



Refurbishment

Old becomes new.

Keep your warehouse up to speed

A modern, state-of-the-art warehouse is efficient, energy-saving and enables fast handling of goods. Incorrectly sized or obsolete facilities are prone to malfunction, are costly to operate, and restrict the growth of your company. Professional refurbishment will pay for itself very quickly.

The prerequisite for successful and sustainable refurbishment: The measures taken are based on your actual needs and are tailored to the current state of the plant. For this reason, every refurbishment carried out by Kardex Mlog begins with an analysis. The first step is a detailed check and examination: "the plant check". Based on this, we work with you to develop a tailored refurbishment schedule and we then implement this during ongoing operations – from the replacement of individual components right up to fundamental refurbishment of the entire plant and the optimisation of processes and workflows.



- ▶ Objective analysis of plants, processes and workflows
- ▶ Innovative diagnosis tools
- ▶ Individual assessment
- ▶ Benchmarking

Objective plant check

At Kardex Mlog, we don't just check the technology, but the entire logistics concept. We want to concentrate on the causes, not the symptoms. In a detailed analysis, we use objective criteria to form an accurate picture of the condition of the plant and we compare this with the requirements profile and the competition.

All information is evaluated and weighed up. The result is a refurbishment concept with which you can quickly and cost-effectively bring your plant up to date.

Refurbishment solutions that fit

The right preparation saves money during implementation and enables the work to be done during ongoing operations without affecting your business. Therefore, before each step, we jointly define the objective and the strategy, schedule and milestones.

The fact that we spend more time on the preparatory phase provides subsequent planning certainty, transparency, and a precise sequence of exactly coordinated activities. And a plant that runs perfectly and is an excellent fit for your company. Quite simple actually.

- ▶ Individual and personal consulting
- ▶ Transparent and plannable costs
- ▶ Minimal downtimes
- ▶ Highest efficiency
- ▶ Tailored solutions

Cost-effective integration into your existing facility

In order for the refurbishment to begin right where it's needed and to ensure that well functioning areas are left alone, good planning on its own is not sufficient. What's needed is experience, know-how and the kind of instinct that is developed through hundreds of successfully implemented projects. The experts at Kardex Mlog have this instinct.

Whether it's a replacement, an extension or a total refurbishment: We guarantee short implementation times, seamless integration into your existing plant, and a perfectly crafted result. Our own production plays a role too as we can custom-manufacture all the key components.

- ▶ Maximum precision
- ▶ Know-how from hundreds of projects
- ▶ Seamless integration into your existing facility
- ▶ Short implementation times
- ▶ Implementation during ongoing operation



Services provided by professionals for professionals

Each plant is only as good as the people who run it. For this reason, intensive training of your employees to use the new components is an integral part of our service. In addition, we can provide individual training courses or group seminars.

Over the long term, we guarantee smooth operation of your plant through continuous updates and spare and wear part services which also include third-party components. The optimal plant is the one which you don't need to worry about.

- ▶ Intensive training courses provided by qualified trainers
- ▶ Seminars on site
- ▶ Telephone Hotline and Helpdesk
- ▶ Spare parts service from a single source for our Kardex Mlog and third-party components

Refurbishment investment that pays off

A well planned, tailored refurbishment, therefore, pays for itself very quickly. Kardex Mlog develops customised refurbishment concepts which can be implemented rapidly during on-going operations. From day one, you reap the benefits of a modern, state-of-the-art plant – no matter when it was built.

There are several excellent reasons to refurbish

- Lower operating and energy costs
- Significant performance gains
- Increased capacity as a result of more effective use of space
- High availability, minimal downtimes
- Optimised processes
- Transparent processes which make for easier troubleshooting
- Improved usability
- Guaranteed supply of spare parts
- Extended useful life of your warehouse



Replacement of telescopic fork drive.

The range of possible refurbishment measures is huge. In some cases, you need only replace a few individual components in order to sustainably improve the capability of the entire system. In obsolete plants, however, with restricted availability, a complete refurbishment is frequently the best option, or the existing warehouse must be reorganised to meet new requirements.

