

KDD001 - Permit to Work

Status	Approved
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Issue

This Key Decision Document (KDD) serves as a comprehensive guide outlining critical decisions, considerations, and recommendations essential to the implementation and management of a Permit to Work solution. It aims to clarify the rationale behind exploring and evaluating different digital permit-to-work systems in comparison to the existing paper-based system.

Key areas covered in this document include:

- Benefits and drawbacks of each solution, including factors such as efficiency, accuracy, safety, and compliance
- Overview & Background
- Design Options
- Evaluation
- Recommendation
- Business & Project Impacts

Overall, the purpose and structure of the KDD ensure clarity, transparency, and accountability throughout the process of adopting and utilising work permits within Syensqo.

Recommendation

Based on the comprehensive evaluation using the decision matrix provided, **S/4HANA Work Clearance Management (WCM)** emerges as the recommended choice for digitally enabling and managing Permits to Work over the use of Sphera or a purely manual paper-based process.

Background & Context

Syensqo's Permit to Work solution has been established to comply with safety regulations and standards known as "Life Saving Rules" by ensuring that proper precautions are taken before maintenance activities begin.

Permit to work systems facilitate risk management by identifying potential hazards associated with maintenance tasks and implementing control measures to mitigate risks. By requiring approval from authorised personnel before work begins, Syensqo can assess the risks involved and implement appropriate safety protocols.

Approval is required from authorised personnel to ensure that the necessary checks and verifications have been performed before work commences, reducing the likelihood of errors or oversights.

The Permit to work solutions serves as an essential tool for promoting safety, managing risks, ensuring compliance, optimising operations and enhancing accountability within asset maintenance.

As-Is Summary

Currently, Permits to Work within Syensqo are managed manually, presenting challenges such as errors, incorrect information, and jeopardised maintenance activities due to reliance on paper-based processes. Thousands of permits are handled monthly, with most sites operating entirely offline, while some attach risk assessments to facilitate manual permits based on risk identification. However, one site, Tavaux, is on the verge of initiating a trial for a digital solution named E-Work Permit.

Opportunities

Standardizing the permit-to-work process across Syensqo promises numerous benefits, including ensuring consistency in safety practices, adhering to regulatory requirements, and enhancing overall efficiency and effectiveness.

The upcoming integration of S/4HANA brings about opportunities for Syensqo with the introduction of new functionality through the WCM module, digitally overseeing the management of Work Permits.

Assumptions

Utilising the Permit to Work feature within the S/4HANA Work Clearance Management (WCM) module necessitates SAP S/4HANA 2022 FPS02 or later.

Constraints

No Constraints identified. Further updates may be determined during the detailed design phase.

Impacts

Implementing S/4HANA Work Clearance Management (WCM) permit to work as part of the ERP Build Project will have various business and project impacts

SAP Modules: Integration with other SAP modules, such as Production Planning (PP) and Environment, Health, and EHS with Industrial Hygiene to manage risks and possibly with Occupational Health, to ensure seamless data flow and process integration across the organisation.

Languages: Multilingual will be required to accommodate users in different regions with diverse language preferences.

Automation: S/4HANA WCM enables automation of permit management processes, reducing manual intervention and streamlining workflows. Automation features, such as auto-approval rules, notifications, and alerts, enhance efficiency, compliance, and productivity.

In-flight Projects: The implementation of S/4HANA WCM may impact the ongoing Star Factory e-Work Permit project. Proper change management and project coordination are essential to minimise disruptions.

Licensing: SAP Work Clearance Management for SAP S/4HANA is required for access to the Permit to Work functionality

Sustainability: Transitioning to a paperless solution is a crucial strategy in our collective effort to achieve sustainability and reduce carbon emissions

Deployment Approach: There are a couple of options available with this solution:

- Deploy the digital Permit to Work solution, replacing all paper-based permits (Option B).
- Deploy the digital Permit to Work solution in conjunction with retaining selected paper-based permits to allow the business to transition to a paperless solution gradually (Option B + C).

Business Rules

Currently, no specific business rules have been identified. Further updates may be determined during the detailed design phase.

Options considered

Option A: Sphera - Permit to Work

Sphera's Permit to Work Software offers a comprehensive range of functionalities designed to streamline permit management processes, enhance safety compliance, and optimize operational efficiency.

