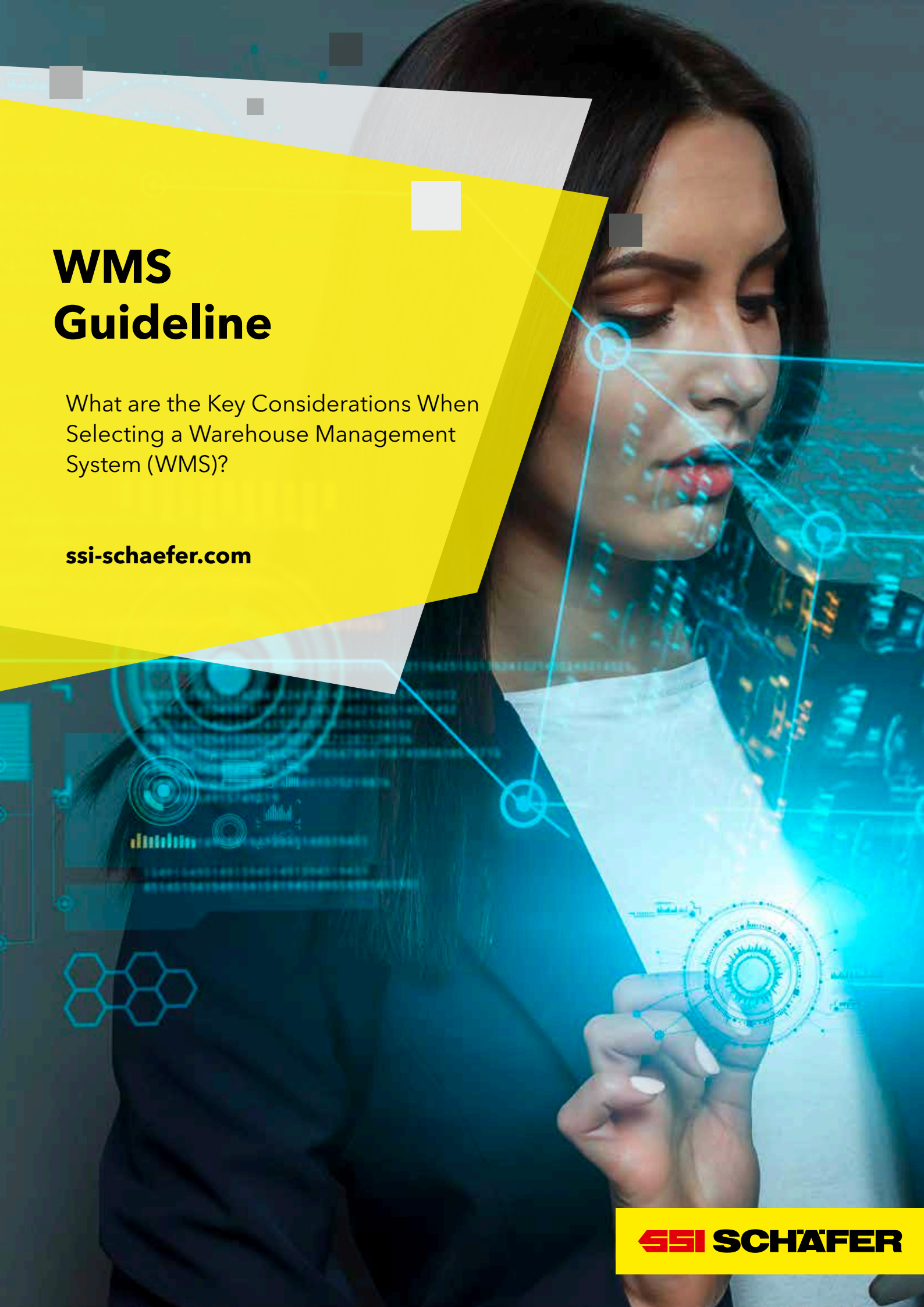

WMS Guideline

What are the Key Considerations When Selecting a Warehouse Management System (WMS)?

