

Identify invisible time wasters in the warehouse – and reduce them systematically.

How to optimise routes, reduce search times and structure space so that your processes run measurably faster and more reliably.

The white paper by kaiserkraft.



Executive Summary

Time losses in the warehouse rarely arise from individual, obvious problems. They arise from the interaction of many small weaknesses – in routing, search times, unclear structures and unused space. Because they are hardly noticed in everyday work, they are often accepted as given and therefore persist for years.

At the same time, requirements are increasing: faster delivery, growing product ranges and limited human resources. Companies that do not actively question their structures lose time every day – usually without recognizing it systematically.

This white paper shows where these time losses arise, why they reinforce one another and how they can be reduced in a targeted way. The focus is on four central levers: routing, search times, zone structure and use of space. Together, they determine how efficiently a warehouse actually operates.

On this basis, the white paper describes typical planning errors in organically grown warehouses, presents practical solution approaches and supplements them with project examples from real practice.

Key insights at a glance:

Up to 50% of picking time is spent on walking routes.	Search times tie up considerable capacity every day.
Unclear zones increase error rates and slow down processes.	Unused height worsens space bottlenecks on the floor.

The goal: clear guidance from analysis through concrete measures to structured implementation.

Those who systematically improve warehouse processes not only reduce time losses, but create stable workflows, relieve employees and lay the foundation for sustainable growth.

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Introduction

Warehouses are now central nodes in value creation. This is where it is decided how quickly materials are available, how reliably delivery dates are met and how efficiently employees can work.

At the same time, many warehouses do not develop from a clear concept, but grow over many years. New items are added, processes adjusted, areas repurposed. What works in the short term leads to a lack of clarity in the long term. The result is unnecessary walking, search times and non-transparent processes.

The challenge.

More complex supply chains, increasing item variety and growing time pressure meet organically grown, often unclear structures.

The goal.

Analyse, evaluate and improve organically grown structures in a targeted way – without disrupting ongoing operations.

This white paper is aimed at managers responsible for warehousing and logistics as well as decision-makers from industry, healthcare, public administration and utility companies.

It shows how organically grown structures can be analysed and improved in a targeted way – without disrupting ongoing operations.

1. Where time is lost in everyday operations.

Everyday warehouse operations look well organised at first glance: processes are defined, routes known, tasks clearly assigned. Yet this is precisely the challenge. Because the system works, it is hardly noticeable where it costs unnecessary effort. Inefficient processes remain invisible – not because they are rare, but because everyone has long become used to them.

Time losses do not occur at one point – they are distributed.

No one loses an hour at a time in the warehouse. Instead, time losses appear as brief searches, detours around blocked passages, seconds of hesitation in front of unclear labels. Individually, these points are hardly worth mentioning. Taken together, they determine how much of a working day is actually used productively.

A sober analysis of typical activities makes this visible: only part of working time is spent on direct, value-adding activities such as picking, packing or providing goods. A significant share is spent on indirect activities such as walking, orientation and coordination – tasks that appear necessary, but whose scope can be significantly reduced in most cases.

Insights from intralogistics practice: Especially in picking, a disproportionately large share of working time is spent on walking routes. The less structured a warehouse is, the higher this share becomes.

In summary:

- ▶ up to 50% of picking time is spent on walking routes
- ▶ search times arise from missing standards and unclear storage locations
- ▶ waiting times and detours tie up capacity without creating added value
- ▶ error rates increase as clarity decreases

Three typical situations from everyday warehouse work.

Time losses are not abstract metrics. They arise every day – in concrete, recurring moments:

Multiple routes in picking.

An order with ten items leads through half the warehouse. Instead of an optimised round trip, a sequence of individual movements arises – back and forth, across several zones. Processing takes significantly longer than necessary.

Searching instead of reaching.

A rarely needed component is not clearly located. Several possible storage locations are visited one after another. What is considered an exception in planning repeats itself regularly in daily work.

Waiting for clear routes.

Pallets in goods receipt temporarily block main routes. The actual work step takes seconds – but the delay caused by detours is much longer. Those who wait several times a day lose measurable working time.

The habituation effect: why the obvious remains invisible.

Experienced employees compensate for systemic weaknesses with personal knowledge. They know alternative storage locations, know which routes are overloaded at certain times and silently build in buffers. The system appears stable – but it is not.

This has two problematic consequences: first, the real need for optimisation remains hidden. Second, this knowledge is not documented – and therefore cannot be transferred. If an experienced person is absent or the order volume increases, search times and error rates rise noticeably. What used to work quickly reaches its limits under load.

