WM v Embedded EWM, Decentralized EWM, and Stock Room Management – Differences, Benefits, and How to Prepare for the Move

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SAPinsider

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In This Session

In this session, you will understand the various warehouse options when support for SAP WM ends at the end of 2025. This is an important decision that relates to your move to SAP S/4HANA and overall business transformation. Which option you choose depends on a number of factors including the complexity of your current warehouse management operation and the degree of digitization you are after. In this session, we will layout the options and possibilities so that you can make an informed decision
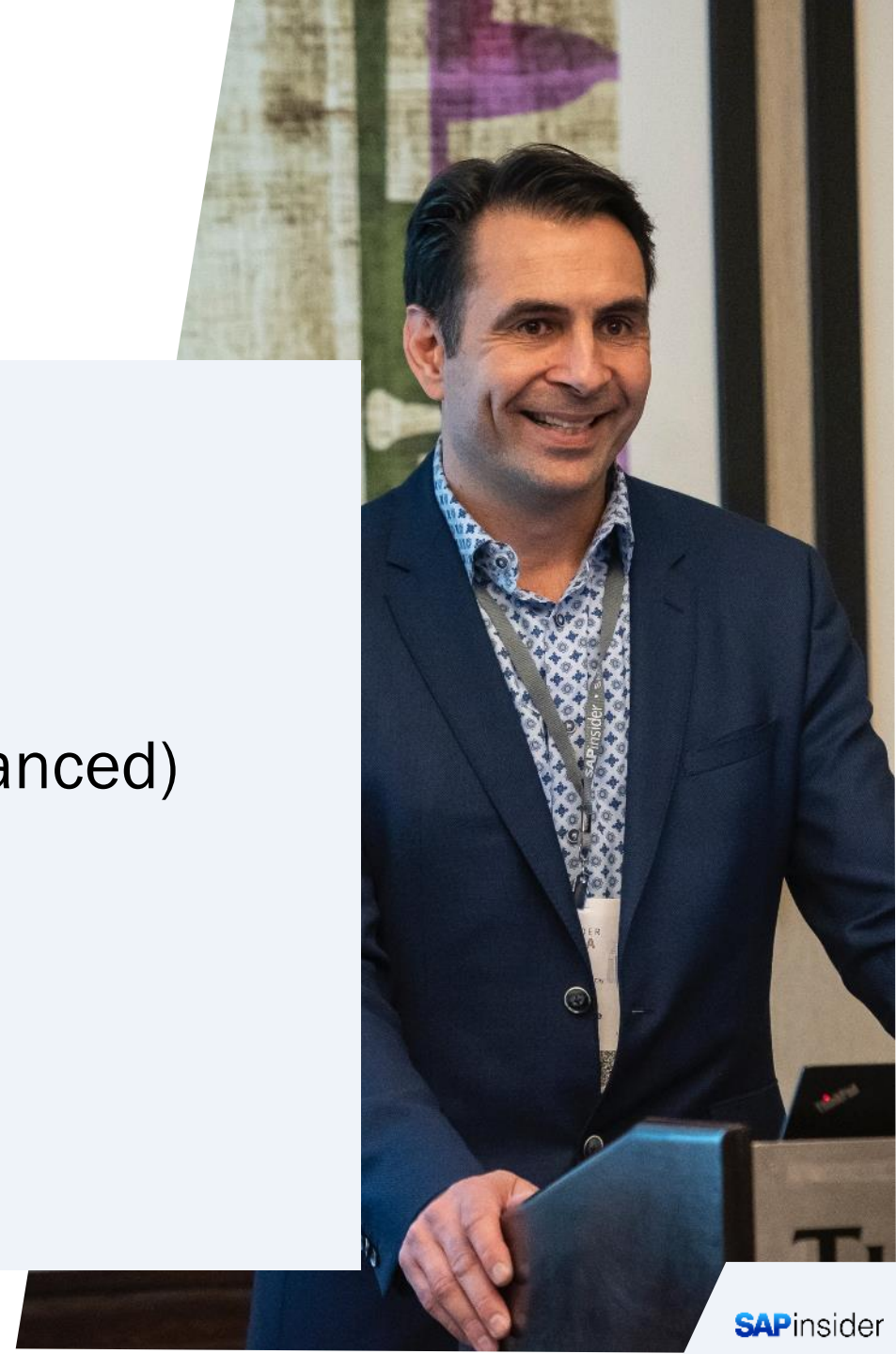
You will:

- Understand Stock Room Management, embedded EWM (Basic or Advanced), and decentralized EWM.

- Discover the main benefits of using EWM over WM and Stock Room Management.

