

## Expert opinion

---

### E-commerce: warehouse mechanization in questions

**By Florent Boizard, Logistics Solutions Product Manager, Hardis Group**

*2013 has once again confirmed the trend: e-commerce is doing well. Providing customers' demands in terms of quality of service, delivery times and charges are properly met. For logistics professionals, the organizational challenges are numerous. Can warehouse mechanization respond to these challenges?*

#### **What exactly is "warehouse mechanization"?**

We speak of warehouse mechanization whenever certain logistical processes are performed by machines, regardless of the production stage: reception, preparation or dispatch. Some examples: a conveyor belt transports the cardboard boxes, bags or pallets through the warehouse, a sorting machine sorts the articles and packages by destination, or a packing robot formats the cardboard boxes, closes the packages and prints the labels.

Although they pursue common objectives of productivity and customer satisfaction, the concepts of mechanization and computerization are very distinct. They both serve to help logistics be seen no longer as a cost center but as a real competitive advantage. But whereas mechanization calls on machines to physically handle the packages, computerization relies on an application, the WMS (warehouse management system), designed to optimize the management of the warehouse in line with its organization.

#### **What are the triggers for a mechanization project?**

Numerous factors may lead to a warehouse mechanization project. The first one concerns the volume of articles or packages to be handled, or the inability to absorb the growth in flows to be handled... Mechanization initially enables bottlenecks to be cleared by automating repetitive or low added value tasks.

In the medium and long term, warehouse mechanization constitutes an important productivity lever and also a customer service improvement factor, with a reduction in preparation and delivery times and in the number of errors, etc.

#### **What are the pitfalls to be avoided?**

Each warehouse is unique, depending on its organization, its area, and the types of products handled there. On this regard, the mechanization of certain processes may be appropriate in one warehouse, and unwelcome or even impracticable in another.

The main pitfall to avoid is over-mechanization, since it leads to loss of agility, particularly in sectors in which products sold may change quickly (limited series, for example) or vary with the seasons. This is particularly so in the case of e-commerce, where orders are both small and diverse (2.5 lines of articles per order on average, with peaks of 10 lines per order during the sales).

The moment a product fails to fit the mechanization processes envisaged at the outset, the flow must necessarily go into downgraded mode, with manual processing. And that leads to loss of time, as well as a fall in productivity and service quality.

**Does warehouse mechanization destroy jobs?**

When certain tasks are entrusted to machines, it's difficult to avoid thinking that the machines are there to replace humans. But the reality is more complex...

In fact, even with mechanization pushed to the extreme, humans are still essential for processing the logistical flows. Employees can be assigned to tasks with higher added value, which machines, however sophisticated they may be, would not be able to perform: for example, gift wrapping a watch, then a shirt and then a lamp.

It is true however that a mechanized warehouse has an increased processing capacity without the need to hire extra personnel. But in the majority of cases, taking on new employees to carry out the processes by hand would in any case not be possible, given insufficient working area in the warehouse.

**So right now, which processes do we mechanize?**

It's possible to mechanize everything, or nearly everything... But a mechanization project must be carried out with one or more precise objectives: for example to automate stocking of articles received, weighing of packages, conveying of packages from one zone to another, sorting of packages by transporter, etc.

In reception, it is possible to install automatic detectors to identify product characteristics, or machines designed to handle bulk processing. For the preparation phase, hanging sorters or automated sorting tables can greatly facilitate the teams' work. In dispatch, where mechanization has already long been in place, the solutions allow weight control, dispatch to transporter, palletization and automatic filming. Lastly, other systems provide automatic forming of cardboard boxes, printing and sticking of labels, and even automatic closing of packages.

**What limitations might mechanization run into?**

There are certain tasks that are very difficult to mechanize. This is the case, for example, with picking actions when the unit packaging of the articles varies greatly. Or with quality control, whether in preparation or reception.

And actually installing the mechanization involves a certain number of constraints, too. For example, installing a conveyor belt to the stocking areas from the reception area generally requires having a brand new warehouse for optimal integration of the incoming and outgoing flows.

In all cases it is important to estimate in advance the area needed to be reserved for mechanization.

**What are the keys to success in warehouse mechanization?**

A warehouse mechanization project involves profound changes in working methods and habits. In this respect it's a human project. The teams must be involved right from the initial reflection phases of the project. First in order to reassure them that their jobs are not threatened, but also to explain to them the positive impact that mechanization will have in their day-to-day lives.

Also, and as regard the mechanization project itself, it is essential to think about the durability of the installation, which must be capable of adapting to changes in the articles handled by the warehouse (sizes, weights, packaging, etc.) particularly in the context of a warehouse dedicated to e-commerce. And also, an operating budget for the maintenance and evolution of the systems selected.

Lastly, mechanization must never be seen as a miracle solution: it is neither more nor less than one support, among others, to the production of the warehouse. Despite the gains in productivity that it brings, it cannot perform or replace overall management of the warehouse and continuous reflection on the adjustment of the logistical processes to respond to the company's operating and commercial challenges.

#### **Florent Boizard, Logistics Solutions Product Manager, Hardis Group**

---

Florent Boizard has ten years' experience in the field of logistics information systems. A graduate of the ENSAM, he started his career at Galeries Lafayette, where he spent two years as logistics project manager. In 2005 he joined Hardis Group as a logistics IS consultant, later becoming innovation manager in 2008 and consulting manager in 2009.

Appointed Product Manager in 2012, his main responsibility is to define the new strategic, functional and technological orientations of the Reflex range. In this role, he manages the R&D, pre-sales consulting and project consulting teams (60 of the 150 people in the Logistics Solutions department).

#### **About Hardis Group**

---

Hardis Group was created in 1984. It is a software publishing, consulting and IT services company which helps its customers to digitize their services. Hardis Group is not like other companies. From the very outset, its growth has been founded on a pragmatic approach, local values and an unwavering commitment to both its customers and its employees. In fact, Hardis Group's founders continue to manage the company to this day, with 25% of its employees holding shares in the business and 100% of its workforce based in France.

Hardis Group is involved in seven main areas: cloud infrastructure and facilities management, development and third-party application maintenance (TPAM), consulting and project owner support, business intelligence, logistics and transport (Reflex solutions), development tools (Adelia Studio), and payroll outsourcing (Saphyr software).

As a software publisher, Hardis Group is capable of integrating its own solutions and can also call on the services of a network of partners. Its consultants master the main methodologies for carrying out quality IT projects (ITIL, CMMI, etc.)

Hardis Group posted turnover figures of €54.7 million in 2012. The Group currently has more than 2,500 customers and employs 630 people. Based in Grenoble, it has four other branches in Lyon, Paris, Lille and Nantes.

[www.hardis.fr](http://www.hardis.fr)

**Press contacts**

---

Anjuna  
Elodie Cassar  
elodie.cassar@anjuna.fr  
Tel. +33 9 64 15 31 27  
GSM +33 6 80 53 82 94

Hardis Group  
Hélène Leclercq  
helene.leclercq@hardis.fr  
Tel. +33 4 76 70 98 41