The sum makes the difference.

A simple calculation makes the scale tangible: if one employee loses only 20 seconds on average per order item – through a short detour, a brief search or a small interruption – and processes 150 items per day, this amounts to almost 50 minutes lost per day and person.

For a team of five employees, this adds up to around four hours and ten minutes per day. Over a year, this corresponds to several full working weeks. This time is missing exactly when it is needed – with high order volumes, tight delivery dates or staff bottlenecks. In many cases, it also leads to the impression that more staff or space is needed.

Chapter conclusion.

Time losses in the warehouse are not a marginal phenomenon and not a sign of poor work. They are the natural result of organically grown structures – and can be made visible in a targeted way if you know where to look. The decisive insight: the problem is not individual activities, but the organisation behind them. The next chapter examines exactly this system – the causes that not only create time losses, but anchor them permanently.

2. Connection between routes, search times and warehouse structure.

The structural causes of time losses.

Time losses in the warehouse do not arise by chance. They follow patterns – in how routes are organised, how space is used and how storage locations are defined. Those who recognise these patterns quickly understand that the problem rarely lies in individual errors, but in the structure of the overall system.

Why individual measures often fizzle out.

In many warehouses, symptoms are treated: an area is rearranged, a new storage location defined, a label renewed. Something improves in the short term – but after a few weeks, the old situation has largely returned. The reason is not a lack of effort, but the logic of the system. As long as routing, warehouse structure and use of space are not considered together, optimisations remain isolated. The time wasters shift – they do not disappear. Efficiency is not created by individual measures, but by the targeted interplay of several factors.

Error pattern 1: Grown routes instead of guided routes.

What you see: Employees cover long, winding routes. Opposing traffic, bottlenecks and frequent changes of direction occur. Routes arise situationally – not from planned routing.

What it costs: A large part of working time is spent on movement instead of value creation. At junctions and in narrow aisles, employees obstruct one another. At order peaks, the system quickly reaches its limits.

Why it happens: There is no clearly defined routing – for example based on a one-way principle with fixed start and end points. Picking paths are not adapted to order structure, goods volume and access frequency. The routes have grown just like the warehouse itself.

Error pattern 2: Searching instead of finding.

What you see: Employees search for items even though these are supposed to have “a fixed place”. Several possible storage locations are checked one after another, colleagues are asked, lists compared. Items that are rarely needed cause a disproportionate amount of effort.

What it costs: Search times increase, orders are delayed. New employees need long training periods. Picking errors increase because items are confused or overlooked.

Why it happens: Storage locations are not clearly defined or not consistently documented. Labels are inconsistent, poorly visible or not maintained in daily operations. A large part of the knowledge about storage locations remains in the heads of individual employees – and is therefore neither scalable nor secure.

Error pattern 3: Mixed zones instead of clear areas.

What you see: Different processes take place in the same areas. Goods receipt, picking and dispatch run side by side. Pallets, aids and goods stand temporarily in traffic routes. Several teams access the same areas at the same time.

What it costs: Coordination effort increases. Unplanned blockages arise. Disruptions in one area have a direct impact on other processes.

Why it happens: There is no consistently implemented zone structure with clearly defined functions. Areas were occupied over years as needed, not according to a well-thought-out overall layout. What began as a temporary solution has become permanent.

Error pattern 4: Full floors, unused height.

What you see: Floor areas are overloaded, aisles become narrower, pallets stand in several rows. At the same time, racking heights and upper levels remain unused. Transition areas are permanently used as storage space.

What it costs: Routes become longer because of detours. Orientation becomes harder and stock is less visible. At the same time, safety risks increase because of bottlenecks and restricted visibility.

Why it happens: There is no systematic space-utilisation strategy that considers floor and height capacities together. Storage technologies and suitable racking systems are not used consistently, even though the available volume would require it.

How the error patterns reinforce one another.

The four error patterns rarely occur in isolation. They depend on and reinforce one another – and that is exactly what makes them so critical. An unclear zone structure means that processes share areas. This creates detours and makes routing less efficient. At the same time, items are moved more often, labels lose their meaning and search times increase. The additional movement puts further strain on traffic routes – bottlenecks and waiting times increase. Individual measures such as clean-up campaigns or new signs do not solve this cycle. At best, they shift it.

From symptom to structural cause.

In daily work, time losses appear as individual incidents: a missing item, a blocked aisle, a delayed order. In reality, these are only symptoms – not the cause.