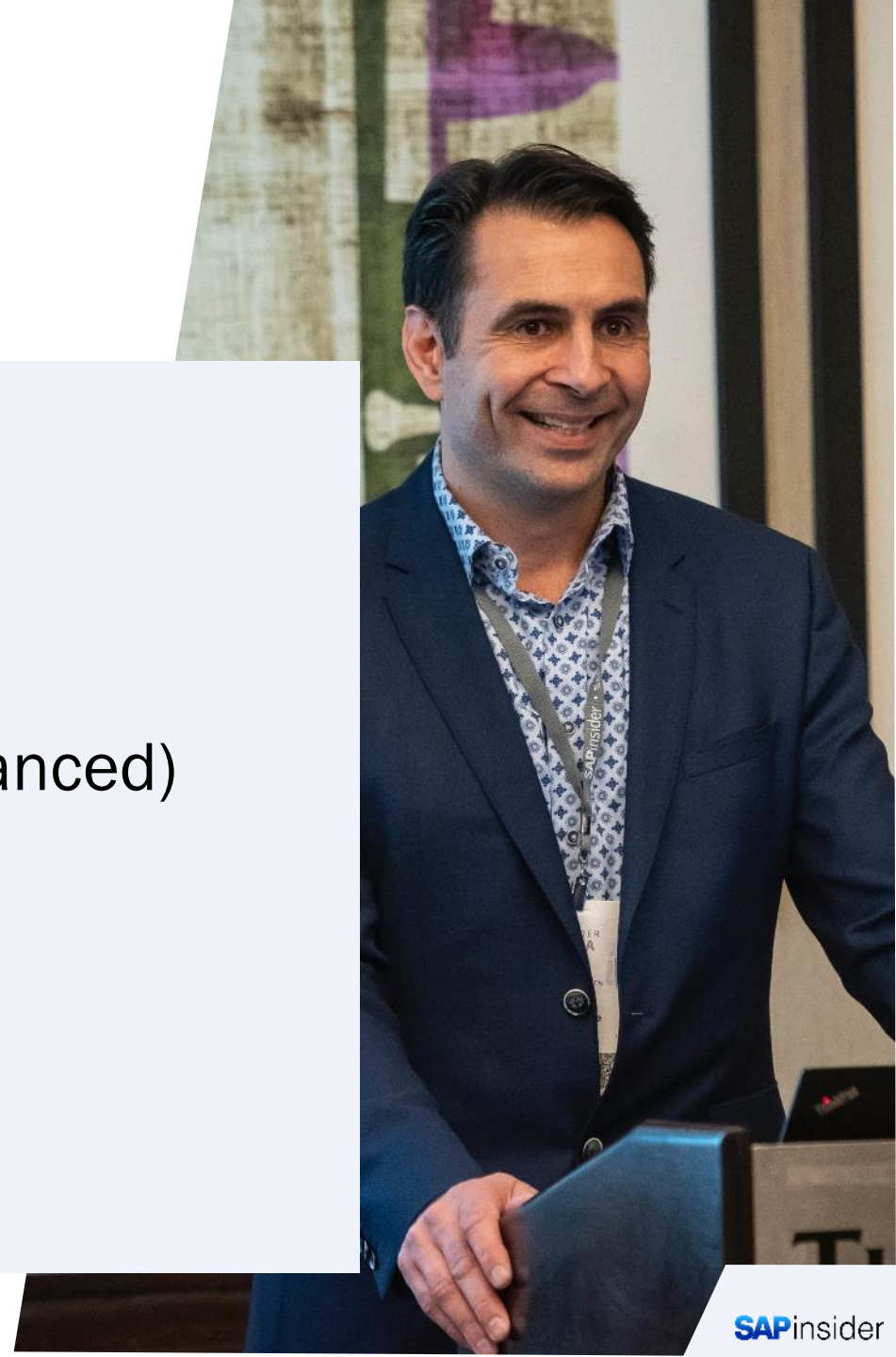- Understand when you should be using EWM as part of your SAP S/4HANA Centralized Implementation.

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Agenda

- History

- Why now?

- Stock Room Management

- Embedded EWM (Basic or Advanced)

- Decentralized EWM

- When to switch to EWM?

- Wrap-Up

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History

- In 2005, SAP released a new Warehouse Management solution called SCM-EWM.

- EWM is the abbreviation of Extended Warehouse Management which offers flexible, automated support for processing various goods movements and for managing stocks in simple to complex warehouses, furthermore it supports planning and efficient processing of all logistics processes in customers warehouses.

- SAP EWM maps an entire warehouse complex in detail in the system, down to storage bin level.

- The business user can always determine exactly where a stock belongs to a particular material is located in the warehouse complex at any given time.

- This redesigned solution accommodates the core functionality of ERP WM with additional capabilities that match those available from third-party, state-of-the-art solutions. The most significant functionality advancements include labor management, slotting and a solution called Material Flow Systems, which is designed to allow the WMS to directly control automation without the use of what is commonly known as a Warehouse Control System or WCS.

History

- In year 2002, SAP partnered with Cat Logistics and Ford Corporation to develop a new supply chain management solution specifically tailored for the service parts management industry.

- After investing thousands of man-hours on this project, SAP EWM application was built as an application on mySAP SCM (Supply Chain Management) application stack.

- The development of the solution mainly focused on managing complex warehouse operations. Cat Logistics began implementing the solution for one of its Indianapolis, Ind., Caterpillar parts facilities in January 2006. Then, in September 2007 Evobus (bus and coach manufacturer) built a new logistics centre where interface with miniload system and SAP EWM was implemented.

- Below diagram shows how SAP EWM has been evolving and what capabilities has been introduced over the time.

History-2

Release	Comments
R/3 Release 2.0/2.1	Storage Unit Management, Parallel Processing
R/3 Release 3.0/3.1	Integration PP, QM, LIS
R/3 Release 4.0	Rough Workload Estimate, Picking Waves, Two step Picking, Warehouse Monitor, HR Integration
R/3 Release 4.5	Decentralized WM, Prototype of RF
R/3 Release 4.6	Native RF/SAP Console, HUM, Packing
R/3 Release 4.7 EE1	Task & Resource Management
R/3 Release 4.7 EE2	ERP EWM, XD, YM, VAS
SCM EWM 5.0	Slotting, Re-Arrangement, Warehouse Orders, Warehouse Monitor, Internal Routing
SCM EWM 5.1	Labor Management, MFS, WH Cockpit, RFID Integration, Batch Management, Serial Numbers, CWM, ESA
SCM EWM 7.0	Graphical WH Layout, Production Supply, Merchandise Distribution XD, Task Interleaving
SCM EWM 7.0 EHP1	Integration to ECC Transport Processes, Enhancement to Claims and Returns, BOBJ Integration
SCM EWM 7.0 EHP2	Advanced ARM function, Streamline business, Cartonization planning, Crystal report, GTIN Number support, MFS enhancements, Usability enhancements
SCM EWM 9.0 (2013 Major change)	Integration with Transportation Planning & Warehouse Execution, Enable Analytics, Pre-configured Warehouse structure, Enable Pick by Voice, DAS Functionality, Scale integration, Stock specific UOM, Route Planning with Maps
SCM EWM 9.5 (2017)	Functions of Labor Management, SAP GBT (Global Batch Traceability), enhancements of e-commerce and retail management

History

- SAP introduced the WM inventory management solution in the late 1970s and has been upgrading the software since.