From component replacement to complete refurbishment

Replacement of parts and components

Modern components are more capable, require less maintenance and, in the event of breakdown, they can be sourced faster than older obsolete parts.



Chassis of storage and retrieval machine old/new.



Refurbishment of control systems

The intelligence of your plant depends on its control system. For control refurbishment, we offer the following modules which can be combined to suit your requirements:

- Conversion to S7 standard
- Connection to higher-level ERP systems/SAP
- Use of current Profinet systems
- Integration of energy efficiency technologies
- Installation of precise positioning systems
- Installation of camera systems
- Changeover to state-of-the-art communication technology
- Installation of web-based visualisation systems



Conversion from S5 to S7.



Replacement of entire units

Storage and retrieval machines and conveying system units from Kardex Mlog are often still in use decades after installation – proof of the quality made in Neuenstadt.

However, new warehouse logistics requirements, modified processes in the warehouse, higher throughput rates, or different types of pallets can in some cases mean that entire units need to be replaced. Kardex Mlog can replace storage and retrieval machines or conveying system units such as vertical transfer devices or distribution vehicles - independent of manufacturers.



Lift unit of storage and retrieval machine old/new.

With the Kardex Mlog energy check, we identify electricity guzzlers and areas with savings potential. Finally, together with you, we develop a concept for holistic refurbishment to lower energy consumption and reduce CO₂ emissions.



Frequency-controlled chassis motor of storage and retrieval machine.

Concepts for greater energy efficiency

Drive systems

Modern frequency-controlled motors are highly efficient with low consumption and minimal wear.

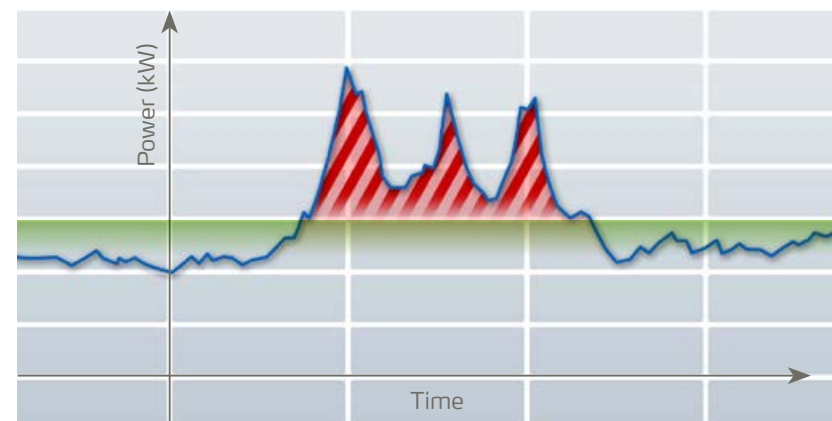
Energy recovery

The energy released during braking and lowering is not converted into heat but is fed back into the system and used for propulsion and lifting.



Avoidance of peak loads

Short-term peak loads drive energy costs up and can be avoided with intelligent plant management.



Energy management

Modern plant control matches speed and acceleration to current demand and can thereby reduce consumption and wear in periods of lower capacity utilisation.



Replacement of IT systems

For the economic viability and availability of your warehouse, reliable software solutions are just as important as the hardware components. Obsolete warehouse management systems or material flow control systems are replaced, if necessary, by the Kardex Mlog Control Center, MCC. For efficient control of your material flow processes, this solution offers various modules - from user management, interface networking, plant visualisation, right through to energy management.