The real problems lie deeper. They repeat themselves because they are based on the same structural patterns: in routing, in the organisation of storage locations, in the zone structure and in the use of space. This is exactly where sustainable improvement begins: the aim is not only to eliminate symptoms, but to change the underlying patterns.

The next chapter makes these patterns concrete – in the form of typical planning errors that occur again and again in practice and can be avoided in a targeted way.

3. Typical planning errors in organically grown warehouses.

Most warehouses have grown over many years. What works in everyday operations often leads to hidden weaknesses. The following six planning errors occur particularly often in practice. They emerge gradually and remain undiscovered for a long time.

Planning error 1: Growth without structure.

New items are placed on the shelf wherever there is space. Additional racks are added in free areas, not along a clearly planned layout. Existing structures are expanded without being fundamentally questioned. Over time, the warehouse loses its internal logic. Routes become longer, connections are lost and orientation becomes harder. Employees move through the warehouse instead of orienting themselves by clear structures.

Why it happens: Growth takes place under time pressure. The focus is on short-term space availability, not on long-term process efficiency.

Planning error 2: Fast movers in the wrong place.

Items with high access frequency are located in peripheral areas, on upper levels or spread across several storage locations – instead of where they are needed every day. Almost every order creates unnecessary walking. In picking, these additional metres quickly add up to noticeable time losses. Employees reach again more often, have to restack or wait for aids.

Why it happens: Placement follows historically grown structures or free space, not actual access data and movement profiles.

A practical note.

An ABC analysis of item access is often the fastest way to identify fast movers and reposition them in a targeted way. In many cases, walking distances can already be reduced with minimal adjustments.

Planning error 3: Missing or inconsistent zone structure.

Goods receipt, storage, picking and dispatch are not clearly separated spatially. Areas are used for multiple purposes or spontaneously repurposed – as buffer space, parking area or passageway. Processes overlap and coordination effort increases. Bottlenecks and blockages become more frequent, especially when workload is high. At peak times, the system quickly reaches its limits at these points.

Why it happens: Zones were never clearly defined or are not consistently observed in daily operations.

Planning error 4: Unclear or inconsistent labelling.

Storage locations follow no uniform system. Labels are missing, difficult to read or no longer up to date. Items have been moved without adapting the documentation.

Employees rely on experience instead of the system. Search times increase, picking errors become more frequent. New employees need much longer before they can work independently and safely.

Why it happens: Labelling is viewed as a detail, not as a structural element of process reliability – although that

is exactly what it is.

Planning error 5: Use of space without an overall concept.

Free areas are occupied immediately without being embedded in a higher-level concept. Floor areas are compressed while room height remains unused. Traffic routes are narrowed and safety distances undercut. At the same time, considerable space potential remains unused – in height, in peripheral areas or in unused buffer zones.

Why it happens: Space decisions are made operationally – “Let’s put it here for now” – rather than strategically on the basis of clear specifications for storage areas, traffic routes and reserves.

Planning error 6: Processes follow habit instead of logic.

Processes develop from experience. Employees adapt to existing structures and find individual solutions – instead of aligning structures deliberately with efficient target processes. Inefficient processes stabilise over time. New employees adopt existing habits – including all detours and time losses. Improvement potential remains unused because the system subjectively works.

Why it happens: There is no systematic analysis of actual processes – for example through walking-distance measurements, layout reviews or data evaluations. In addition, there is often no clear priority: structures must follow processes, not the other way round.

When errors reinforce one another.

These six planning errors rarely occur in isolation. They interlock and reinforce one another. A fast mover placed incorrectly extends every picking route. Unclear labelling increases search times. Missing zones lead to blockages. Inefficient use of space further intensifies all effects.

As long as work volume remains manageable, the system stays stable – supported by experience and improvisation. When volume increases or processes change, the weaknesses become visible: delivery delays, rising error rates, additional coordination effort and growing time pressure.

In summary: typical causes of time losses in the warehouse.

<p>Fast movers incorrectly placed. Frequently used items are too far away or hard to access</p>	<p>Unclear routing. Crossings, opposing traffic and detours slow down material flow</p>	<p>Missing zone structure. Processes overlap, areas are used for multiple purposes and responsibilities remain unclear</p>
<p>Missing zone structure. Processes overlap, areas are used for multiple purposes and responsibilities remain unclear</p>	<p>Unused height. Floor areas are overloaded while vertical space remains unused</p>	<p>Unused height. Floor areas are overloaded while vertical space remains unused</p>

These factors reinforce one another and lead to systematic time losses.