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Logistics at the limit: Why we cannot do without digital solutions

Every day in the warehouse, logistics managers face the challenge of reacting flexibly to changes: A rising order situation, changing assortment, shorter delivery times and the need for error-free picking demand maximum efficiency. The aim is always to ensure that the right goods arrive in the right place at the right time.

Complex processes and increasing time pressure make a scalable logistics system indispensable. As demand increases, even experienced warehouse staff reach their limits. The manual and administrative workload is a growing burden, therefore you need sophisticated, digital support in order to stay competitive in the long term.

Sound familiar?

- Do you struggle with high error rates?
- Do you get discrepancies in your stock data?
- Do you often experience stock bottlenecks?
- Do you have difficulty creating efficient, targeted warehouse routes?
- Do you find it difficult to create production order batches that optimize the fulfillment process?
- Do you have enough time to train your employees in the processes?
- Do you have to combine data from multiple systems in order to obtain meaningful analyses/KPIs?
- Are returns making your life difficult?
- Do you have difficulty mapping changing business models in the warehouse?
- Do you have problems fulfilling orders across multiple storage areas?
- Are picking errors costing you time and money?

The solution is to implement a WMS

A warehouse management system (WMS) is a powerful software solution that helps companies to optimize and efficiently design warehouse processes. If you are struggling with stock errors, delivery problems or inventory discrepancies, a WMS could be the solution to your problems.

A WMS digitizes warehouse data and makes it available at all times so that you always have access to accurate information.

The optimization of key processes, such as goods storage, picking, order processing and shipping, significantly increases both productivity and efficiency in warehouse operations. The process is supported by a warehouse layout that is tailored to the processes, combined with intelligent route optimization.

If the software is also intuitively designed and makes the work steps easy for warehouse staff to follow, you have the basis for a smooth operation. A WMS further proves its worth if you are experiencing increased order volumes or changing your business model. It helps you to deal with the challenges of growing complexity in warehouse logistics and to manage multiple storage locations efficiently.

To summarize: A WMS means greater transparency and more accurate inventory management, reduces storage costs and increases efficiency. It helps companies to optimize their processes and minimize errors.

If you are struggling with stock errors, delivery problems or inventory discrepancies, a WMS could be the solution to your problems.

Helping with choosing a WMS

The aim of this guide is to give you a comprehensive idea of the requirements, functions and selection process for a warehouse management system (WMS). We work with you to find answers to the questions: What does the selection process involve and what points need to be considered?

Analysis and consulting

The choice of a suitable WMS is crucial for the efficiency and future-proofing of warehouse and logistics processes. A reliable software partner is essential – they should not only offer sound advice on warehouse processes, but also have comprehensive industry-specific expertise.

The analysis of business requirements includes:

- **Defining processes:** Which processes should be covered by the WMS?
- **Scalability:** Is the system able to keep pace with business growth?
- **Industry requirements:** Does the WMS offer industry-specific functions, such as hierarchical serial numbers for the pharmaceutical industry or dual item management (weight and piece) in food logistics?
- **System compatibility:** Is the WMS compatible with the existing IT systems (ERP, TMS)? Does it have standardized interfaces for seamless integration?

A partner who provides local support, communicates in the local language and provides fast analysis and advice is an invaluable asset.

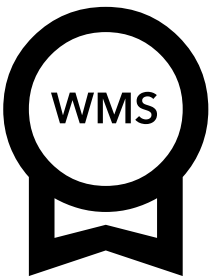
Functional requirements of a WMS

A WMS supports the management, control and optimization of warehouse and logistics processes. In addition to the core processes of a WMS, a wide range of additional functions are often necessary and helpful.

- **Stock and master data management:** Management of warehouse stocks and article data
- **Process control:** Support for goods-in, picking, packaging and shipping, transport control, traceability (e.g. serial numbers, batch management), and integration of upstream and downstream processes.
- **Additional functions:** Cross-docking, dock and yard management, material flow control and value-added services as well as returns management or hazardous goods handling and labor resource management

Validated software products provide security

Validations by independent institutes offer security and insights into the capabilities and customization possibilities of the WMS software solutions available on the market. The Fraunhofer Institute for Material Flow and Logistics IML also provides information on aspects such as technological developments, industry and project experience and much more besides.



