

Pre-packing Information Systems

The riddle of processing orders that consist of items and sub-packages (i.e. two items for one, etc.), that is quantities smaller than the integer box, concerns a large part of the market, particularly companies that distribute expensive products (e.g. cosmetics).

The dealing with this problem is usually empirical. Since neither the number of cartons to be used nor their contents are known in advance, the whole process is carried out in two phases: A picking phase from the picking sites (= specific storage location for each product code) and a packing phase, that is, the placement of the products into the packing cartons.

At the end of the whole process, a visual inspection is carried out to identify any deficiencies or surpluses. As a result of this process, the following issues may arise: Long picking times, large number as well as large volumes of packing cartons.

As a result of the above, we may notice:

- A high cost of picking in the picking zone
- A high cost of shipping to rural areas using local agencies (because the charge is based on the number of cartons).
- Misuse of the bulk volume of the transport fleet in Attica, caused by the sizeable volume of cartons.

On the contrary, a modern Logistics system should be able to automatically estimate the optimal pre-packing way, taking into account all the limitations of a real packaging problem.

It should take into consideration the following limitations and requirements in particular:

A) Pertaining to the Products:

- a) The dimensions of the products (length, width, height)
- b) How each product is positioned (upright, diagonal, free-standing)
- c) Where the product is located in the picking area
- d) Enhanced packaging that may be required for orders that are sent to remote areas
- e) The printing of a special label in case of a joint packaging of flammable products with others

B) Pertaining to the Packaging Cartons:

- a) The dimensions of the packaging cartons
- b) Requirements for matching specific product groups to specific types of cartons



C) Pertaining to the Packaging Process:

- a) The pre-packing should indicate physical picking, in accordance with the product layout at the bulk picking sites
- b) Requirements for packing specific groups of products without other groups in the same packaging carton

The benefits of the implementation of a pre-packing system are:

- Reduced order preparation time in the picking zone as a result of integrating the picking and packing phases into one
- Minimized shipping cost for orders sent to remote and rural areas through agencies, where billing is based on the number of boxes
- Minimized shipping cost for orders handled by the corporate fleet
- Control and elimination of errors during the process of picking and packing for items and sub-packages.