Organically grown warehouse structures are therefore a reality in most companies. This is precisely where their risk lies: weaknesses become part of the system and remain undiscovered until work volume rises or processes change. Those who recognise typical planning errors and can name them clearly create the basis for sustainable improvement. What matters is the change of perspective: away from symptomatic problem solving and towards structured, holistic warehouse planning. The decisive question is not whether these errors exist – but how strongly they have already become part of everyday work.

The next chapter looks at how these structures can be improved in a targeted way – with clear principles for routing, zones and use of space.

4. Solutions for structured and efficient warehouses.

Time losses cannot be eliminated by individual measures. They arise from structural interdependencies – and that is exactly where they must be solved. The decisive point: those who know the causes can take targeted action. The following seven principles form the basis for an efficient warehouse. They can be applied across sectors and often show a noticeable effect after only a short time.

Principle 1: Understand first, then change.

Before structures are adjusted, it must be clear how the warehouse actually works in everyday operations – not how it was planned. Many weaknesses only become visible when processes are specifically observed and measured. In practice, this means analysing walking routes, identifying bottlenecks and recording search times. Even simple observations show where time is being lost. The decisive factor is the view of real processes – not of the processes that exist on paper.

Impact: Problems become measurable, priorities become visible and investments can be targeted more precisely.

Principle 2: Clear zones, clear responsibility.

A functioning warehouse structure begins with an unambiguous spatial separation of processes. Goods receipt, storage, picking and dispatch must be clearly separated – both spatially and organisationally. Within these zones, order is created: tasks are clearly assigned, routes follow a logical pattern and coordination effort decreases. Zones create orientation – for new employees as well as experienced ones.

Impact: Fewer unplanned blockages, lower coordination effort and more stable processes – even under high utilisation.

Principle 3: Place fast movers in a targeted way.

Not every item has the same importance for daily operations. Frequently used items are moved far more often than rarely needed parts – and these differences must be reflected in the warehouse. The basis is an ABC analysis: A items belong within easy reach, at reachable height and close to the picking path. B and C items are moved to peripheral areas or higher levels. Consistent placement by access frequency is one of the most effective and quickest measures to implement.

Impact: Significantly reduced travel times for almost every order – without construction measures.

Principle 4: Design routes deliberately.

In efficient warehouses, routes have not emerged by chance – they are planned. In many warehouses this is not the case. Clear principles help: movements as linear as possible, defined main routes, few crossings and consistent separation of traffic flows. A well-designed routing concept prevents opposing traffic, reduces waiting times and ensures that material flow remains smooth even under load.

Impact: Less mutual obstruction, shorter throughput times and better use of existing capacities.

Principle 5: Understand labelling as part of the system.

A structured warehouse only works reliably when information is available at all times and for everyone. Storage locations must be identifiable unambiguously – regardless of experience or daily form. This includes standardised labelling systems, clearly visible storage-location labels and consistent data in the warehouse management system. Labelling is not a detail, but the interface between structure and people. Those who maintain it consistently create a warehouse that works without implicit knowledge.

Impact: Shorter search times, fewer picking errors and faster onboarding of new employees.

Principle 6: Use the available space systematically.

Many warehouses do not fully use the space available because they think only in floor area – not in height. Floor areas are compressed while racking levels or room height remain unused. Suitable racking systems, multi-level structures or mezzanine solutions open up additional capacity without additional floor area. The aim is not maximum compression, but a clear structure with separated storage and traffic areas.

Impact: More storage capacity, better overview and fewer detours thanks to freer traffic routes.

Principle 7: Use equipment specifically to support clear structures.

Structures alone are not enough. They must be supported by suitable equipment – from appropriate racking systems and transport equipment to ergonomic workstations and digital support systems. The decisive point: equipment should reinforce structures, not replace them. Anyone who introduces technology without optimising the underlying processes may reinforce existing problems.

Impact: More efficient processes, lower physical strain and a system that can grow with increasing requirements.

Chapter conclusion.

Efficient warehouses are not created by individual measures, but by principles that are implemented consistently and in context. Those who create transparency, clearly define structures and build processes logically reduce time losses noticeably. Often with manageable effort – because the greatest levers are frequently found where no systematic analysis has yet taken place.

The next chapter becomes concrete: practical examples show how these principles are implemented in reality – and what results can be achieved with them.

5. kaiserkraft's contribution to optimisation.

How kaiserkraft supports structured warehouse solutions.

