

Solution Guide

# Maximize Machine Uptime & Efficiency



# Smoothly running intralogistics

In today's fast-paced business world, the availability and performance of intra-logistics solutions are not just business options, but must-haves. Why? Because the uninterrupted operation of these systems translates directly into tangible customer benefits and improved profitability and competitiveness.

Intralogistics solutions, such as automated storage and retrieval systems (ASRS), increase order-picking productivity, accuracy, and speed while reducing storage space, human error, and the time required to retrieve and store goods. However, their benefits can only be fully realized when they run smoothly and without interruption. Any downtime, malfunction, or performance degradation can be costly and impact daily operations.

After implementing an ASRS, realizing its full potential and ensuring seamless operation with high availability and maximum performance is crucial. This is where smart monitoring services become essential. They offer a wide range of benefits:



Maximize performance



Detect faults early



Minimize downtime costs



Reduce technician labor costs

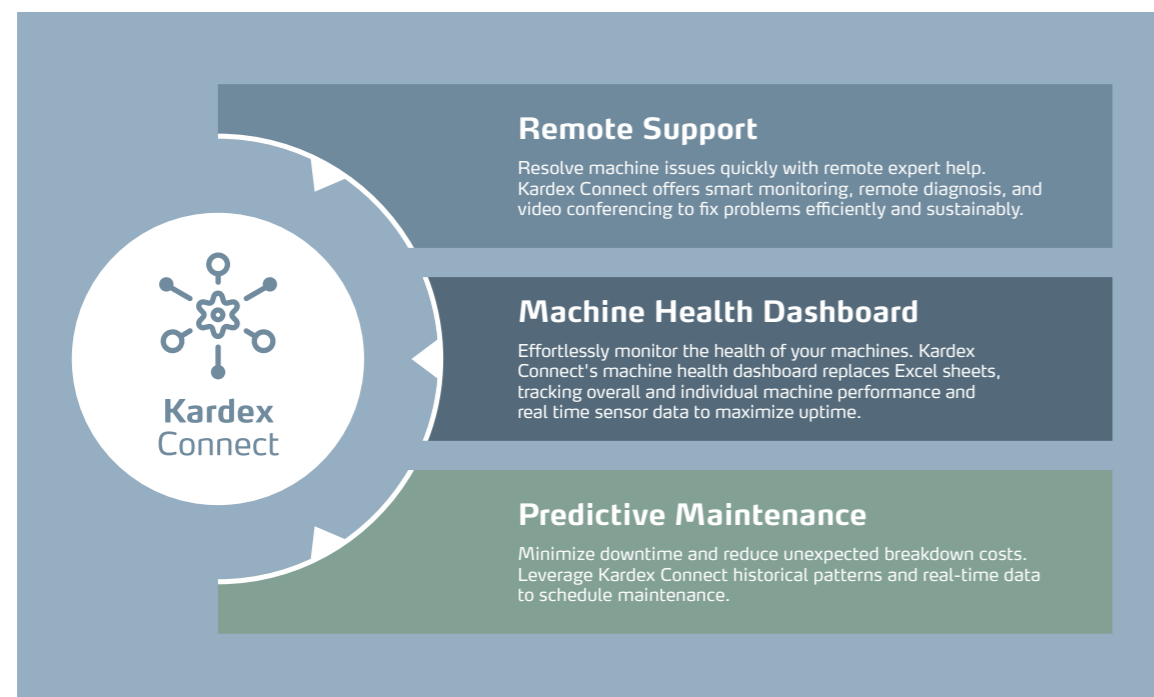
# Maximize efficiency with Kardex Connect

- 1. What is Kardex Connect? ..... 4
  - 1.1. Fast and professional remote support ..... 5
  - 1.2. Extensive machine reports through machine health dashboard.....7
  - 1.3. Predictive maintenance with smart monitoring ..... 11
- 2. Security of Kardex Connect ..... 12
- 3. Implementing Kardex Connect ..... 13
- 4. Benefits ..... 14

# What is Kardex Connect?

Kardex Connect is a secure Industrial Internet of Things (IIoT) platform that keeps your systems running through connected services including remote support, a centralized machine health dashboard, and predictive maintenance.