Standardization and modular structure

Standardized software products are characterized by their rapid availability, high quality and continuous upgrade compatibility, thereby ensuring maximum reliability and efficiency. At the same time, however, they must be flexible enough to map all relevant processes and use cases in the warehouse. This is where modularization comes into play: Modular components and the possibility of activating functionalities when needed mean that standardized software can be individually adapted to the specific requirements of each customer.

In this way, a valid, flexible software solution can efficiently cover both general and specific needs without losing the advantages of a standardized base. This combination of stability and adaptability makes such solutions particularly valuable for intralogistics companies and is increasingly replacing individual software solutions.

The right software architecture

The question of choosing the right software architecture depends on the customer's individual requirements and it is impossible to give a general answer. As a guide, however: On-premise solutions are ideal for companies that make heavy demands on computing power and data processing, as they enable short response times within the network and meet strict security requirements.

Cloud solutions often offer low initial investment costs through monthly licensing fees and are ideal for dynamic business models, while hybrid architectures offer a balance of flexibility and control.

Definitely a fundamental question, the answer to which depends on the requirements: On-premise, cloud or hybrid? What advantages do the different software architectures offer?

Individual solutions for every warehouse structure and company size

Warehouse structures often differ considerably – whether due to diverse assortments or varying workflows resulting from different business processes. If partner companies also need to be integrated into the goods management system, the complexity and system integration requirements increase rapidly.

Regardless of whether an existing warehouse is being expanded or modernized or a completely new one built – the optimum WMS software solution adapts flexibly to any initial situation.

It does not matter whether it is a small company, a large company or a multi-site company in different countries with different languages. The right software must not only meet current requirements, but also be able to support future changes such as site expansions or new buildings without difficulty.

The more diverse the requirements and structures of one or more warehouses, the greater the challenge of selecting a software solution that optimally satisfies all these needs.

Connectivity and interoperability

A modern WMS must be able to communicate seamlessly with all upstream and downstream software systems in order to ensure harmonious integration into the existing IT landscape. This includes ERP systems, transport management systems (TMS) and other logistics software, as well as more far-reaching industry-specific applications. The interfaces to the material flow control of automated systems are a particular challenge. It is crucial to integrate both existing and new systems – regardless of manufacturer, hardware and control system.

The most important requirements for integration

Standardized interfaces:

- API (Application Programming Interface):Allows fast and flexible data transfer between different systems
- EDI (Electronic Data Interchange): A potential interface for data exchange with partners and customers

Compatibility with theMaterial Flow System (MFS) and/or with the Warehouse Control System (WCS):

- Conveying system: Direct connection of automatic storage and conveyor systems, such as storage-retrieval machines or conveyor belts, to ensure consistent processes
- Robotics: Support for warehouse robots and autonomous systems used for order picking, storage and transportation

User interface meets user experience

The highest quality is achieved when a graphically appealing user interface is combined with intuitive user guidance that offers an exceptional user experience. Such a solution is not only appreciated by users, but also actively supported.

It is vital that the software is not only easy to understand and simple to use, but also compatible with a wide range of terminal equipment.

In the warehouse environment, this includes not only conventional devices such as PCs and tablets, but also specialized mobile devices such as scanners and hand-helds for goods registration, picking, etc.

An improved user experience leads to higher user acceptance, significantly shortens the training phase and thus increases the throughput.

Future-proofing | Return on investment

When selecting and implementing software, future-proofing means choosing a solution that has proven itself over a sustained period and will be supported in the long term. Business continuity management is currently the big issue for all companies. Without the right approaches and solutions, which must be tailored to and with the customer, the future of any company is at risk.

Key features:

- **Established provider:** A reliable software supplier with a stable market position offers the certainty that the solution will continue to be developed and supported in the future.
- **Upgrade compatibility**: Regular and guaranteed software updates ensure that the system is always up to date, keeps pace with modern technology and meets future requirements both functionally and technically.
- **Platform-independence:** Whether in a Microsoft or Linux environment, your provider should offer smooth integration and support for the respective platform.
- **High availability concepts:** For how long can your logistics operate without adverse effects? Even a minor malfunction, such as the failure of a fan, can cause significant damage. Your system should therefore be designed so that it can function reliably even in emergencies and keeps downtimes to a minimum.