Structured warehouses are not created on paper – they have to work in everyday operations. The principles from the previous chapter only take effect when they are supported by suitable, coordinated solutions. This is precisely where kaiserkraft comes in: with products, systems and planning services for stable warehouse structures, simplified processes and permanently efficient workflows. The decisive factor is not the individual product, but how everything works together in the overall concept.



Racking systems: The structure on which everything is built.

Racking systems are the backbone of every warehouse. They define how items are stored, grouped and made accessible. kaiserkraft offers tailored solutions for this: from shelving for small parts and boxes to pallet racking for heavy loads and specialised systems for flow-through, deep storage or mezzanine levels. Well-chosen racking systems create more than capacity. They enable clear warehouse zones by process or item group, define systematic storage locations and make usable room height available – as the basis for all further optimisations.



Labelling and guidance systems: structure you can see.

Clear structures only work when they are visible in daily operations and understandable for everyone. Labelling and guidance systems ensure that storage locations can be identified unambiguously – regardless of how much experience someone has. This includes logically structured storage-location codes, floor markings to separate traffic and storage areas, and colour codes and guidance systems for zones, areas and routes. The goal: a warehouse that works without implicit knowledge. Those who can rely on the system search less, make fewer errors – and are ready to work faster.



Transport and picking aids: shorten routes.

Even in an optimally structured warehouse, movement remains a central part of the work. Which aids are used determines how efficiently this movement takes place. The kaiserkraft range includes trolleys, roll containers and platform trucks for multiple transports, pallet trucks for heavy loads and specialised picking trolleys for more items per route. In combination with clearly planned routing, they enable faster processes with lower physical strain – and contribute directly to shorter throughput times.



Ergonomic workstations: performance that carries the day.

Efficiency is created not only by structure, but also by the quality of the working environment. Ergonomically designed areas in picking, packing and dispatch ensure that employees remain productive over the long term and that errors stay low even under high load. Height-adjustable worktables, optimised reach zones and ergonomic sit-stand solutions have a direct effect on speed, quality and error rates, especially in areas with high repetition frequency. Particularly in times of skilled-labour shortages, this is not an optional extra, but a measurable factor in productivity and employee satisfaction.



Container and organisation systems: structure down to item level.

Standardised container and organisation systems create consistency down to the smallest process step. They make structure visible in detail and ensure that defined storage locations work in everyday operations. Clear storage of small parts, uniform handling during put-away and retrieval, and a clear system for replenishment consistently transfer the logic of the overall warehouse to item level.

Holistic solutions: when everything works together.

The greatest effect is achieved when these elements are combined in a targeted way. A well-designed racking system only delivers its full benefit when combined with clear labelling. Transport equipment has the greatest impact when routes and zones are cleanly structured. Ergonomic workstations are most effective in a logically designed material flow. kaiserkraft supports companies in taking these connections into account – not only through products, but through concrete consulting and project support: from analysing the existing warehouse structure and developing tailored concepts with visualisation and 3D planning to implementation and long-term support. The core idea: individual components become a coherent overall system – one that not only describes the principles explained in this white paper, but puts them into practice.

Shelf and platform ladders: safe access to every level

Not every warehouse area can be automated. Especially in manual picking processes or for rarely needed items, safe access to higher racking levels remains essential. Shelf and platform ladders create the link between optimally used warehouse height and efficient daily work. kaiserkraft offers solutions ranging from classic mobile ladder systems to stable platform ladders for longer work at height. These products enable fast access to higher storage locations, improve safety during retrieval and reduce physical strain in daily use. Especially in combination with clearly structured racking systems and defined storage locations, they support efficient processes right up to the upper racking levels – without additional technical complexity.

5. Best Practices

Best practices: How kaiserkraft optimises warehouse structures in practice.

The principles described are not theoretical models. They form the basis for concrete projects in which warehouse structures were rethought and sustainably improved. The following examples show real references from industry, energy and logistics. They illustrate how structural optimisation affects practice – and the role played by the interplay of planning, systems and equipment.



BITZER: Structured warehouse solution for growing requirements.

The starting situation.

At refrigeration equipment manufacturer BITZER, requirements for material availability and process speed were increasing continuously. The existing warehouse structure had grown over many years and could no longer keep pace with the company's dynamics.

The challenge.

- High proportion of walking in picking
- Lack of a clear storage structure
- Increasing coordination effort in everyday work

Implementation with kaiserkraft.

Together with kaiserkraft, a structured warehouse solution was developed based on clear zones, optimised routing and suitable racking systems. The aim was to organise material flows and make processes more stable.

The result.