Through data-driven consulting, Kardex Connect enables customized reports on machine performance, fill rates, and actual machine status.



## 1.1. Fast and professional remote support

Supported by Kardex Connect, our expert helpdesk offers fast and professional support at the touch of a button. Since more than half of all service requests can be resolved remotely, customers selecting Kardex Connect benefit from faster response times and smoother troubleshooting.

Our machines are equipped with smart monitoring, which means they are constantly looking for potential problems. If something in the machine fails, or if a user interaction could lead to a potential failure, a sensor is triggered, and a service request is automatically sent to the Kardex expert helpdesk. Our experts receive a detailed report of what happened in the machine and try to resolve any potential issues before they become a serious problem.

### How does it work?

- A service request is submitted through the Kardex Connect platform, either by you or by the machine
- The expert helpdesk connects to your systems
- Using cutting-edge security, the expert helpdesk remotely analyzes and fixes your machine(s)
- Time, money, and, in many cases, an on-site visit from a service technician is spared

If a problem cannot be resolved via remote support, a service technician is immediately briefed about the issue and arrives on-site optimally prepared to repair the machine. Because the service technician has already been informed about the situation, first-time fix rates are higher.

### Traditional support



### Remote support





## Kardex Assist & Conferencing app

If you feel you need an extra set of eyes and ears to determine if something is wrong with a machine, use the Kardex Assist & Conferencing app on your browser, smartphone, or tablet. Communicate securely and easily with our expert helpdesk and share the situation with them live for their opinion. This often results in more effective remote diagnostics.

## Secure data transfer

A TÜV-IT certified, secure HTTPS connection manages the data transfer. The application is GDPR compliant and available free of charge to all Remote Support customers.

## 1.2. Extensive machine reports through machine health dashboard

The Kardex Connect machine health dashboard allows you to know exactly what is happening (and what has happened) with your machines: their productivity rates, fill levels, status, usage patterns, and much more. Based on these key performance indicators, our experts can provide valuable insights on how to improve your operation.

Machine-related metrics and KPIs that show the status of a machine can be easily read directly from the Kardex Connect mobile app. An interactive overview and historical analysis of these metrics are also available in our customized and globally accessible web-based dashboard. Say goodbye to manual reports and old Excel spreadsheets!

**Thanks to Kardex Connect machine health dashboard, you can:**



See the current state of your machine metrics and how they have changed over time



Compare machines within your warehouse and identify opportunities to maximize their use


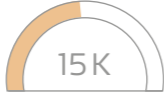
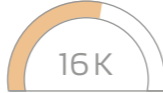
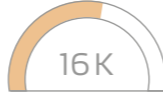
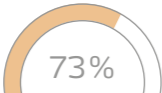
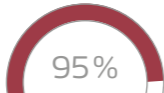
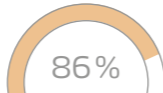
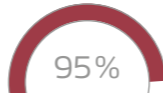


Identify trends in your demand and prepare your capacity to anticipate seasonal changes



Access all this information securely anytime and anywhere you want

Kardex Connect machine health dashboard example - Vertical Lift Module usage overview

	Kardex VLM 1	Kardex VLM 2	Kardex VLM 3	Kardex VLM 4
Cycles per hour	14.8	22.3	19.3	21.5
Cycles per day	271	403	348	402
Remaining cycles				
Fill level				
Front load	726 kg	1,332 kg	1,194 kg	1,308 kg
Rear load	1,108 kg	2,154 kg	2,241 kg	2,026 kg
Total load	1,834 kg	3,486 kg	3,435 kg	3,334 kg