Long-term advantages

- **Investment security:** Choosing high-quality software minimizes the risk of business interruptions and protects the investment in the long term.
- **Cost transparency:** A clear license model and transparency with regard to additional costs for updates, training or service level agreements allow you to maintain an overview of the overall costs and return on investment (ROI).

These aspects ensure that the software supports smooth operation and increases efficiency not just today, but for years to come.

Information security

Regulations such as the NIS2 directive and standards such as ISO 27001 and IEC 62443 are no longer optional requirements. In an increasingly digitalized world that has to defend itself against ever more sophisticated cyber attacks, software providers whose products meet these standards and specifications are indispensable. Compliance with such standards is not only a sign of quality and security, but also a fundamental prerequisite for meeting the requirements of modern IT security strategies.

New legal requirements

EU or national legislators are constantly defining new framework conditions that cannot be reflected in the system without regular updates or upgrades. They include, for example, the EU Deforestation Regulation, which obliges companies to prove that their goods and raw materials have not contributed to deforestation, and directives to combat counterfeiting in the pharmaceutical and tobacco industries.

Training | Documentation

When purchasing a software solution, training and documentation play a vital role in ensuring smooth implementation and long-term use of the system. The quality of these measures often determines whether software is successfully integrated into day-to-day operations or leads to frustration and inefficiencies.

User manual: Is complete documentation provided?
Complete and well-structured documentation is the cornerstone of any software solution. It serves as a reference for system operators and administrators. Look for professional documentation as a sign of the quality and user-friendliness of the software as well as the support you can expect from the provider.

Employee training: What measures are offered for implementation of the system?
The introduction of new software often requires comprehensive change management within the company or warehouse. For this change to be implemented successfully, it is essential to fully involve all stakeholders. After all, the success of a software solution depends to a large extent on the people who use it. For this reason, employee training plays a key role if the full potential of the software is to be realized. Whether it involves end-user training or a train-the-trainer approach, providers need to deliver customer-specific solutions in this area too.

Support

When selecting a software solution, reliable customer service and comprehensive support are vital for smooth operation. You should take the following points into account:

Updates

- How regularly are updates provided to adapt the software to new requirements?
- Are updates supported by experts to avoid system failures or downtime?

Software support

- Are software experts available for technical support?
- To what extent (e.g. number of hours, subject area) and at what times (e.g. 24/7 service) is support available?
- Is support offered in the local language to avoid communication difficulties?

Resident maintenance

- Is there the ability for experts to attend the site in person to monitor and support the ongoing operation of the system and software installations?

Effective customer service and professional support are vital not only for successful implementation of the software, but also for ensuring efficient and trouble-free operation in the long term.

24/7 on-site support ensures that immediate assistance is available in the event of unexpected problems or downtime, in order to keep business interruptions to a minimum.

Scalability

Scalability is an extremely important aspect – once a software system has been implemented, nobody wants to have to completely rethink it when the business changes, new technologies emerge or the company grows. The issues of standardization and modularization, which we discussed earlier, play an important role here too.

The following key points should be considered with regard to future scaling:

- **Technological trends:** Does the WMS support innovative technologies such as AI, IoT or blockchain?
- **Sustainability:** Can the WMS promote environmental goals such as resource efficiency?
- **Automation:** Can the WMS be connected to material flow systems (MFS/WCS) in order to control automated systems in the warehouse? Or, does the supplier have its own MFS solution?
- **Growth:** Is there an entry-level WMS solution that is equipped with the basic functionalities? Can it be successively expanded if the warehouse grows or additional warehouse locations need to be integrated?
- **Internationalization:** Can the most diverse and geographically distributed warehouse locations be combined within one software instance? And can different languages, time zones and formats be taken into account?
- **Tests:** Is it possible to test enhancements in advance and simulate new workflows in tests in order to determine their effectiveness?

With a software solution that supports different languages and time zones and is open to new trends, warehouse operators have all possibilities open to them.

Do you have questions or
require further information?

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