*GPI 2020/2021 -Gestão de Projetos Informáticos – metodologia waterfall*

**Company Background - AZDrinks**

AZDrinks operates in the soft drink distribution sector. Its business model revolves around the collection, processing, and fulfillment of soft drink orders. Without its own beverage production lines, the company sources its products from two wholesale manufacturers: GasRef – carbonated beverages, and StillRef – non-carbonated waters and beverages. Distribution is ensured to hospitality, restaurants, and cafes (HORECA), and the company aims to implement an integrated information system, as described below.

Orders are placed through a web application (OrderNet), which subsequently records the received orders in the company's ERP (SAP). This process occurs automatically every 4 hours, checking if the information in the SAP database corresponds to the information in the source system. Identified discrepancies are communicated to the sales coordinator via an email sent by SAP. The ERP communicates with OrderNet, with the same periodicity, to update stock levels. The accounting record of orders is ensured by the integrated nature of SAP.

AZDrinks' warehouses are automated. After customer order confirmation, a delivery order and corresponding invoice are generated. Warehouse operations, including picking and warehouse exit, are handled by a robotic system directly connected to the SAP system to record stock movements (RobotFloor). This entire process involves optical readings on mobile devices integrated into the RobotFloor system.

Based on this information, integrated online in SAP, the SAP system generates the customer invoice, which is then sent electronically to the customer (electronic invoicing). AZDrinks thus employs a perpetual inventory method.

The company places orders with GasRef and StillRef on a weekly basis based on sales forecasts and registered sales for that week. After calculating the forecasted needs, they are entered into a workflow for validation of order quantities, with approval from the regional sales coordinator. Once validated, order placement is done through EDI interfaces. Subsequently, an order confirmation is received through an automated message generated by the supplying companies, also via an EDI interface.

The same EDI interface also integrates the detailed purchase order into SAP after confirmation by the supplying company, considering any adjustments due to product unavailability.

Warehouse replenishment occurs overnight, with received goods transferred from a temporary area to the definitive warehouse. In this case, stock updates are done manually by entering supplier delivery notes into the SAP system. After this registration, SAP ensures the order closure (confirmation of goods delivery) and the placement of the invoice for payment if it has already been received (three-way match).

Goods dispatch takes place every day between 8:00 AM and 8:00 PM, and during this period, employee access to the warehouse is not allowed for security and inventory integrity reasons. During the night, only a restricted group of employees (forklift operators) has physical access to the warehouse.

The management control area also conducts a monthly monitoring of sales by comparing a report extracted from a Reporting/Business Intelligence system (InteliRep), developed in PowerBI technology, which is fed by the ERP, with a report of orders recorded in the OrderNet system. Detected divergences are analyzed and documented.