The warehouse structure became significantly clearer, processes could be planned more effectively and material was available more quickly. The warehouse developed from an organically grown structure into a systematically organised area.

The insight.

Structure is the prerequisite for efficiency – especially in growing industrial environments.



RWE: Complex requirements under real operating conditions.

The starting situation.

In RWE's offshore project, materials had to be stored and provided under demanding conditions. The requirements for safety, availability and traceability were particularly high.

The challenge.

- complex framework conditions
- high requirements for safety and organisation
- need for clearly structured processes

Implementation with kaiserkraft.

kaiserkraft supported the project from planning through to implementation. A consistent solution was developed that links warehouse structure, equipment and processes.

The result.

Material provision became more reliable and transparent. Processes could be operated stably even under difficult conditions.

The insight.

In complex environments, clear structure determines process stability.



HAKO: Consistently use space potential.

The starting situation.

At cleaning machine manufacturer HAKO, available warehouse space was limited. At the same time, requirements for capacity and overview were increasing.

The challenge.

- high utilisation of floor areas
- unused room height

- limited overview and accessibility

Implementation with kaiserkraft.

By using racking systems in a targeted way, the existing height was opened up and the warehouse structure reorganised. The aim was to use space more efficiently while improving accessibility.

The result.

The existing space could be used much more effectively without creating additional buildings. At the same time, overview and processes improved.

The insight.

Use of space is one of the greatest levers – height in particular often offers immediately usable potential.



Sporthaus Schuster: Stabilising processes for high dispatch volumes.

The starting situation.

As dispatch volumes grew, Sporthaus Schuster faced increasing requirements for speed and process reliability in the warehouse.

The challenge.

- increasing number of shipments
- high time pressure in dispatch
- need for stable, scalable processes

Implementation with kaiserkraft.

kaiserkraft supported the optimisation of dispatch and warehouse processes through suitable systems and structured workflows.

The result.

The processes could be stabilised and adapted to the increasing volume. The warehouse organisation became more robust in the face of peak loads.

The insight.

Scalable structures are decisive when volume and speed increase.

Chapter conclusion: what all projects show.

Despite different sectors and requirements, clear similarities emerge:

- increasing number of shipments
- high time pressure in dispatch
- need for stable, scalable processes

The decisive factor is not the individual measure, but the interaction of structure, processes and equipment. Practice shows that efficient warehouses are not created through isolated measures, but through holistic approaches. Companies that analyse and develop their warehouses together with an experienced partner create the basis for stable and future-ready workflows.

6. Five principles for effective warehouse optimisation.

01 Address the cause, not the symptom.

A blocked route, an unclear storage location or long search times are rarely standalone problems. They usually point to structural weaknesses in routing, zone structure, labelling or use of space. The decisive question is therefore not: “How do we solve this individual case?” – but: “What pattern lies behind it, and where else does it occur?”

02 Look at real processes, not target processes.

Many warehouses look logical on paper. In everyday work, however, detours, provisional storage, informal agreements and alternative routes emerge. Improvements only succeed when they are based on the actual process – not on the planned one. The decisive factor is observation on site: Where do people search? Where do they wait? Where do bottlenecks arise?

03 Start with the biggest levers.

Not everything has to be improved at the same time – the right sequence is decisive.

Particularly effective are:

- the placement of fast movers
- the clear separation of zones
- the reduction of unnecessary routes
- unambiguous labelling
- the use of available room height

Those who start here often achieve noticeable improvements with limited effort.

04 Structure before technology.

Technology can accelerate processes, but it cannot heal a poor structure. Digital systems, racking or transport aids only deliver their full benefit when the underlying warehouse logic is right. That is why the rule is: first clarify structure and processes – then align equipment with them in a targeted way.

05 Make improvements measurable.

Only what is visible can be improved sustainably. Define from the start how success will be measured, for example:

- Walking distance per order
- Search time per pick
- Picking time
- Error rate
- Utilisation of storage and traffic areas

7. In 7 steps to more efficient warehouse processes.



Goal:

With these seven steps, you identify and eliminate typical time wasters in the warehouse – in a structured, practical way and without major investment.

01 Record the starting situation.

Observe typical processes in everyday warehouse operations and document where time is lost.

Pay particular attention to:

- long or winding routes
- search processes
- waiting times at bottlenecks
- blocked traffic areas
- unplanned temporary storage
- questions about storage locations

The aim is not perfection, but a clear picture of the current situation.

02 Recognise patterns and understand causes.

Condense your observations: Which problems occur regularly? Where do they arise?

