



The system is developed using the latest tools and technologies of the market.

Easy adaptation to future requirements due to its versatility and scalability

Easy integration with
customer ERP systems.

Our customers achieve the highest performance of our system because of its quick learning.

Storfast

Management & Control System



One of the essential parts of our storage system is the management and control system, developed entirely by our technicians and result of our 30-year experience in this sector.

Components

It is made of two clearly defined parts:

■ Management Level

Inside this level is our Warehouse Control System (WCS), responsible for the location management and tasks assignments to the different components of the installation.

■ Control Level (CS)

Responsible for the individual control of each machine of the system.

Both levels are located at the lower levels of the entire IT control system. They communicate with the upper levels in a flexible and apparent way, these levels are the costumer ERP and WMS systems.

HW Architecture

Our hardware solution is based on the use of the latest technology from the market, control buses with high features and real time communications.

The complete solution, modular and expandable, is represented on the next drawing.

Due to this architecture it's possible to have so many Storfast Modules as it's necessary and manage them from different operator's stations.

Furthermore, database is located at the costumer servers, therefore, this equipment can be part of its IT politics allowing the

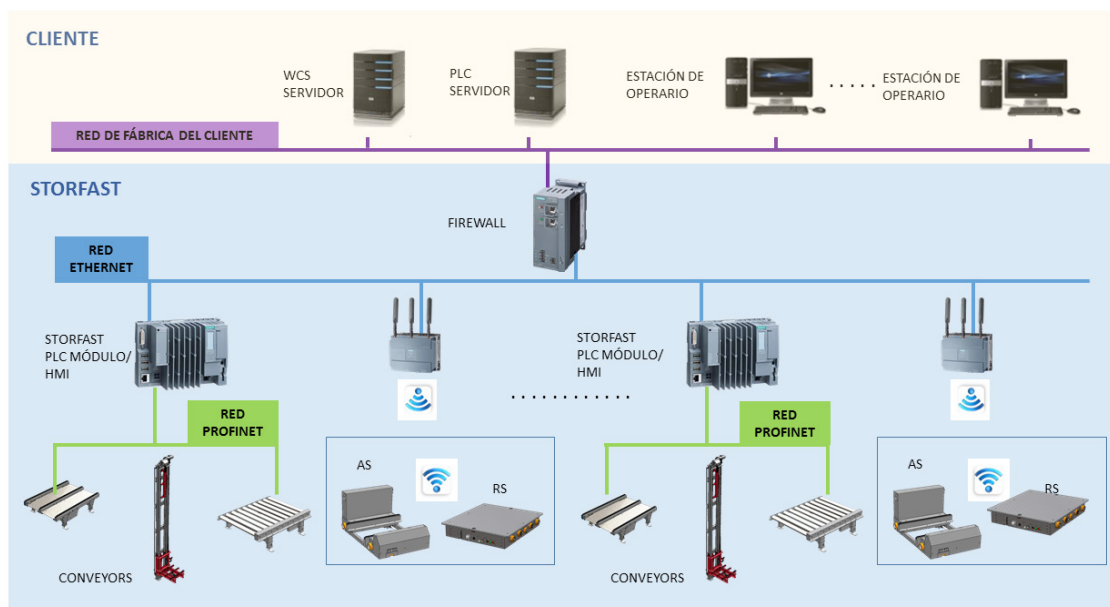
SISTEMA DE CONTROL Y GESTIÓN

CUSTOMER	ERP	Enterprise Resource Planning, company management
	WMS	Warehouse Management System, company logistics management
STORFAST	WCS	WCS (Warehouse Control System), real time management
	CS	Machine's control

highest flexibility for managing its own backups and being self-sufficient in case of a server's migration or update.

By using the top Hw brands in this sector, we can offer an excellent after-sales service in addition to a high availability for the electromechanical spare parts.

We have a 24/7 Hot-Line service which provides a direct line with our technicians for solving hot line possible incidents and doubts. This service monitors and checks the system updating it continuously and allowing the costumer to take advantage of future improvements



WCS Management level



Our WCS application is the responsible of managing the warehouse real time activities and communicating to the upper level, the costumer WMS, and to the below one, the machine's control system.