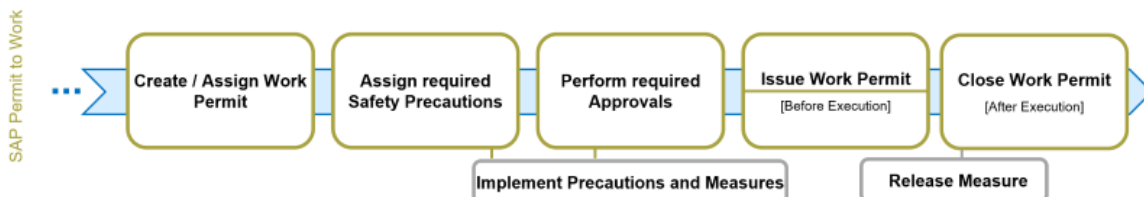
Sphera's software digitizes the entire workflow, covering creation, approval, and real-time management of permits.

- Workers can easily access and follow the correct procedures on the go, completing tasks using the digital permits.
- Managers can monitor task completion in real-time and integrate data from permits, hazards and maintenance schedules.
- Dashboards provide a comprehensive view of critical worker assignments, giving managers the necessary information to make informed operational decisions

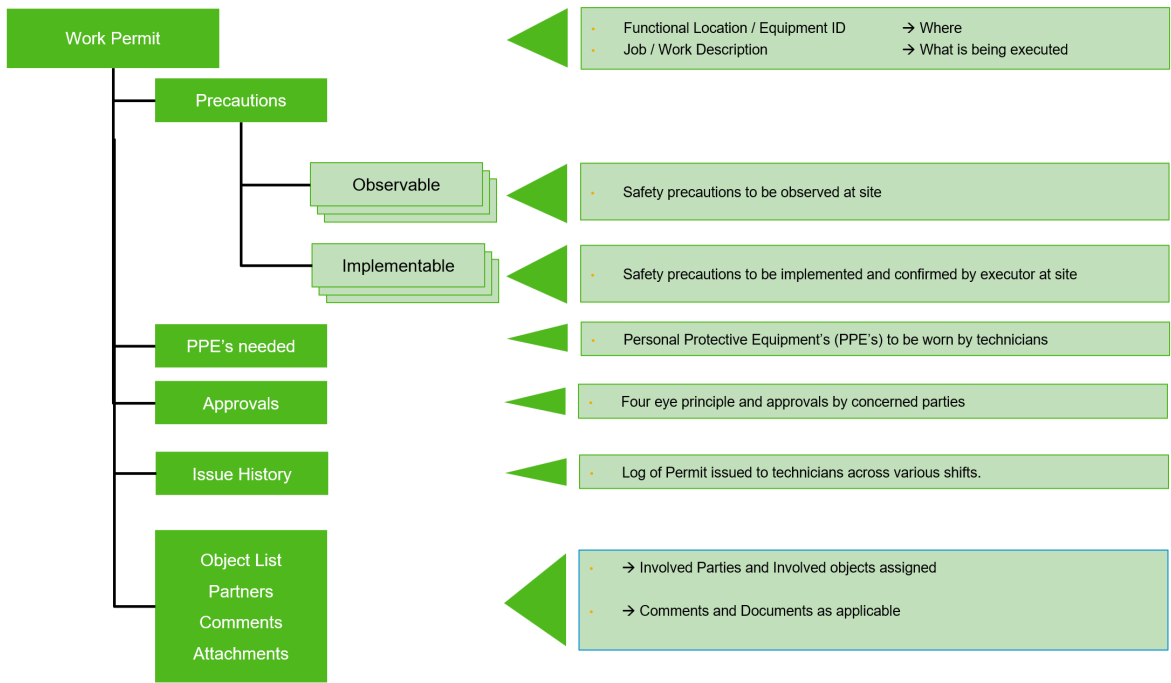
Option B: S/4HANA - WCM – Permit to Work

S/4HANA's Work Clearance Management (WCM) module, including the Permit to Work (PTW) software component, offers a robust set of functionalities designed to facilitate safe and efficient work execution.

