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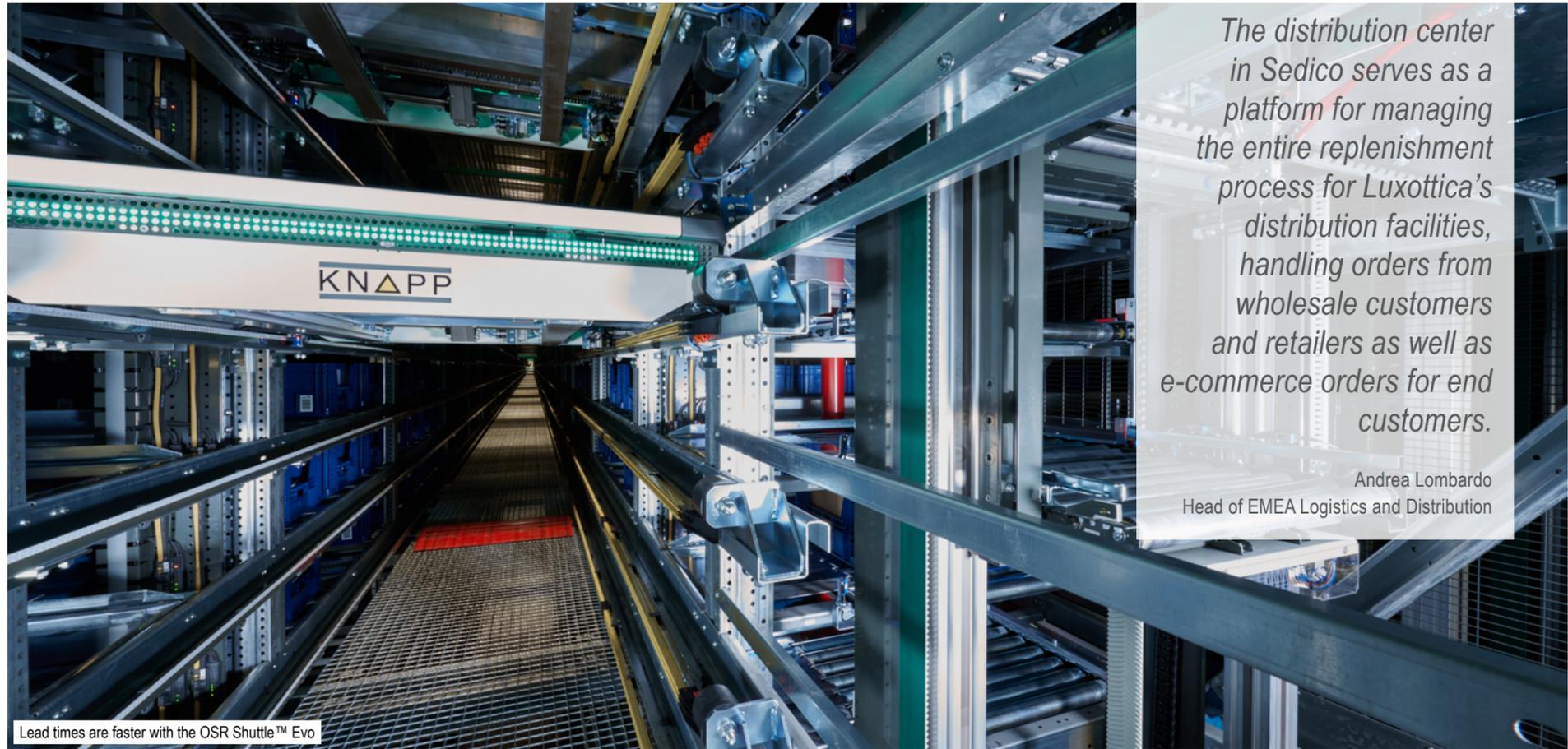
Luxottica

Clear view into new dimensions

Luxottica is a leading company involved in the design, manufacture and sales of exclusive luxury and sports eyewear and fashion. Their global business model includes the supply of retailers and wholesalers, connecting them to the production facilities. By integrating all levels of their value chain, Luxottica has grown to become one of the most well-known companies worldwide in their segment. To accommodate the range of their business models and fulfill the complex demands placed on their business, Luxottica required a strong technology partner offering a fully integrated logistics solution. And this is where we come in: Join us on a journey along the value chain of the worldwide leader in eyewear, Luxottica.