- With boosted capabilities and warehouse management applications, many customers worldwide adopted SAP WM as part of their upgrade strategies.

- SAP changed the logistics game by adding SAP EWM in 2005, which is a part of its Supply Chain Management (SCM) module.

- Essentially, EWM has the same basic core functionalities as WM but with additional capabilities, such as labor management and internal routing.

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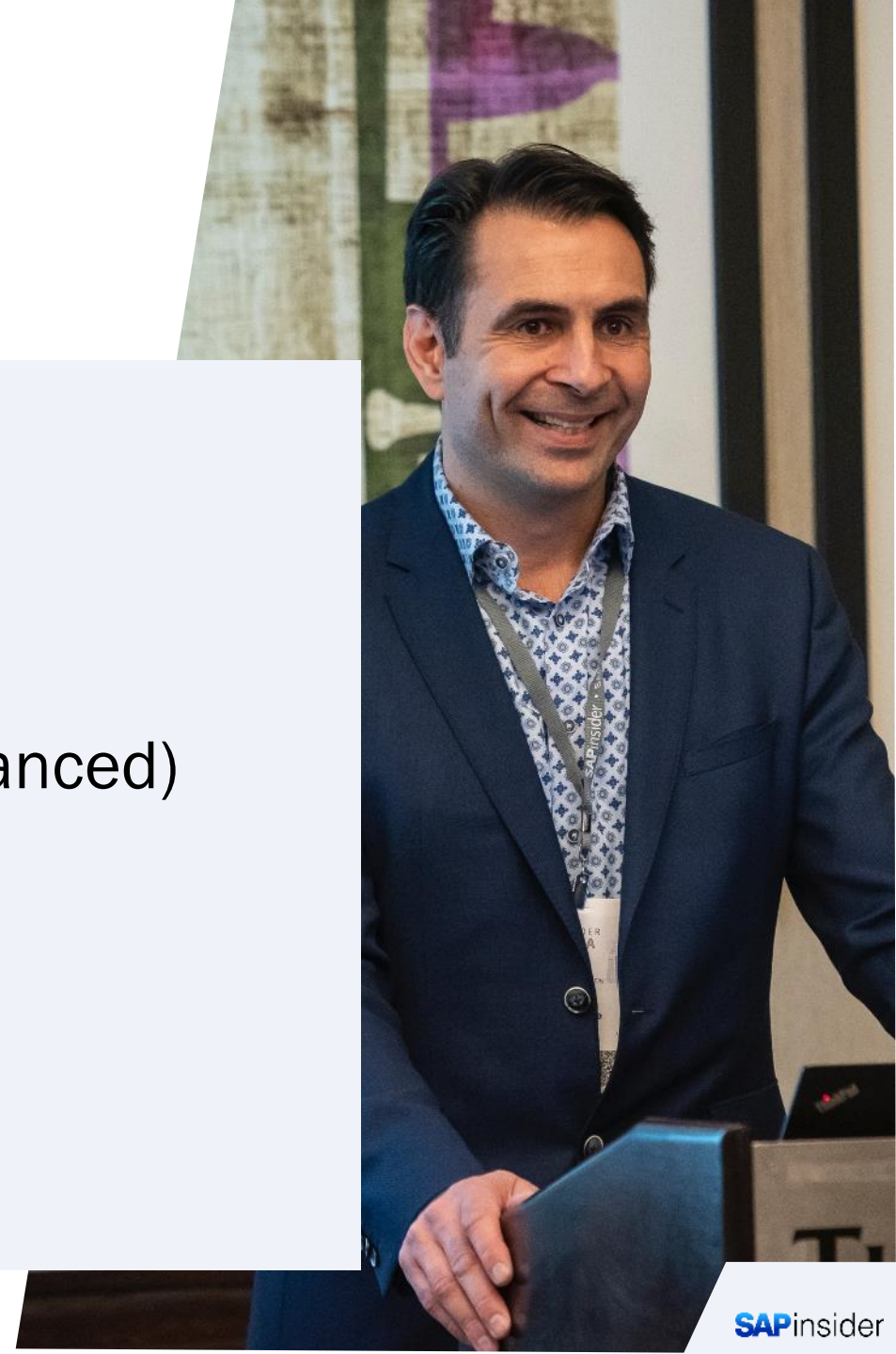| Release	Comments
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History

- The Embedded EWM was launched in SAP S/4HANA 1610. This allowed users to utilize the processing power of SAP HANA, thus reducing the total cost of ownership. This was also better than using a decentralized EWM. The special EWM functionality is available to anyone having the SAP HANA license.

- The Embedded EWM is great for small and medium-sized companies. If anyone requires additional features, they can purchase a different license. Nevertheless, all users will enjoy the benefits of a reduction in ownership costs and ease of deployment. This is because while using Embedded EWM users have to manage a single system instead of multiple systems for managing their operations.

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Why now?

