

Cargo Load Plan and Package Design - Electronics

Operations Fields: Logistics, R&D, SAMSUNG Electronics

Application: CubeMaster™ from Logen Solutions

Project Period: Jan - Jun 2013

Overview

- Logen Solutions provided a load planning system to standardize the pallet packaging and automate the load planning to SAMSUNG Electronics, the largest electronics manufacturer in Korea and 2nd largest in the World.
- CubeMaster™ is used to enable the load optimization of electronics goods such as refrigerator, air-conditioner, washing machine and vacuum cleaner
- Instruction reports including the packing list and loading map were generated to help the shipping department
- The reports were shared over Internet with logistics, sales and R&D departments

Background

- Increasing demand for standardization of pallet packaging and container loading
 - Demand for solution of loading containers with multi-products
 - Claims for poor quality of packaging and loading
 - Hardness for determination of the package design
 - Lack of communication channel within the related departments for specification changing
- Increasing demand for cost reduction in over-seas logistics area
 - Increased transport cost decreases the profit of the company
 - Always more number of containers are required than scheduled
- Increasing demand for the customers satisfaction
 - Customers complain for the empty containers with poor space utilization
 - Damages due to unstable stacking

Objective

Three main features should be implemented;

- Package design for the R&D department
- Automatics FCL calculator for the sales department
- Container load planning for the logistics department

Features

Package Design

- Finding the best measurement of new product and cartons
- Developing new products in accordance with impacts to delivery

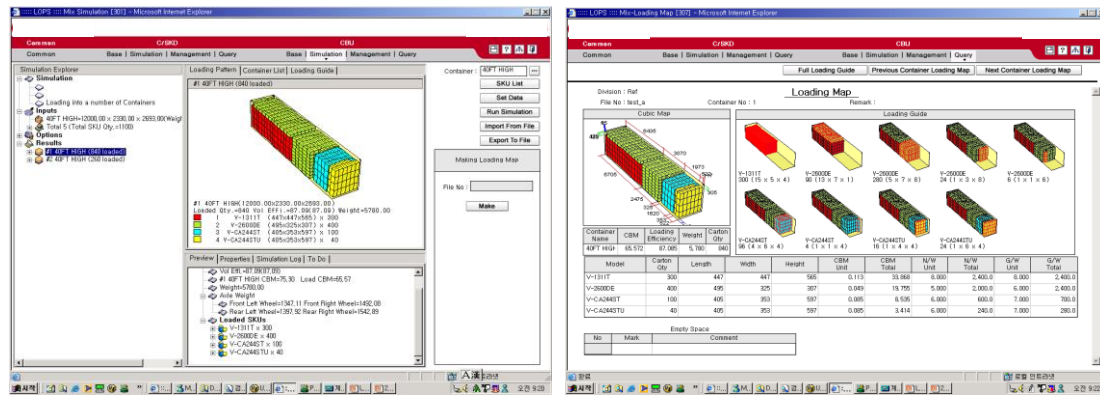
Order Size Optimization

- Simulation of loading containers with purchase order
- Finding the minimum number of containers required for the orders
- Finding new order quantities for making FCL (Full Container Loads)

Container Load Planning

- Simulation of loading containers with delivery orders

- Finding the minimum number of containers and the layout of loaded containers
- Generating easy-to-follow reports for the shipping department



Benefits

- Reduction the number of shipping containers with increasing space utilization by 13.5%
- Saving shipping cost by 9.2%
- Saving loading and shipping working time by 2 hours

ROI

The following table shows a summary of ROI that is returns on the investment to the applications. The saving is \$52,800 per month and \$633,600 per year thus the company gets a payback within 4.7 months for the fixed investment \$250,000 and the ROI becomes 253%.

Analysis	Cost (\$)
Investment (Purchase of consultancy, software licenses & customization)	250,000
# of pallets	9,000
Savings # of containers / Month	15,600
Labor	3,000
Packaging materials	1,200
Benefits from increased orders / Month	23,000
Benefits from reduced claims / Month	1,000
Returns / Month	52,800
Duration of the project	5 Months
Total returns / Duration of the project	264,000
Total returns / Year	633,600
ROI / Year	253 %
Payback periods	4.7 Months

Related Cases

- Mitsubishi Electronics Japan, 2008
- SAMSUNG Electronics USA, 2004
- LG Electronics Korea, 2002
- LG Electronics Belgium, 2003