Vertical Lift Module performance dashboard



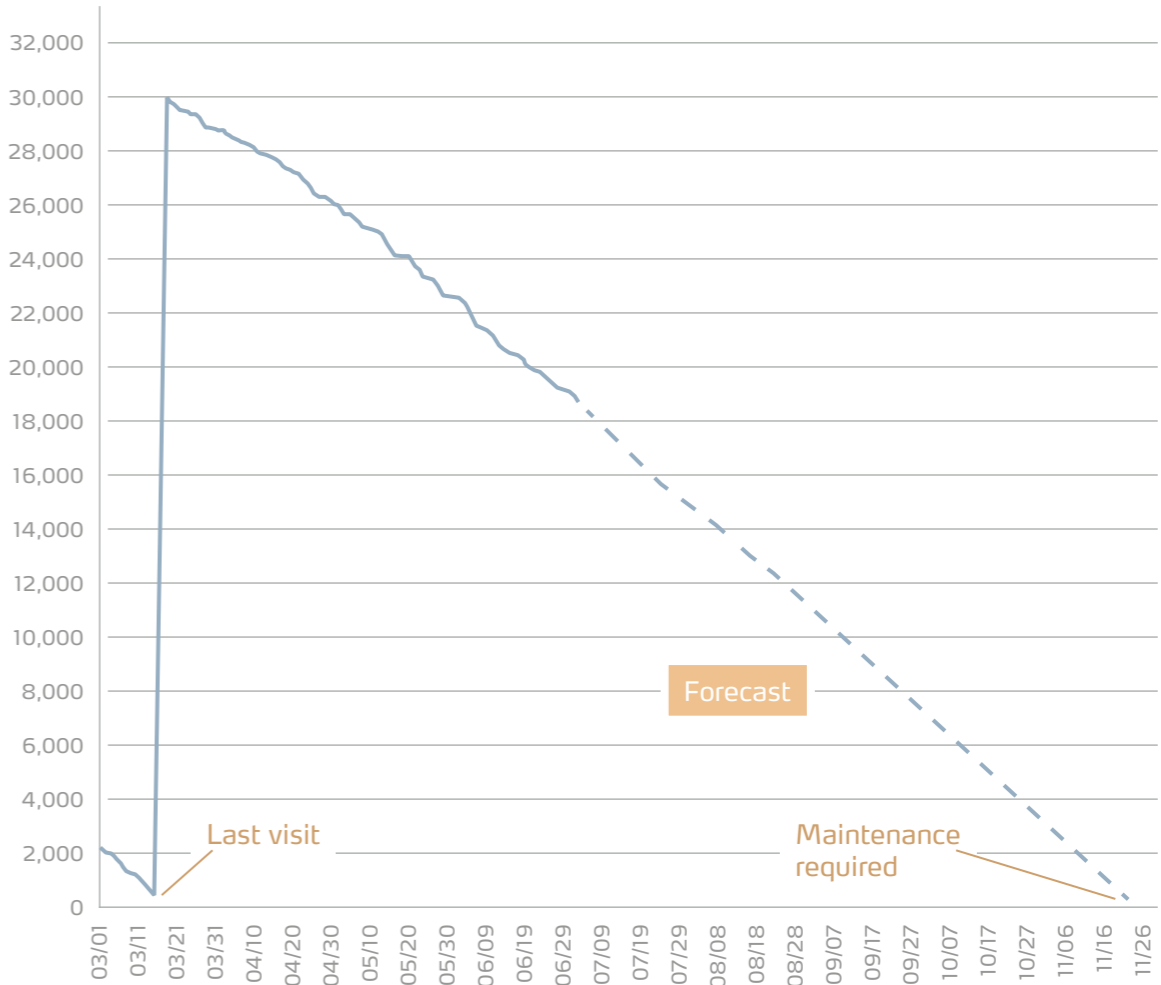


### 1.3. Predictive maintenance with smart monitoring

Companies today are driven by operational speed, mobility, flexibility, and individuality. Therefore, maximum equipment efficiency is vital for a successful warehouse. The smart monitoring feature of our machines enables early detection and resolution of operational issues before they escalate, saving potential future downtime.