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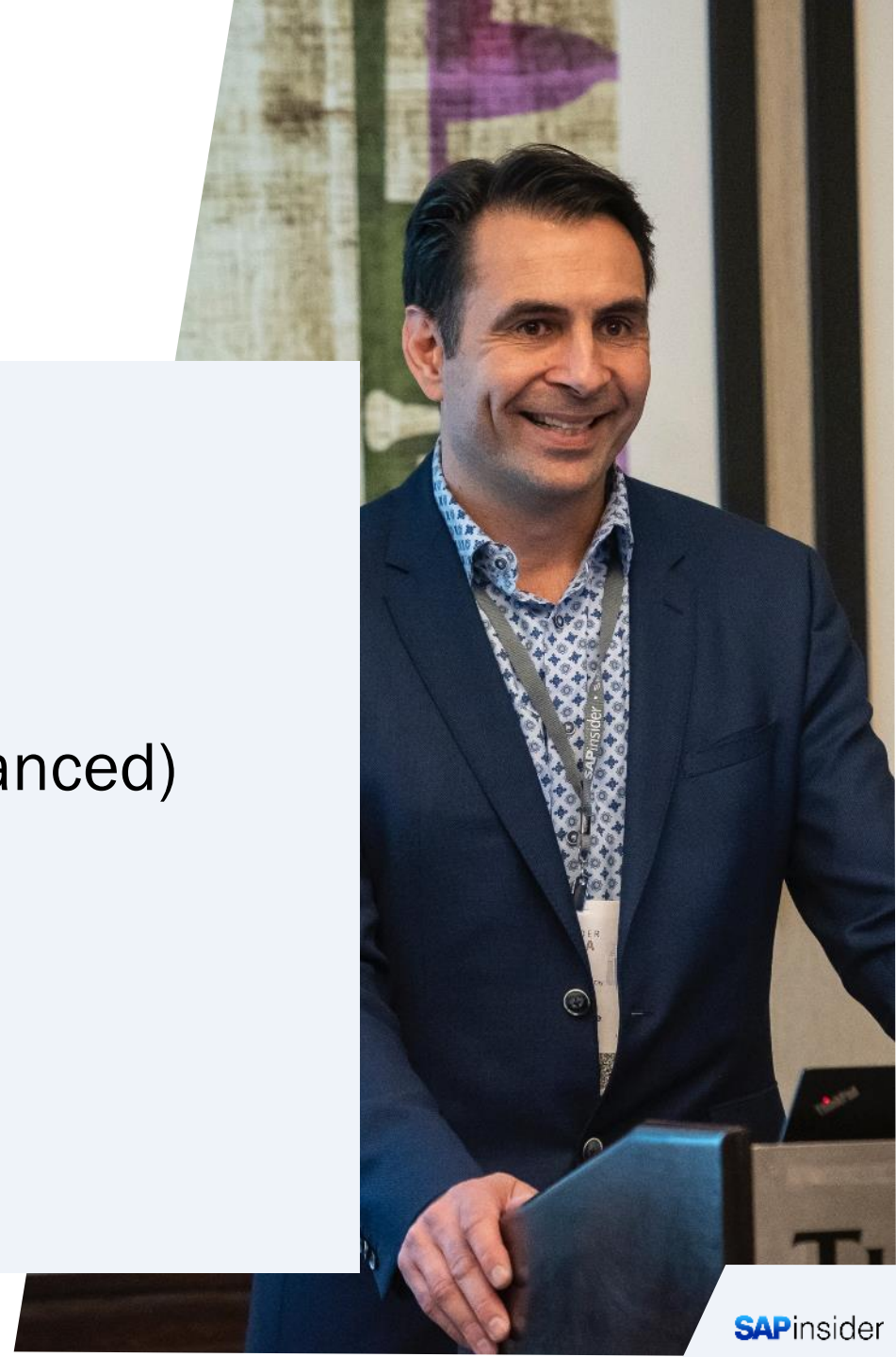
Why now?

- According to SAP, support for the ECC environment will end in 2025 as part of the company's efforts for <u>intelligent enterprises</u> and migration to fully <u>SAP S/4HANA</u>.

- Therefore, according to the SAP roadmap, the WM module will no longer receive development, and its support cycle will end in 2025.

- As a result, companies migrate from SAP WM in the ECC environment to SAP Supply Chain Management – EWM.

- It's time for you to prepare for an SAP EWM migration!

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Stock Room Management

- SAP Stock Room Management is part of the S/4HANA core and is offered by SAP SE specifically for existing customers who previously used SAP Warehouse Management.

- This means that Stock Room Management does not have to be additionally licensed and corresponds to the ECC Warehouse Management Component (LE-WM) with the limitation that it is not suitable for very complex warehouse management and therefore some components of the LE-WM are no longer available (see next slide).

- Technically, Stock Room Management is based on the WM module, so it uses the same tables, customizing and transactions.

- In addition, SAP has already announced that no further developments are planned under SAP Stock Room Management. SAP strategically relies on embedded or decentralized Extended Warehouse Management (EWM).

Stock Room Management

- For all companies that are thinking about not migrating to SAP Extended Warehouse Management, the following table provides an overview of which WM functionalities are no longer available

	SAP Warehouse Management	Stock Room Management
Goods receipt	√	√
Goods	√	√
Intra-warehouse movements	√	√
Storage bin management	√	√
Mobile Execution	√	√
Physical Inventory	√	√
Berichtswesen / Reporting	√	√
Yard Management (WM-YM)	√	×
Cross-Docking (WM-CD)	√	×
Task and Resource Management (WM-TRM)	√	×
Value Added Service (WM-VAS)	√	×
Warehouse Control Unit Interface (WM-LSR)	√	×
Wave Management (WM-TFM-CP)	√	×
Decentral WM (WM-DWM)	√	×

Stock Room Management

- ## For which companies is Stock Room Management suitable?

- Stock Room Management is particularly suitable for companies that do not have an immediate advantage from migrating to an embedded or decentralized EWM.

- In addition, stock room management is particularly suitable for companies that only have a small to medium complexity in their warehouse management.

- For these customers, SAP EWM with its wide range of functions may not be able to generate short-term added value.

