags from flow racks to which bags in totes are prepared by automated solution
    - In case of manual expedition
* MUC is the only site which have already installed automated expedition, other sites included in case study have automated picking
* We distinguish activities into two types:
  + Measured: activity in which we can measure performance (worker is using PDA and we track his actions)
  + Unmeasured: activity for which we measure only spend time (for example “cleaning” or management activities)
* Outbound performance is calculated as amount of picked SKU (order lines) divided by all hours spend in outbound activities

Task

* Identify patterns in the attached data and state hypotheses on root causes for performance variations and/or lower performance
* Propose how to test the hypothesis
* Define the corrective actions: both short term fixes and long term solutions - how to reach higher productivity
* In case you miss some data state what would help you to go deeper
* List key points which needs to be considered for implementation of your proposed solutions (what can be the blockers, risks, assumptions, what resources are needed)

## Data

* Performance statistics: MUC core processes performance in time - [file](https://docs.google.com/spreadsheets/d/1ddt9VKxU3yJD0VTWctkOb1L-CxVocyx_/edit?usp=drive_link&ouid=103979066484709267571&rtpof=true&sd=true)
* Daily volume, productivity & quality metrics of selected sites in the group - [file](https://docs.google.com/spreadsheets/d/1-SWOWXZbipSrFpZ2x2NiuG2qRU7_9wy8/edit?usp=drive_link&ouid=103979066484709267571&rtpof=true&sd=true)
* Daily statistics for all processes / activities in Outbound MUC - [file](https://docs.google.com/spreadsheets/d/1vxbtAbggxP8TJeehE7VAtzFKOg0c7Z3s/edit?usp=drive_link&ouid=103979066484709267571&rtpof=true&sd=true)

Deliverable:

The form of presentation of the case study is open: it can be powerpoint, word document, sheet or any other form.

You will present it with your voiceover. Presentation should not be longer than 15 minutes.