LUXOTTICA

Corporate Mission	As part of EssilorLuxottica, the Company supports its ambition to help people see more and be more.
Project Mission	Planning and construction of a central distribution platform for worldwide shipping
Surface	33,000 m ² (355,000 sq ft)
Industry	Optics, luxury items and sports equipment
Location	Sedico, Italy
Go-live	January 2021
Performance	205,000 items per 7.5 hour shift
Order lines per hour	13,400–15,700 (with extension)
Shipments per day	33,000



Luxottica: from vision to global trend-setter

1961

Leonardo Del Vecchio founded a small production facility for manufacturing eyeglasses.

Joining light with optics

Mr. Del Vecchio named the company Luxottica, a portmanteau word of the Italian terms luce, meaning light, and ottica, meaning optics.

The start of a glorious journey

In the small Italian town of Agordo, located at the foot of the Dolomiti Mountains, the road to business greatness began.

Step by step

The founder gradually expanded the business by including distribution, wholesale and retail, and a key presence in lens finishing. This vertically-integrated model was the key for the success.

Global trend-setter

Today, Luxottica is the umbrella company of famous luxury brands for high-end designer eyewear and owns brands such as Ray-Ban and Oakley, as well as licensed brands such as Giorgio Armani, Burberry and Versace. In 2018, Luxottica merged with Essilor to become EssilorLuxottica. Today, the company has 180,000 employees worldwide.

The distribution center in Sedico serves as a platform for managing the entire replenishment process for Luxottica's distribution facilities, handling orders from wholesale customers and retailers as well as e-commerce orders for end customers.

Andrea Lombardo
Head of EMEA Logistics and Distribution

Automation with the future in mind

Luxottica delivers their eyewear to customers around the globe and is experiencing immense growth. To accommodate this growth, Luxottica decided to construct a new distribution platform in Sedico, Belluno in Italy. Their goal: managing logistics processes for global distribution to retailers, stores and end customers. Today, Luxottica and KNAPP can look back on long years of a successful business partnership.

The implementation of such an enormous project requires experience, an understanding of the business model and, of course, sound forward thinking to successfully integrate all the complex processes in the distribution center and to accommodate all the specific requirements.

33,000 packing units per day: optimized fulfillment processes with KiSoft

The mastermind at work behind the DC's sophisticated process map is KiSoft. KiSoft offers a whole portfolio of established control systems for warehouse management, warehouse control and machine control. The software connects the processes, automation technologies and people in the warehouse, integrating all procedures from goods-in to goods-out. The result is high performance and transparency every step of the way, in a flexible and scalable technological environment.

At Luxottica, 33,000 shipments leave the warehouse on an average day, which roughly corresponds to 205,000 items in a 7.5 hour shift. Shipment sizes also greatly vary because from the same DC, Luxottica is shipping to other distribution centers, stores

(B2B) and end customers (B2C). Since KNAPP continuously develops this software and provides well-defined lifecycle support, Luxottica benefits from long-term investment security.

Luxottica benefits from the solution in a number of ways:

All-in-one

The new center handles the entire inventory and all the surrounding activities.

Omnichannel fulfillment

The new distribution center supplies all sales channels, both B2B and B2C.

E-commerce as a separate process

To fulfill orders for end customers as quickly as possible, online orders are handled in a separate, integrated process.

Maximum flexibility and rapid adaptation to market changes

The software solution and automation technology allow Luxottica to respond to changes in demand in real time.

Complete software solution thanks to KiSoft

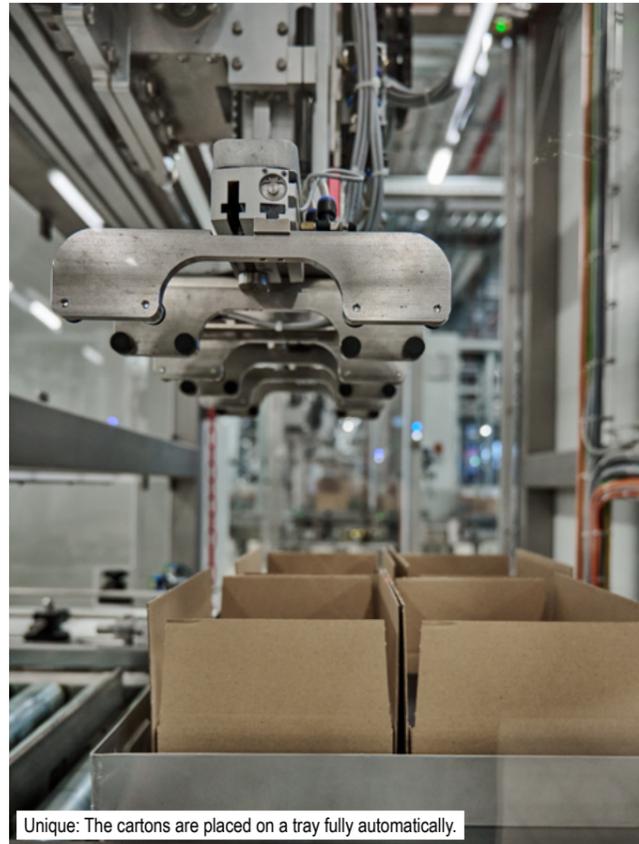
KiSoft is KNAPP's comprehensive software system that manages all warehouse processes.