- Finally, Stock Room Management can also be interesting and advantageous for those companies that have relied on a large number of in-house developments or highly individualized processes under SAP ERP and would like to continue using them under SAP S/4HANA and the basic functionalities of Stock Room Management are sufficient.
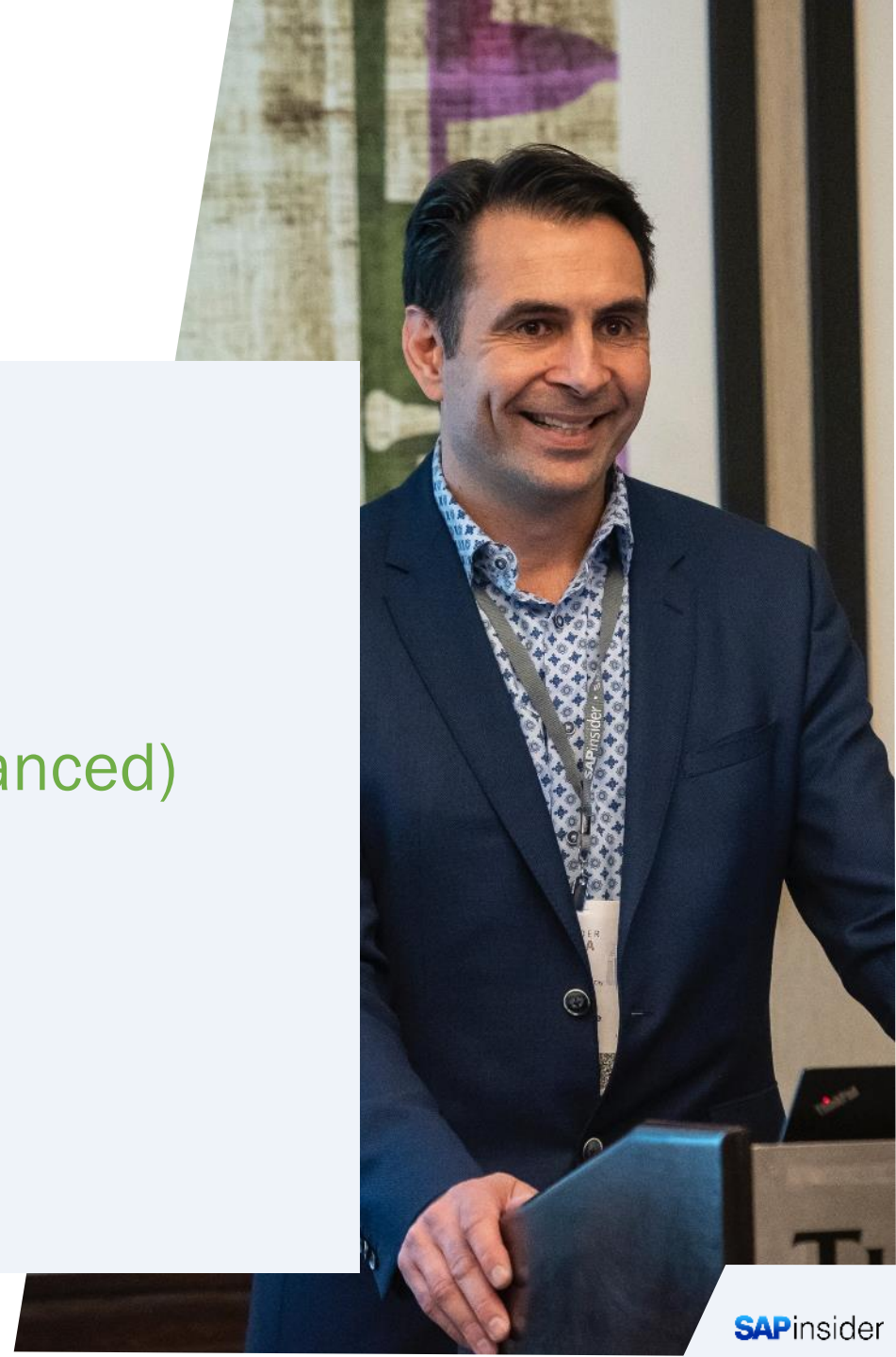
Stock Room Management

- A brief conclusion

- In preparation for SAP S/4HANA, companies and, above all, logistics managers should think about which SAP warehouse management solution is the right one for their company.

- With Stock Room Management, smaller and less complex warehouse management companies can keep the migration effort to a minimum when switching to SAP S/4HANA.

- If, as part of the S/4HANA implementation/migration or in the medium future, warehouse complexity increases and further optimizations or functional enhancements are carried out, then it is worth taking a closer look to see whether SAP Extended Warehouse Management is not the right variant for your company.

- Especially when functionalities are used in SAP WM that are no longer supported in Stock Room Management.

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Embedded EWM (Basic or Advanced)

- SAP Embedded EWM is available for companies in two versions.

- The Basic and Extended Warehouse Management, both of which are already integrated in the S/4HANA core and therefore do not require a separate installation.

- In particular, both versions differ in their range of functions, whereby companies can switch from the basic to the extended version at any time.

Embedded EWM (Basic or Advanced)

- SAP **Basic EWM** has all the basic functions that are required for the operative execution of a holistic warehouse management.

- The Basic Warehouse Management is mainly aimed at companies with less complex warehouse management and a large part of manually controlled warehouse processes.

- In particular, this includes the following functions :

  - inventory management

  - Goods Receipt

  - Goods issue

  - Internal warehouse management

  - inventory

  - report

Embedded EWM (Basic or Advanced)

- In addition, with the Basic EWM, RFID technology is also available for mobile data acquisition, as well as handling unit management and storage unit management.

- SAP S/4HANA customers who decide to use Basic Warehouse Management can do so without additional licensing.

- In contrast to Extended Warehouse Management, Basic EWM is already included in the purchased S/4HANA license.

Embedded EWM (Basic or Advanced)

- In addition to all the functions of Basic EWM, **SAP Advanced EWM** supports a large number of functions for the automation, digitization and integration of warehouse management.

- The solution is aimed in particular at companies with complex warehouse management, a high degree of automation and digitization (or who would like to develop further in this direction) and a strongly systemically integrated supply chain.