Reorganisation and optimisation of the processes

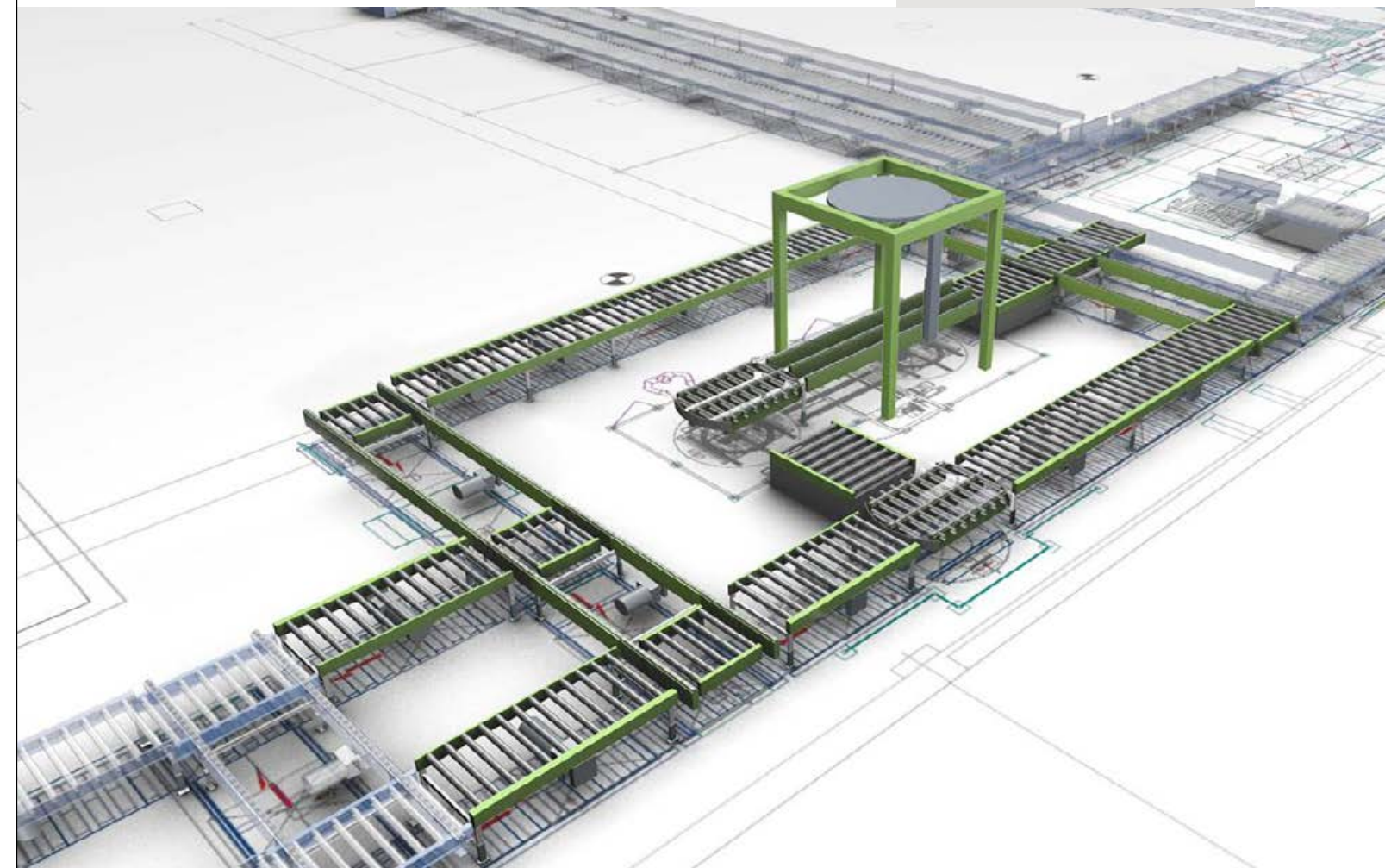
Measures to improve the processes and, as a result, performance are not restricted to technology. Very often, significant optimisation potential can be identified in the daily operations of the warehouse. Systems installed in the course of refurbishment often require new processes and render some manual tasks superfluous. We view the organisation of the warehouse as an integrated component of every refurbishment project and we assist you in realising this potential.

State-of-the-art technology - with no interruptions

If ongoing production is to continue uninterrupted, good planning is sometimes not enough. Extensive experience is required, as is know-how and the feel and sensitivity that can only be gained through hundreds of successfully completed projects. Kardex Mlog has this experience – we guarantee short implementation times and seamless integration with your existing facility.



Refurbishment concept:
Reorganisation and optimisation of the processes.





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