Process flow of the Permit to Work solution in Maintenance Management



Work Permit Structure:



Option C: Paper-Based Permit to Work

Syensqo has relied on a paper-based permit to work solution across their plants worldwide. This approach has served Syensqo well over the years, providing a familiar and straightforward method for managing permits, authorizations, and safety procedures in various work environments.

The table below provides a detailed breakdown of the functionalities of the options discussed above.

Functional Criteria	Option A - Sphera	Option B - S/4HANA WCM	Option C - Paper based
Improved Safety Compliance:	PRO: Streamline permit management processes, facilitating better adherence to safety regulations and standards.	PRO: Streamline permit management processes, facilitating better adherence to safety regulations and standards.	CON: Manual processes inherent in paper-based systems can lead to inefficiencies and delays in permit processing, potentially impacting production schedules.
Permit Templates:	PRO: Sphera provides customizable permit templates for various work activities, allowing organisations to define specific permit requirements, controls, and approval workflows tailored to their needs.	PRO: S/4HANA WCM-PTW offers customizable permit templates based on industry best practices and regulatory requirements. Standardised permit templates ensure consistency in permit issuance and compliance with organisational policies.	CON: Paper based templates need to continually print and physically stored
Risk Assessment:	PRO: Risk assessment processes by enabling users to identify, assess, and mitigate potential hazards associated with work activities, ensuring compliance with safety regulations and standards.	PRO: Tools for conducting risk assessments associated with work activities, identifying hazards, and implementing control measures to mitigate risks. This functionality helps ensure compliance with safety regulations and standards.	CON: Risk Assessment is a manual paper based, Time consuming and Prone to errors
Real-Time Tracking:	PRO: Users can monitor permit statuses and work progress in real-time, facilitating proactive management of work activities. The software provides alerts and notifications for critical events, enabling timely intervention to address potential safety issues.	PRO: Users can monitor permit statuses and work progress in real-time, facilitating proactive management of work activities. The software provides alerts and notifications for critical events, enabling timely intervention to address potential safety issues.	CON: challenging to track permit status and monitor compliance in real-time with paper-based systems.
Integration & Complexity:	CON: Integrating Sphera's software with S /4HANA requires Development, customisation, Data Mapping and Transformation	PRO: S/4HANA WCM integrates seamlessly with maintenance management processes, enabling coordination between work permits and maintenance activities. This integration ensures that permits are issued only when assets are safely prepared for maintenance tasks.	PRO: Paper-based do not require any software interfaces or customization. They also do not rely on internet connectivity or electronic devices, making them suitable for environments with limited access to technology or in remote locations. CON: Difficulty in tracking the status of permits and approvals. Limited audit trails make it harder to ensure accountability and transparency.

Mobility:	PRO: accessible via mobile devices, allowing field personnel to submit permit requests, access permit details, and perform inspections onsite, enhancing mobility and convenience.	PRO: accessible via mobile devices, allowing field personnel to access permit information, perform inspections, and complete permit-related tasks onsite	CON: Paper-Based permits are not available on the mobile device with the rest of the job pack
Cost	CON: Implementing Sphera's software requires upfront investment in software licenses, implementation services, and ongoing support and maintenance.	CON: SAP Work Clearance Management for SAP S/4HANA License is required for access to the Permit to Work functionality	PRO: Paper-based systems have lower costs since they don't require investment in software licenses or hardware infrastructure.
Training and Adoption:	CON: Adopting new software requires training for employees to learn how to use the system effectively.	CON: Adopting new software requires training for employees to learn how to use the system effectively.	PRO: Current solution, no change management required
Change Management	CON: Resistance to change among employees can impede the adoption of new processes	CON: Resistance to change among employees can impede the adoption of new processes	PRO: No change required, continue to follow as is manual paper-based process
Language:	PRO: Configurable in multiple languages to meet country-specific requirements	PRO: Configurable in multiple languages to meet country-specific requirements	CON: Permit Templates must be updated and stored in all required languages
Manual Data Entry	PRO: Limited data entry required	PRO: Limited data entry required with data valuation	CON: Paper-Based requires the permits to be completed manual. Time consuming and Prone to errors
Data Construction / Migration:	CON: Despite Syensqo's extensive use of template creation in line with EHS standards, there will be data requirements to ensure that all paper-based permits are available in digital form.	CON: Despite Syensqo's extensive use of template creation in line with EHS standards, there will be data requirements to ensure that all paper-based permits are available in digital form.	PRO: No data construction / migration required