Embedded EWM (Basic or Advanced)

- In addition to complex picking and putaway strategies, value-added services or kitting, Extended Warehouse Management as part of the SAP supply chain solutions also enables the following functions to be used :

  - Optimized inventory management (e.g. slotting)

  - Optimized incoming and outgoing goods (e.g. using wave management)

  - Automatic material flow control

  - yard management
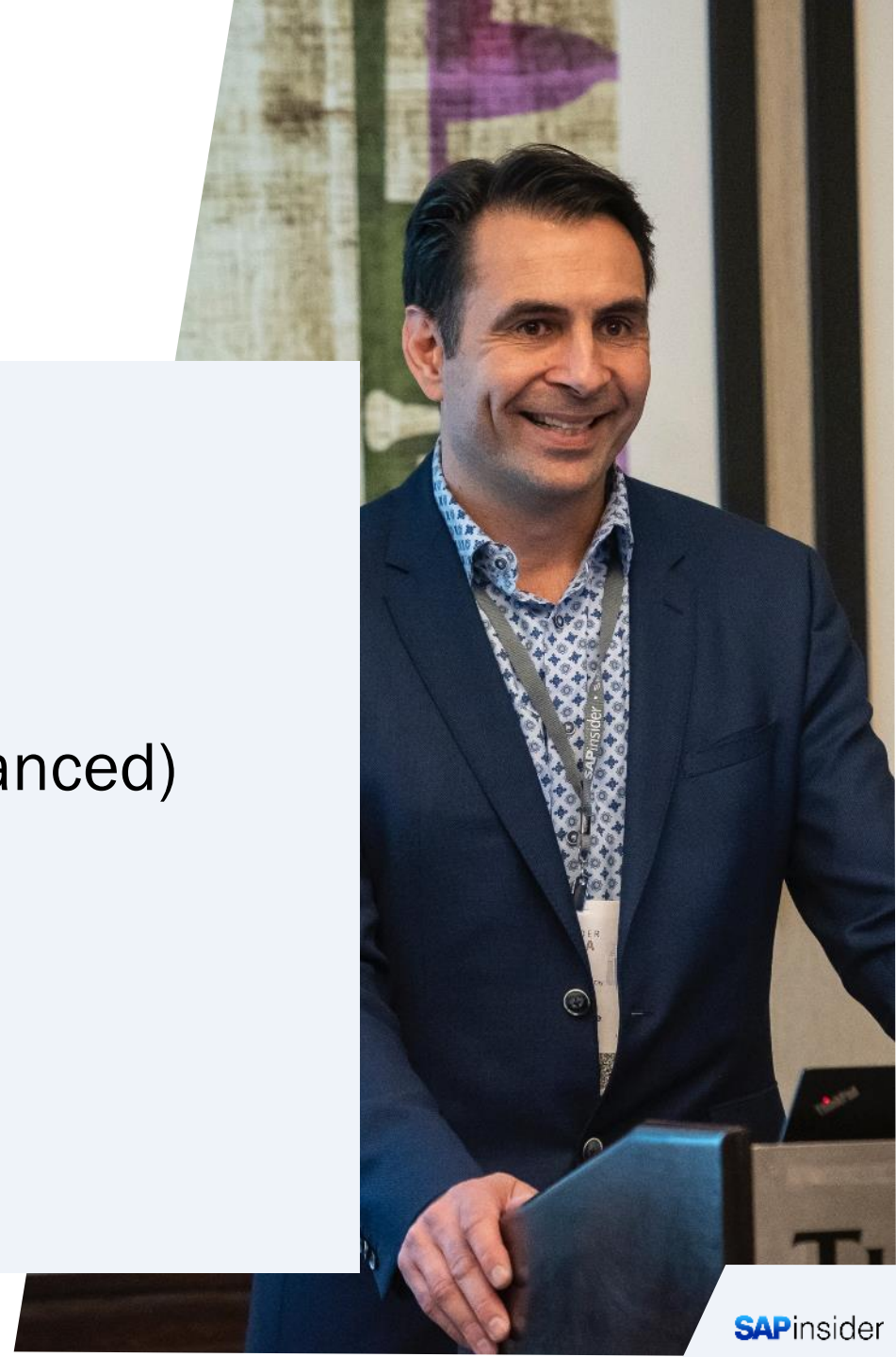
  - cross docking

  - laboratory management

Embedded EWM (Basic or Advanced)

- The use of Extended EWM also enables holistic integration in the supply chain, such as transport management (with e.g. SAP TM), production planning, global track and trace, quality management or even production execution with S/4HANA or SAP Manufacturing Execution (ME).

- Companies and SAP S/4HANA customers who want to use additional functions of SAP Advanced EWM require additional licensing to the S/4HANA license already purchased.

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Decentralized EWM

- In addition to the embedded variants, the decentralized EWM can still be used in combination with S/4HANA.

- EWM is set up on its own server and connected to S/4HANA.

- In contrast to the EWM Embedded solutions, a full license is always required when using the decentralized EWM - regardless of whether only basic functions or the extended functions are used.

Decentralized EWM

- Apart from the installation on a separate server, which can ensure high availability, for example, the decentralized EWM has some disadvantages compared to the embedded EWM . These include, for example:

  - Redundant customizing settings

  - Replication of product evaluations, WBS elements and accounting data required

  - Use of the expected goods receipt

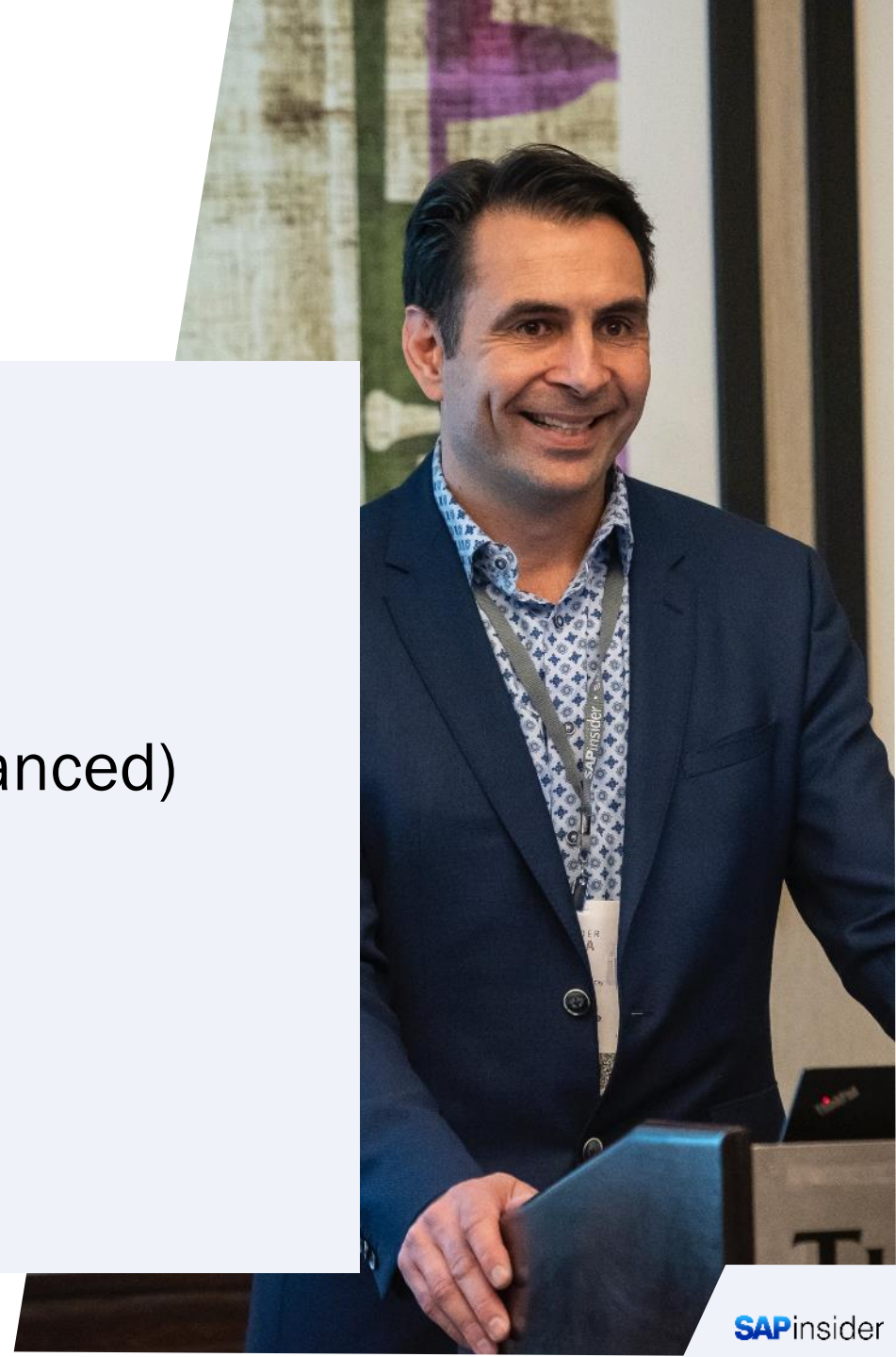 - Support and maintenance costs plus IT infrastructure

Decentralized EWM

- However, there is a major advantage of the availability of the decentralized EWM for companies that are now switching to S/4HANA and want to continue using their existing decentralized EWM.

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When to switch to EWM? General

- Whether the switch to SAP EWM is worthwhile for a company depends on factors such as the complexity of warehouse management, the degree of digitization and automation, the desired/necessary integration of adjacent areas (e.g. QM, production) and the strategic further development of warehouse management.

- SAP Stock Room Management offers a real alternative, especially for companies that do not benefit directly from the advantages of SAP EWM and for which the standard functions of WM warehouse management are sufficient.

- A later switch to SAP EWM is still possible. In particular, the SAP Embedded EWM (Advanced) and decentralized EWM provide a significantly expanded range of functions compared to the expiring SAP Warehouse Management (WM).

When to switch to EWM? Pros

- Some of the benefits that SAP EWM brings are:
  - With the resource management function in EWM, resource capacity is used efficiently to reduce storage costs

  - Process automation for improved scalability and flexibility of processes

  - Optimized inventory and process management for the implementation of optimization potential

  - Constant further development by SAP

  - Improved reporting functionalities

  - Integration of the material flow control and adjacent areas (e.g. TM, MES, QM,...) possible

  - Complete transparency of the warehouse processes

  - Variety of SAP Fiori apps

When to switch to EWM? Cons

- At the same time, however, it must also be noted that the switch to EWM brings with it some challenges that should be taken into account when evaluating a switch from WM to EWM:

    - Higher initial effort when switching from SAP EWM than to the same SAP Stock Room Management

    - May not be an immediate benefit to the company

    - High training effort: Due to the differentiated data model and terminology, know-how must first be acquired by the employees or bought externally

    - Can artificially increase the complexity, especially for less complex warehouse management

    - Redundant data maintenance and management in the case of inconsistent inventory management with EWM (e.g. maintenance of packing instructions/packaging specifications)

    - No consistent handling unit management with inconsistent inventory/warehouse management with EWM (e.g. if parts of the warehouse are IM-managed)

When to switch to EWM? Conclusion 1

- In the course of switching to SAP S/4HANA, every company should think about which warehouse management solution is the right one now and in the future.

- Support for SAP WM will expire at the end of 2025. With SAP Stock Room Management, SAP offers a solution that is based on the "old" SAP Warehouse Management and continues to support most of the functions.