In addition, by analyzing the daily use of your machine(s) and its components compared to the standards defined by our factory, it is possible to estimate how far in the future maintenance may be required. Knowing a maintenance date in advance allows you to plan your activities in a timely manner to ensure uninterrupted inventory.

#### Remaining cycles before a suggested maintenance



# Security of Kardex Connect

By connecting your equipment to Kardex Connect, the Kardex expert helpdesk can monitor and maintain your equipment remotely, giving you an extra competitive advantage for smoothly running intralogistics solutions and the highest possible uptime.

A high level of data security is constantly ensured, through the entire remote support process:

- ✓ The Kardex expert helpdesk will only connect to your machines via a central server when you submit a service request and grant access
- ✓ A machine connection is established via a dedicated edge device or integrated into the machine control
- ✓ The firewall is an outgoing SSL-encrypted HTTPS connection, usually handled over port 443
- ✓ An expert helpdesk remote technician accesses the central server with a uniquely individual username and password
- ✓ When logging in, the client checks if the server holds a valid HTTPS certificate
- ✓ The server additionally checks whether the client can provide a valid certificate
- ✓ All logins are stored in tamper-proof log files
- ✓ After logging in, the service technician may only access the respective machine related to the service request
- ✓ If an unauthorized access attempt is made, the IP address is automatically blocked
- ✓ Once your equipment is operational again, the service technician will close the service request and the connection is immediately terminated
- ✓ You can terminate the service request and, therefore, the connection at any time
- ✓ You can check all service-related activities via the app or web dashboard

Kardex Connect offers a TÜV-IT certified, HTTPS-connected solution that is more secure and provides more functionality than a VPN or conventional screen-sharing technologies.

 Watch this video to learn more about our data security promise

# Implementing Kardex Connect

Different contract models for different requirements.  
Choose the one that's best for your needs.

Learn more about the Kardex Service Portfolio

	BASE Care	FLEX Care	FULL Care	Software Care
	"I need reliable and dependable systems."	"I need guaranteed rapid response in case of malfunction."	"I need maximum availability at predictable costs."	"I need assistance from IT experts to ensure seamless warehouse management processes."
Annual maintenance and inspection	✓	✓	✓	optional
Multiple maintenance and inspections per year	optional	optional	optional	optional
Priority support	✓	✓	✓	✓
Helpdesk unlimited calls		✓	✓	✓
Helpdesk reaction time < 2h		✓	✓	✓
Up to 1h Helpdesk reaction time <sup>1</sup>		optional	optional	optional
Up to 24/7 Helpdesk support <sup>1</sup>		optional	optional	optional
On-site repairs		optional <sup>2</sup>	✓	
Spare parts			✓	
On-site reaction time < 16h		✓	✓	
Up to 2h on-site reaction time <sup>1</sup>		optional	optional	
Up to 24/7 on-site support <sup>1</sup>		optional	optional	
Remote Assistance & Analytics <sup>1</sup>		optional	✓	optional
Access to Kardex Portal <sup>1,3</sup>				✓

<sup>1</sup> Subject to availability. Support might not be available in local language.  
<sup>2</sup> Labor cost included during warranty.  
<sup>3</sup> E-mail, knowledge base, cases.

# Benefits

With Kardex Connect, machine uptime is maximized, technician labor costs are reduced, and productivity is increased. Due to more efficient troubleshooting and repairs via remote access, your machines need less time to return to full operation.

**Minimum downtime** costs as errors can be analyzed and solved much faster. The priority hotline connects operators directly with the expert helpdesk.

**Higher first-time-fix rate** after a precise remote diagnosis in advance, allowing on-site technicians to be better prepared.

**Faster reaction times** as smart monitoring and a service request button on the machine allow for efficient service processes.

**Troubleshooting is more efficient** as both parties can view error logs online via the app or web dashboard.

**Early detection** of possible downtime, identification of operational faults, and unit status notifications can be set to suit your individual preferences.

**Higher transparency** guarantees process reliability with the help of a live overview of the equipment status.

**Maximum performance** thanks to extensive analytics and KPIs.



Contact us