

Automatic warehouse - Carregado II

Innovation | Productivity |
Energy Efficiency



The automatic warehouse - **Carregado II** was the first “intelligent” warehouse of Luís Simões, that came up to respond to the leadership customers in the main markets, with high number of movements per complete pallet.

Project starting date - February 2005.

Opening Date - November 2008
With the presence of the Republic Presidency.



This LOC (Logistics Operations Center) increases the accuracy and flexibility without escalating costs!

It translates a competitiveness position on a sustained market by innovation in emerging technologies, equipment and more specialized human resource.

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Main Project Numbers

- Capacity: 55 500 pallets;
- 600 pallets/hour - movements *in/out* (in the same displacement, puts one pallet and removes another);
- Investment: 30 millions €;
- Warehouse: 21 000 SQM2;
- 19 m height ;
- 376.884 m3.

Main Features

- 8 reception conveyors ;
- 40 expedition conveyors (800 pallets in quay);
- picking *Buffer* of 3.000 pallets;
- 16 CPA'S (Fork Lift Automated Guided Vehicles (AGVs));
- 4 transfer *CHARIOTS*;
- Telescopic forks;
- Solar energy to water heating in the facilities;
- Equipment speed in minimum values - Savings in maintenance costs, in wear materials and improvement to extend equipment life.

Automatic LOC Vs LOC Conventional

	Automatic	Conventional
Pallets storage Capacity per SQM2	2,6 pal/SQM2	1,1 pal/SQM2
Full capacity utilization	95%	75%
storage equipment speed	15 km/h	9 km/h
movement Capacity per pal/hour	52 pal/h	34 pal/h
Total area	21 000 SQM2	30 000 SQM2
Storage capacity	55 500 pal.	34 000 pal.
Height	19 m	12 m

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Differentiation of LOC Main advantages



- Automatic equipment of transport and stowage pallets with suspension movements and not on rails (free up some floor space and increases as well on height capacity);
- Possibility to use the floor space, under the racks, to passage aisles and logistic operations regular activities;
- Full capacity utilization of 95% for products storage;
- Increased productivity;
- Man-machine excellent synergy and reduction in workplace accidents;
- Increased energy efficiency due to more efficient and more innovative technologies, savings in artificial lighting and the existence of solar energy to water heating in the facilities;
- Productive maintenance of equipment and speeds;
- Maintenance of quality standards and products traceability, compliance with the best practice and requirements and storage standards.

10 years

2017 in Numbers:

- 1.500.000 pallets moved;
- 29 % Consumption of Carregado's total electricity;
- 21kw/pallet place of energy consumption ratio (compared to the conventional warehouse in Leixões, 19% of energy efficiency per pallet place);
- 2.322 maintenance hours (96% complete preventive maintenance);
 - 1.221 preventive interventions;
 - 308 correctives interventions.
- 24% of maintenance costs/pallet improvement;
- Man-Machine excellent synergy in the management operation and facilities maintenance.

After 10 years, the automatic warehouse - Carregado II continues to be a calling card to innovation and business sustainable!

(data 2017)