Evaluation

The decision matrix provided below offers a structured approach to evaluating and comparing three options for permit to work software: Option 1 - Sphera, Option 2 - S/4HANA WCM, and Option 3 - Paper-Based. Each option is assessed based on various criteria, including compliance and regulatory adherence, mobility, real-time monitoring, user experience, integration, scalability, efficiency, traceability, cost, and change management. These criteria are assigned weights (on a scale of 1 to 10) based on their relative importance to the decision-making process. For each option, ratings are assigned to indicate how well it meets each criterion. The ratings are then multiplied by the corresponding weights, and the weighted scores are summed up to calculate the total score for each option.

Criteria	Weight	Option 1	Option 2	Option 3
		Sphera	S/4HANA WCM	Paper-Based
Compliance and Regulatory	VH	Very High	Very High	Medium
Mobility	VH	High	High	Low
Real-time Monitoring	H	Very High	High	Low
User Experience	VH	High	High	Low
Integration	H	Medium	Very High	Low
Scalability	H	High	High	Medium
Efficiency & Traceability	H	High	Very High	Low
Cost & Licenses	M	Medium	High	Very High
Change Management	M	Medium	Medium	Very High
Overall		Medium	High	Low

Based on the comprehensive evaluation using the decision matrix provided, **Option 2 - S/4HANA WCM** emerges as the recommended choice for the Permit to Work software.

While all options have their merits and drawbacks, Option 2 demonstrates the highest overall ranking, indicating its overall alignment with the specified criteria and weighted priorities. S/4HANA WCM offers robust features such as integration with maintenance processes, tools for risk assessment, real-time monitoring capabilities, standardised permit templates, and mobility via mobile devices. These functionalities contribute to improved safety compliance, efficiency, and traceability in permit management processes.

Though Option 1 - Sphera also ranked well. Sphera's Permit to Work Software provides notable benefits such as improved safety compliance, customizable permit templates, risk assessment tools, real-time monitoring, and mobility features. However, concerns regarding integration complexity and cost implications may impact its overall.

In contrast, Option 3 - Paper-Based, while presenting some advantages such as minimal technical complexity, low cost, and familiarity with existing processes, scores significantly lower. This score reflects the inherent limitations of paper-based systems in terms of compliance, real-time monitoring, user experience, and efficiency, which may hinder operational effectiveness and safety compliance in the long run.

See also

The following section describes relevant documentation:

Document Name	Description
Solvay – eWork Permit - RFP	RFP used to identify and select a digital solution to manage work permits related to the industrial maintenance process
Electronic permit to work - User Requirements	High level requirements based on User Stories for digital Permit to Work Solution
SAP WCM Permit to Work	Permit to Work in Work Clearance Management (WCM) Overview

Business Definitions (Glossary)

Acronym / Term	Definition
PTW	Permit to Work
WCM	Work Clearance Management
LSR	Life Saving Rules

Change log

Version	Published	Changed By	Comment
CURRENT (v. 32)	Jul 22, 2024 15:34	WENNINGER-ext, Sascha	
v. 31	Jul 22, 2024 15:32	WENNINGER-ext, Sascha	
v. 30	Jul 15, 2024 12:24	WENNINGER-ext, Sascha	limiting change history to 10 entries
v. 29	Jul 12, 2024 05:47	LEIGHTON-ext, Dean	
v. 28	Jul 09, 2024 04:39	LEIGHTON-ext, Dean	
v. 27	Jul 05, 2024 04:40	WENNINGER-ext, Sascha	fixed typos
v. 26	Jul 04, 2024 16:04	LEIGHTON-ext, Dean	Removed the point scores out of evaluation overview
v. 25	Jul 04, 2024 11:30	WENNINGER-ext, Sascha	
v. 24	Jul 03, 2024 12:02	WENNINGER-ext, Sascha	updated heading to match revised template
v. 23	Jul 02, 2024 10:39	WENNINGER-ext, Sascha	turned URLs into links

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