Assign the findings to these four central levers:

- Routing
- Search times
- Zone structure
- Use of space

This allows you to recognise not only symptoms, but the real causes.

03 Set priorities.

Start with measures that take effect quickly and are structurally relevant:

- Reposition fast movers
- Clarify routes and main axes
- Separate zones cleanly
- Standardise labelling
- Improve use of vertical space

04 Reorganise warehouse logic.

Define:

- clear functions for all areas
- unambiguous warehouse zones
- main routes and traffic areas
- standardised naming of storage locations

What matters is that this logic actually works in everyday operations – not just in the concept.

05 Adapt equipment in a targeted way.

Only once the structure is in place should the equipment be adapted:

Racking systems to use height

- Container and organisation systems
- Markings and labelling
- Transport equipment to shorten routes
- ergonomic workstations

Equipment is effective when it reinforces a good structure.

06 Involve employees and secure standards.

New structures only have an effect when they are lived in everyday work. Explain not only what is changing, but why.

Ensure:

- clear rules
- unambiguous responsibilities
- consistent maintenance of labelling and system data

07 Review impact and readjust.

Review regularly:

- Have routes become shorter?
- Are storage locations found more quickly?
- Are there fewer blockages?
- Are standards being followed?

Improvement is not a one-off intervention, but a continuous process.

8. Checklist: Initial assessment for managers.



Goal:

Use this checklist to quickly assess your need for action. Every “No” or “Partly” shows concrete optimisation potential.

01

Structure and zones.

- Are goods receipt, storage, picking and dispatch clearly separated from one another?
- Does every area have an unambiguous function?
- Are areas used consistently according to their function?

02

Routes and material flow.

- Are main routes clearly defined and permanently free of obstacles?
- Is material flow organised without opposing traffic and waiting times?
- Are fast movers located close to the relevant work areas?

03

Storage locations and labelling.

- Are all storage locations labelled uniformly and clearly visible?
- Can new employees find items without support?
- Are changes to storage locations consistently documented and updated?

04

Use of space.

- Is the available room height used systematically?
- Are traffic areas clearly defined and kept clear?
- Is the warehouse space used evenly and without overloading individual areas?

05

Processes and standards.

- Are there clearly defined rules for all warehouse processes?
- Are these rules consistently followed in day-to-day operations?
- Does the system work independently of the knowledge of individual employees?

06

Control and further development.

- Are relevant KPIs regularly recorded and evaluated?
- Are there clear priorities for improvement measures?
- Are implemented measures systematically reviewed for their effect?

This is how the assessment works:

Assess each statement:

Yes = 2 points (fully applies)

Partly = 1 point

No = 0 points

Maximum score: 36 points

- **30–36 points: Very well structured.**
Your warehouse is already clearly organised and efficiently set up. Optimisations are possible, but mainly concern fine-tuning and scaling.
- **20–29 points: Good basis with potential.**
Many basic structures are in place, but weaknesses remain in the details. Targeted measures can quickly bring noticeable improvements.
- **10–19 points: Clear need for optimisation.**
Structural weaknesses are already causing measurable time losses in daily work. A systematic analysis and prioritisation of measures is recommended.
- **0–9 points: Acute need for action.**
The warehouse structure has fundamental deficits. Time losses and sources of error significantly affect the processes. A comprehensive revision of the warehouse structure is necessary.

Your next step.

Whatever your result, the greatest potential is usually found where structures have grown over many years.

With a structured warehouse check, you can systematically identify unnecessary routes, hidden search times and inefficient use of space – and derive concrete measures.

Request a non-binding warehouse check now: service@kaiserkraft.com

9. Conclusion

Efficiency is not created by chance.

Time losses in the warehouse rarely arise from a single obvious problem, but from the interaction of many small weaknesses – in routing, search times, unclear structures and unused space. Because they are hardly noticed in everyday work, they often persist for years.

Companies that recognise these patterns and address them systematically create the basis for stable, high-performing processes. The decisive factor is not the individual measure, but the interplay: clear zones, short routes, unambiguous labelling and well-planned use of space.

Practical experience shows that even targeted adjustments can have a major impact. Fast movers consistently within reach, routes logically planned, storage locations clearly defined – and search times, walking distances and error rates fall significantly. At the same time, process reliability increases. Efficient warehouses are not the result of chance. They are the result of clear planning and consistent implementation – and they pay off twice: in daily operations through shorter throughput times and relieved employees, and strategically as the basis for growth and lasting competitiveness.

Those who invest in structured warehouse processes today gain more than efficiency. They gain stability, scalability – and the ability to deliver reliably even as requirements increase.