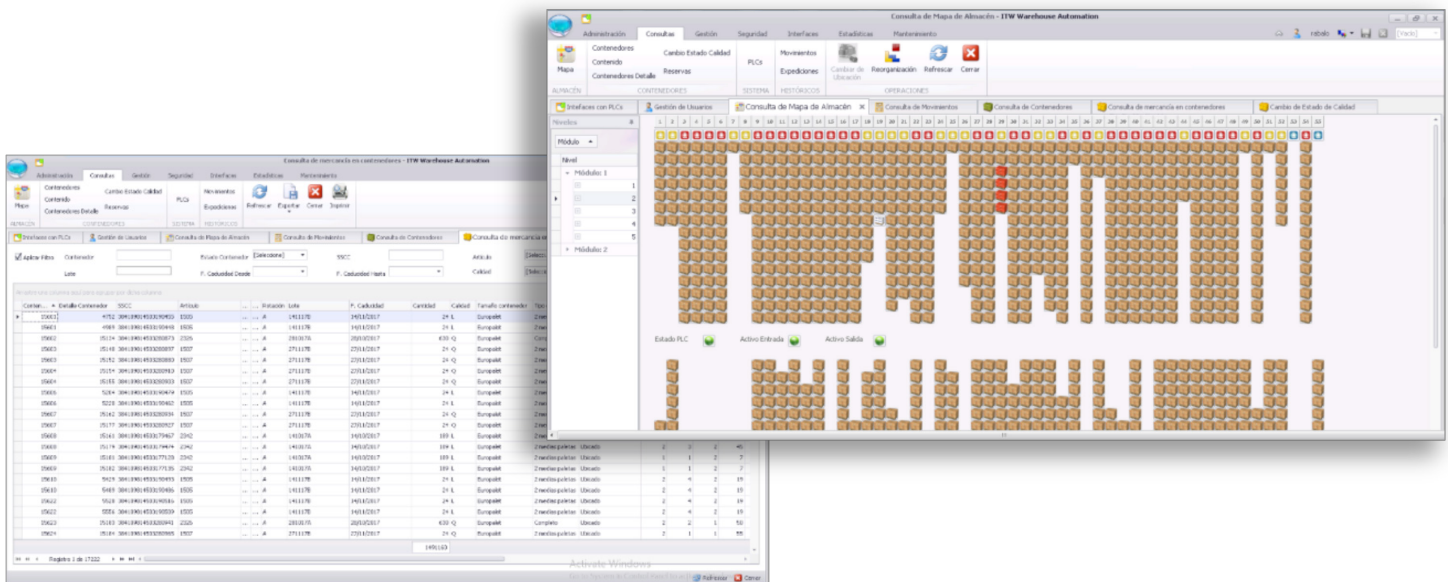
Functionalities

- Locations map definition, describing different storage areas in the rack.
- Managing different strategies for the storage and removal of the pallets, in a flexible way by adapting the rules to the needs.
- Traffic control and tasks assignments to the different machines in real time.
- Warehouse statistics, occupation and compaction's percentages.
- Historic data: inputs, internal movements and outputs.
- A complete traceability of the hole life of each pallet inside the warehouse.
- User profile and permission management by passwords.

Requests

Our software WCS is installed in costumer Hw and it is required at least one server with Windows Server and SQL Server installed.

The sizing depends on the installation complexity and size.



CS Control level



The control level is the nearest layer to the machine. It manages the machine's movement, the communication between them and the best routes looking for the optimal, and at the same time, safe operation.

It is responsible for executing all the orders received from the management level as soon as possible reaching destination on time. Both levels, control and management, are communicated in every moment using their own interfaces and, thus, they can adapt to any unexpected situation achieving the highest performance.

To make easier the operation and management, there is an HMI functionality.

It is used to monitor the status of the machine remotely and to make easier to the operator to handle them in case of being necessary. It is also possible to control them from handle devices, adding flexibility to the workers in their daily tasks, as well as in the management activities.

Main elements

The control system has these main elements:

- Master PLC. It is the system brain and responsible for the resources management. It controls all the conveyors, both floor conveyors and module ones, and lifts. In addition to coordinate the tasks to do with the management level.

- AS and RS PLCs. Each one of the satellite vehicles, which are the great potential of the system, has their own intelligence, their own PLC, so they are self-sufficient machines managed by the master PLC which sends them the orders to carry out through a Wireless network.
- Control Frequency Drives in every machine. It allows to control the speed, the acceleration and deceleration in every movement on real time.
- Safety devices for providing the accurate level of security to the system and preventing and avoiding future accidents. It is composed of emergency pushbutton, muting, safety doors, safety stops in case of fire, etc.

System advantages:

- Adaptable movements depending on load stability.
- The latest PLC generation.
- A modular and easily expandable System.
- A visual HMI visual for helping to manage the system.
- A fast and short-term learning and a highest performance.
- Safety