- Especially when companies have a low level of complexity, a low degree of automation/digitization in the warehouse processes or do not benefit directly from SAP EWM, a switch to Stock Room Management with relatively manageable effort is a good idea. Nevertheless, those responsible should be aware that SAP will not further develop SAP Stock Room Management in the future.
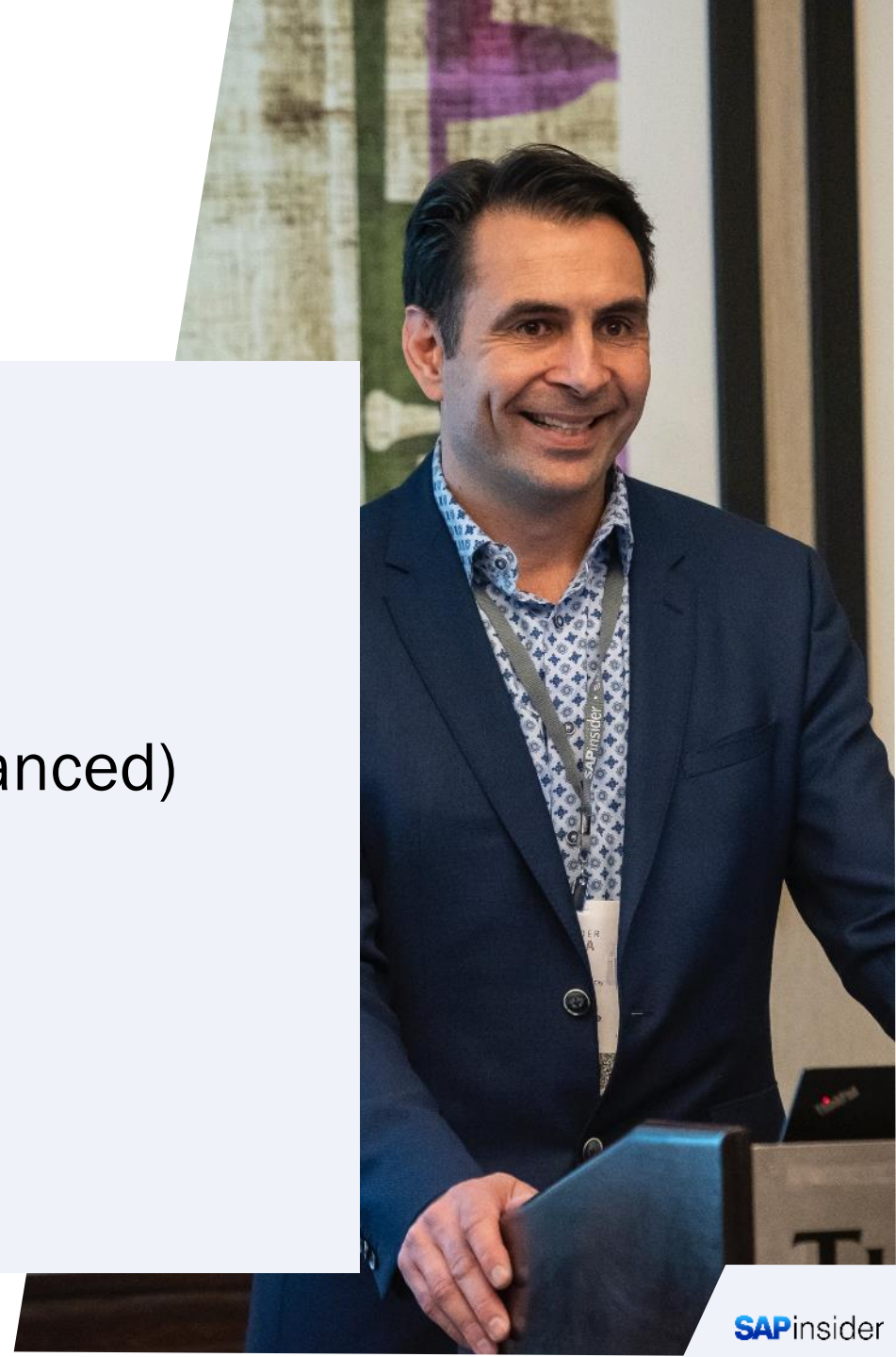
When to switch to EWM? Conclusion 2

- Companies with complex warehouse management, a high degree of automation or strategic ambitions to advance digitization, optimization and automation in warehouse management should consider switching to SAP EWM.

- There is also the possibility - if not all advanced functionalities of an EWM are required immediately - to start with the basic EWM variant, which does not have to be additionally licensed and at any time an extension to advanced EWM functionalities (e.g. in the course of downstream optimization/ automation projects) enabled. SAP EWM is the standard solution for SAP warehouse management and will continue to be developed and expanded regularly in the future (e.g. with new Fiori apps).

- Nevertheless, it must be checked in advance of the changeover

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Wrap up

- **It is time to make a decision relating to your Warehouse software**

- **before making the switch,** develop a clear picture of all **the pros and cons of SAP WM and SAP EWM**

- Basically, SAP customers who switch to S/4HANA have the following options:

  - Use of **SAP Stock Room Management**

  - Use of **SAP Embedded Extended Warehouse** Management (Basic or Advanced)

  - Use of the **decentralized SAP EWM**

Where to Find More Information

- SAPinsider.org
- Paper describing the Stock Room Management: https://www.rewion.com/sap-s-4hana-ready-der-unterschied-zwischen-sap-wm-und-sap-stock-room-management/
- https://blogs.sap.com/2019/06/27/s4hana-stock-room-management/
- https://www.sap.com/products/scm/extended-warehouse-management.html
- https://help.sap.com/docs/SAP_S4HANA_ON-PREMISE/9832125c23154a179bfa1784cdc9577a/4ecb88b8b2422afee10000000a42189e.html

Key Points to Take Home

- Technically, Stock Room Management is based on the WM module, so it uses the same tables, customizing and transactions. With SAP Stock Room Management, companies only have limited functionalities available compared to SAP WM.

- SAP Embedded EWM is available for companies in two versions. The Basic and Extended Warehouse Management, both versions differ in their range of functions, whereby companies can switch from the basic to the extended version at any time.

- The Basic Warehouse Management is mainly aimed at companies with less complex warehouse management and a large part of manually controlled warehouse processes.

- The Extended Warehouse Management is aimed in particular at companies with complex warehouse management, a high degree of automation and digitization (or who would like to develop further in this direction) and a strongly systemically integrated supply chain.

- The decentralized EWM can still be used in combination with S/4HANA. Apart from the installation on a separate server, which can ensure **high availability**, for example, the decentralized EWM has some **disadvantages compared to the embedded EWM**.

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