Extendible system

The system's technological solution offers many opportunities for expansion in the future.

Turning complexity into maximum flexibility – a glimpse into the solution

The new distribution platform in Sedico has been in operation since 2021. From here, Luxottica supplies regional distribution centers, stores and end customers around the world.



1. Goods-in and storage

In the goods-in area, all items are recorded by the KiSoft WMS software and stored in the OSR Shuttle™ Evo, KNAPP's automatic picking and storage system. KiSoft calculates the best storage location for each and every pair of luxury eyewear. In the 150 m (492') long and 12 m (39') high system, 450 storage robots, our shuttles, store and retrieve items across 500,000 storage locations. After having been stored in the OSR Shuttle™ Evo, the high-end products are ready for the next leg of the journey.

- ★ With KiSoft, the automated warehouse optimizes itself. Shorter lead times give Luxottica a clear competitive edge.

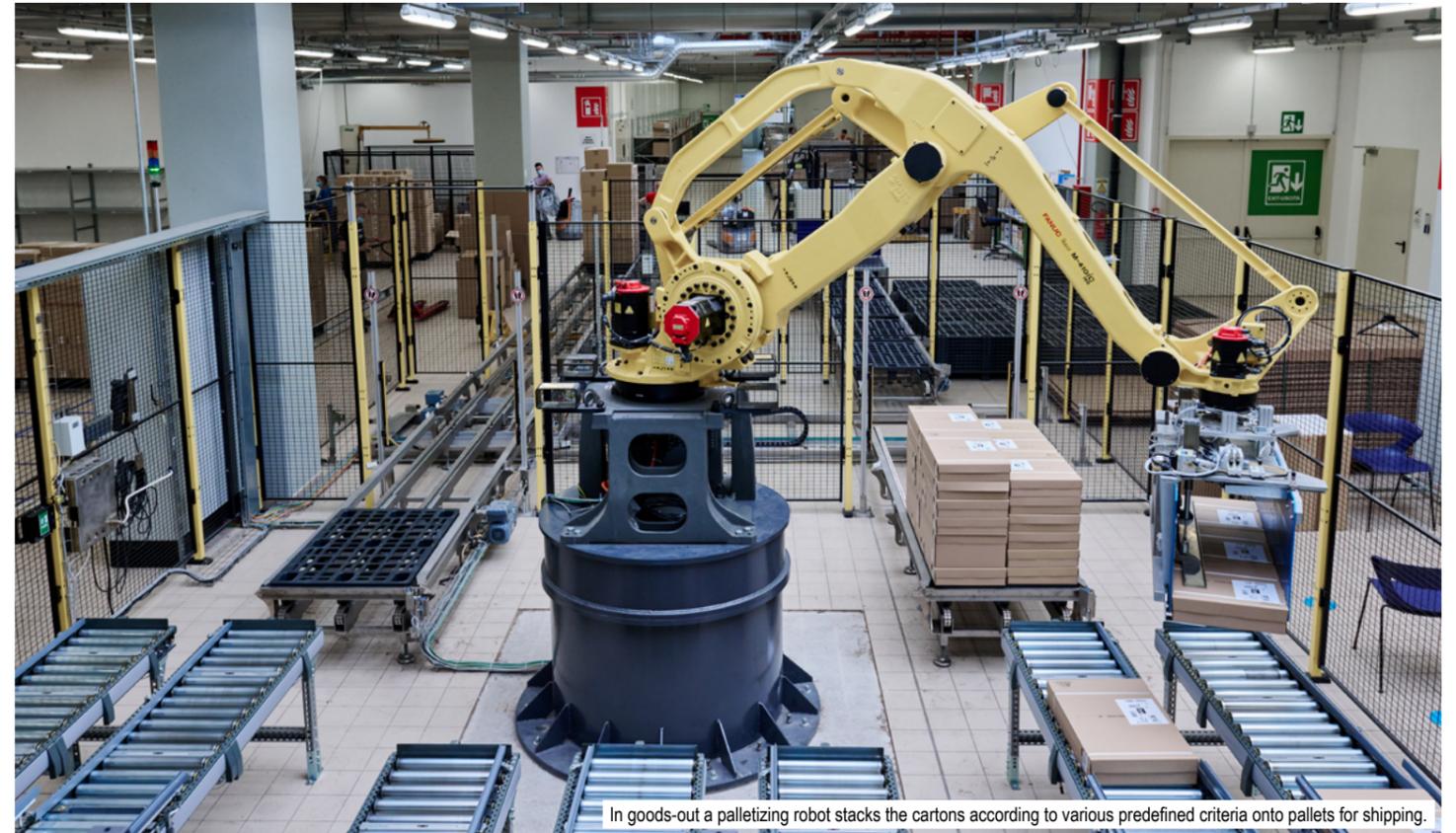
2. Order start and processing

Our KiSoft software manages all the warehouse processes and orders. For every order, the software evaluates when the order should ideally start and how it should best make its way through the warehouse.

- ★ KiSoft ensures quality and optimizes time and resources by making the right data-based decisions in real time.

To process the wide range of orders and different order sizes, there are eleven possible carton sizes. The cartons are automatically erected and then placed on a tray. For picking, a carton in the right size is conveyed to one of the 19 goods-to-person work stations. These work stations are ergonomically designed, making it easy for Luxottica employees to pick orders efficiently. Items that are in high demand are placed into order cartons in the manual picking area. Pick-to-light technology at the manual stations provides straight-forward guidance to employees as they pick. These work stations also make the work for employees more comfortable and enjoyable, thanks to their ergonomic design.

- ★ The software efficiently calculates the time needed between picking and dispatch, for highly efficient order planning. This guarantees the arrival of each Luxottica order at the desired time.



3. Checks and invoice insertion

To ensure that every order includes the right item in the right quantity, every carton is automatically weighed, its contents recorded using an RFID scanner and additionally checked if necessary.

Then, the invoices are inserted or applied and the carton sealed – both automatic processes. Larger cartons are ready after they have received the invoice and have been sealed. For smaller cartons, the invoice is applied to the outside of the carton using a special process.

- ★ Packaging materials are only used as needed, which reduces the amount used as well as the carbon footprint in Luxottica's shipping area.

4. Shipping preparation and goods-out

From here, the orders take different paths:

- **Express deliveries:** Online orders that need to be quickly ready for delivery are buffered in the INDU-Store, our fully automatic warehouse system for single-item handling. The INDU-Store is an essential tool helping Luxottica provide fast and secure delivery of their online orders.
- **Box-in-box concept:** The KiSoft software also groups orders according to their destination. To ensure secure and efficient transport to customers overseas, for instance, a robot neatly packs smaller cartons into larger cartons. The cartons are stored temporarily in the OSR Shuttle™ system until shipping. Thanks to the OSR, the cartons are immediately available whenever they are needed.
- **Palletizing robot in goods-out:** Our palletizing robot stacks the cartons retrieved from the OSR onto pallets for shipping. In the process, the robot takes into account various predefined criteria to create a solid, stable stack. In addition, the cartons are secured for shipping and receive a shipping label. **Now, the orders are ready for shipping across the globe.**



For us, KNAPP is the right technology partner. For every process step, they've managed to find the right balance between cutting-edge technology and simple procedures.

Andrea Lombardo
Head of EMEA Logistics and Distribution

Andrea Lombardo is responsible for the distribution of Luxottica items in Europe and in the EMEA region. He took on the challenge of managing the implementation of the cutting-edge distribution center for Luxottica in Sedico.

Interview with Andrea Lombardo and Patrick Tona

From the beginning, Andrea Lombardo and Patrick Tona were deeply involved in the project, albeit in different functions. They talked about the project development, the partnership with KNAPP and the companies' shared visions for the future.

What makes this installation so special?

Lombardo: Thanks to the far-sightedness of the founder, Leonardo del Vecchio, Luxottica today is the largest manufacturer of eyewear around the world. Luxottica's complex business model is embodied by the DC's modern automation technology and the various software solutions translate everything into understandable processes.

How are the complex processes controlled?

Tona: KNAPP's WMS, KiSoft, controls the entire installation. This is a software solution we are familiar with and have already been using. What is special is that we can adapt the software to our needs by individually changing or adding specific modules and therefore we can independently control all processes.

What were the special requirements for the solution?

Lombardo: The distribution center must be capable of processing an order profile of enormous range. This includes extremely large units that are shipped from Italy to North America or the Asia-Pacific area for distribution in these regions as well as small orders that are very fragmented, which are sent to our stores, opticians or vendors. The smallest unit is the individual e-commerce order that is also

managed from our central warehouse in Sedico.