The four key levers at a glance.

- ▶ Routing: Linear routes, one-way principle, no crossings
- ▶ Search times: Standardised labelling, clear storage locations, documentation
- ▶ Zone structure: Clear separation of goods receipt, storage, picking, dispatch
- ▶ Use of space: Use height, place fast movers optimally

Make your warehouse faster. With a partner who knows warehousing.

When routes are too long, structures too complex and processes too slow, you do not need chance – you need kaiserkraft. For decades, we have helped companies turn organically grown warehouses into high-performance systems.

We know real operations – from industry to logistics. We combine consulting, planning and equipment from a single source. We do not think in products, but in functioning systems.

Use your potential. Talk to kaiserkraft now and start your warehouse check.

10. Glossary.

ABC analysis: Classification of items by access frequency or value share. A items are moved frequently and should be positioned close to routes and within easy reach; C items should be placed in peripheral areas or at higher levels.

Batch picking: Picking method in which several orders are processed at the same time. Reduces walking distances at high volumes, but requires clear structures and unambiguous labelling.

Inventory accuracy: Match between physical stock and system stock. A prerequisite for stable processes and short search times.

Throughput time: Time from order receipt to provision or dispatch. A key indicator for evaluating process performance in the warehouse.

Put-away: Process of assigning and storing goods after goods receipt. A clear system is essential for short routes and unambiguous storage locations.

Stockout: Situation in which items are physically unavailable although they are recorded in the system. Leads to searching, delays and process interruptions.

FIFO (First In – First Out): Principle whereby goods stored first are also removed first. Requires a corresponding warehouse structure and route planning.

Habituation effect: Employees adapt to inefficient processes, meaning that structural problems are no longer recognised as such.

Intralogistics: The entirety of all internal material and information flows – from goods receipt to dispatch.

Picking: Compilation of items for an order. In many warehouses, the most time-intensive process and a key lever for efficiency gains.

Picking strategy: Defined method for order processing, e.g. single-order, batch or zone picking. Influences routes, speed and error rates.

Storage density: Ratio of stored goods to available area or volume. High density saves space, but can impair accessibility and overview.

Warehouse logic: System used to arrange items in the warehouse, e.g. by access frequency or zones. The basis for short routes and short search times.

Warehouse management system (WMS): Software for controlling stock, storage locations and processes. Effective only in combination with a clearly structured warehouse organisation.

Material provision: Process of providing goods on time for downstream processes. Closely linked to warehouse structure and routing.

Mezzanine: Additional storage level within a building to use room height. Increases capacity without expanding the floor area.

Peak phase: Period of higher utilisation, e.g. seasonal peaks. Structural weaknesses become particularly visible during these phases.

Process stability: Ability of a warehouse to function reliably even under fluctuating load. Depends on clear structures and standardised processes.

Set-up time: Time required to prepare work processes, e.g. material provision or workstation changes. Reduces available net working time.

Fast mover: Item with high turnover frequency. Its placement has the greatest influence on average walking distances.

Scalability: Ability of a warehouse to handle increasing requirements without structural problems. A prerequisite for growth.

Storage position: Clearly defined storage location for a unit. The basis for order, inventory accuracy and efficient processes.

Systematic warehousing: Warehouse organisation with clear rules, structures and documented processes. The aim is a system that does not depend on individual knowledge.

Turnover frequency: Indicator for the movement frequency of an item. Basis for placement decisions in the warehouse.

Availability: Degree to which items are physically present and accessible. Prerequisite for stable processes and on-time delivery.

Goods receipt: Process of accepting, checking and booking goods. Basis for correct stock levels and a functioning warehouse structure.

Routing: Structure of movement paths in the warehouse. Clear routes reduce crossings, waiting times and walking effort.

Time waster: Recurring, often invisible losses caused by walking, searching or waiting. Result of structural weaknesses in the warehouse.

Zone structure: Spatial separation of functional areas in the warehouse. Reduces complexity and stabilises processes.

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Own development and project experience

This white paper was prepared by kaiserkraft on the basis of its own project experience, customer projects and the specialist sources listed above. Its aim is to provide clear guidance – from analysing existing warehouse structures and defining concrete measures through to structured implementation. The content presented combines theoretical foundations with practice-based approaches for the sustainable improvement of warehouse processes.

Note on the use of AI support.

This white paper was created using AI-supported tools and editorially reviewed, revised and finalised by kaiserkraft. kaiserkraft is responsible for the content, statements and technical assessments.