Tona: We're talking about a total of 300,000 items per day on average that are picked using different technologies.

Which other challenges did you face during the project?

Tona: One of the biggest challenges in this project was keeping our daily shipments going out every day while simultaneously installing the new distribution center. We only close the warehouse on a few days during the year: Ferragosto, celebrated on August 15th, Christmas Eve and the day after, and New Year's Day. On all other days, we operate around the clock.

Lombardo: Then there was the other challenge: COVID-19. The pandemic severely tested the lives of our employees. Everyone's daily life had already been turned upside down by the pandemic. On top of that we were involved in implementing a very complex project on a very tight time schedule. COVID-19 made all the phases of the project even more challenging.

Why did Luxottica opt for KNAPP as technology partner?

Tona: Luxottica has been working with KNAPP since 2006. The successes they achieved together were naturally a major reason for Luxottica to commission KNAPP again for this new project.

Does this project entail change for the employees?

Lombardo: As we planned the new distribution center, our aim was to optimize the work environment for our employees. Therefore, we conducted a study with KNAPP and the University of Graz to identify the ideal conditions with respect to ergonomics, noise and intuitive software use for each type of work station. We were able to immediately apply the results of the study to this project.

How do you feel about the collaboration between Luxottica and KNAPP?

Tona: One of the project's success factors was building a foundation of trust between the different teams who have since grown together to function as one large team.

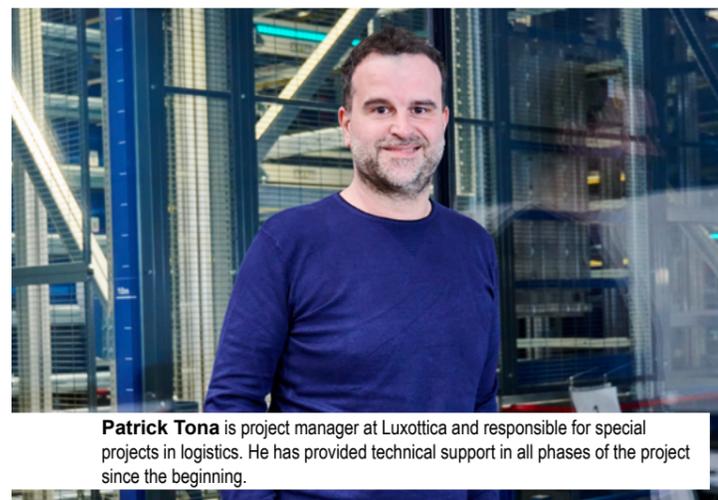
Lombardo: Yes, that's right. The high quality of the collaboration between the Luxottica and KNAPP teams was crucial. There

have been both hard days and complicated situations, but both teams conducted themselves very professionally and stayed motivated, so we always found the best solution.

What's next?

Lombardo: In our design phase, we were already planning for a possible future expansion of the Sedico warehouse with KNAPP. Today, the installation has the capacity to ship 70 million items per year but is only shipping 60 million. However, expansions of the system can be installed at any time, allowing us to achieve a rate of 90 million items.

Tona: We have really benefited from working with KNAPP, and our company is steadily growing and places great value on state-of-the-art technology. These are the reasons why, as we continue to improve our internal processes, we will continue to look to KNAPP.



Patrick Tona is project manager at Luxottica and responsible for special projects in logistics. He has provided technical support in all phases of the project since the beginning.

The project was implemented during a time when COVID-19 was greatly impacting our lives. In this context, it was the people involved in this project who were crucial to its success. The experts from Luxottica and KNAPP worked together with passion and commitment to achieve the goals we set together.

Patrick Tona
Project Manager, Luxottica

Promising prospects

The future promises projects over many years for the two partners. The foundation has already been laid for future expansion in the Sedico DC and the system is fit for the future.

Automation solution – overview

Technologies Storage system: OSR Shuttle™ Evo (485,760 storage locations)
16 Pick-it-Easy Evo and 3 Pick-it-Easy Flex work stations
OSR Shuttle™ Sorter
OSR Shuttle™ Sorter
30 work stations with Pick-to-Light technology
ILA – Invoice and Label Applicator
Lidding and taping machine
INDU-Store
Buffer system:
OSR Shuttle™ Evo
Palletizing robot

Software KiSoft One (WMS, WCS, Machine Control)
KiSoft Analytics
KiSoft Add-ons (SRC, SCADA, CMMS, SAP ERP interface)

Service & Lifecycle 21 Resident Engineers