

KDD054 - Master Data Approach

Status	Approved
Owner	NARAHARI-ext, Bhargavi
Stakeholders	

Issue

Managing master data is vital from a business perspective because it ensures accuracy, enhances efficiency, supports compliance, improves customer experience, and drives financial performance. By implementing effective master data management practices, organizations can achieve reliable data, streamlined operations, and better decision-making.

Syensqo currently operates with a fragmented master data management and governance process across multiple systems, leading to challenges in maintaining data accuracy, reliable reporting, and integration across the organization. As part of the ERP Rebuild program, there is an opportunity to cleanse the data and streamline and enhance master data governance by implementing a integrated and effective master data management (MDM) solution and a robust governance process.

The objective of this document is to evaluate various options for master data management solutions along with the governance processes that will address the current fragmentation and support Syensqo's goal of achieving standardized, and efficient master data management. This evaluation will consider factors such as integration capabilities, flexibility, cost, scalability, and alignment with business needs to determine the most suitable MDM approach for Syensqo.

Recommendation

Option C - Single / Central Master Data System with enhanced workflows is recommended for Syensqo due to its flexibility, targeted governance, and adaptability to diverse business needs. Here's a detailed explanation on why this option is preferred:

- **Flexibility:** Option C allows Syensqo to tailor governance processes to the specific needs of each master data object. Critical data can be managed centrally with strict controls, while less critical or localized data can be governed based on their unique requirements, providing a balanced and adaptable approach.
- **Enhanced Responsiveness and Agility:** By using separate system, Syensqo can quickly adjust governance processes to respond to changing business needs or regulatory requirements ex: ITAR
- **Optimized Resource Allocation and Cost Control:** This approach enables efficient use of resources by centralizing governance only for high-priority data and allowing localized management for less critical data. It avoids unnecessary overhead and allows strategic investment in systems that align best with specific data governance needs.
- **Scalability and Future-Proofing:** Option C provides scalability and the ability to adapt as Syensqo grows or evolves. New systems can be added for emerging data types or business requirements without disrupting the existing governance structure, making it a flexible and future-ready solution.

Next Steps during the detailed design phase:

- Classify master data objects based on their business criticality - [Link](#)
- Define the Master-Slave relationship between different systems for each data object to enable the "one version of truth" concept"
- Select the Master Data Management System

Background & Context

Managing master data is critically important from a business perspective for several reasons, all of which contribute to the efficiency, effectiveness, and success of organizational operations. Here's why effective master data management (MDM) is crucial:

- Ensures Data Accuracy and Consistency by enabling single source of truth and reducing any errors
- Enhances Operational Efficiency by enabling streamlined processes and automation
- Improves Decision-Making by providing reliable insights and a unified view of data
- Supports Regulatory Compliance by enabling audit trails and implementing data privacy and security
- Facilitates Integration and Interoperability
- Drives Financial Performance by cost reduction due to data errors, redundancies, and inefficiencies
- Mitigates Risks by reducing the likelihood of errors that can lead to financial losses, legal issues, or operational failures.
- Supports Scalability and Growth by providing the framework to scale data management practices efficiently and supporting the integration of new systems and data sources while maintaining data quality.
- Enhances Competitive Advantage by enabling strategic insights and agility to respond quickly to market changes, customer demands, and emerging opportunities.

Syensqo currently utilizes various disjointed systems for creating, maintaining, and governing master data. This fragmented approach poses significant challenges to data quality, consistency, and governance. Following are some of the key systems that are used for master data maintenance. Apart from the below, there are multiple other homegrown and 3rd party applications where some of the master data is maintained and not always governed.

Note that the below list of systems and the governance process is only for a subset of master data objects and there are many master data objects where there is no system nor governance implemented.

System	Use
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Mappy SpP	To improve commercial data accuracy
Material Center	For materials data management.
SAP MDM-MDG	To define, enforce, monitor and improve master data management in a hybrid landscape. Syensqo is using it for Finished Product mgt for few businesses (it is not a global implementation).
Vendor Workflow	Homemade ABAP application for automating vendors creation in the ERP
SAP PF1 - PRS (Client 50)	Master Data module of SAP ECC
CRM	Maintaining prospects and customers

Approach

To fulfill Syensqo's master data governance requirements, it is proposed to divide the master data into three tiers:

Tier 1: Critical Master Data Objects

This tier includes master data objects that are essential to Syensqo's key processes and must be managed centrally to ensure consistency and reliability. These data objects are crucial for the smooth operation of critical business functions and require strict governance and oversight. Any master data object shared across regions also falls into this tier to maintain data integrity and uniformity across all areas of the organization.

Tier 2: Important Master Data Objects

This tier encompasses master data objects that, while important to Syensqo, are not as critical as Tier 1 objects. These objects require centralized governance to ensure adherence to company-wide standards and policies, but their maintenance can be performed locally. This allows for flexibility in data management while ensuring alignment with the organization's overall data governance framework.

Tier 3: Localized Master Data Objects

This tier consists of master data objects that are specific to individual regions, countries, or plants and are tailored to meet the unique needs of each location. These objects are not critical to the key processes of Syensqo and therefore do not require centralized governance. They will be managed and governed locally, providing flexibility based on regional requirements with minimal central oversight.

Tiers	Governance	Management	Maintenance
Tier 1	Central	Central	Central
Tier 2	Central	Central / Local	Local
Tier 3	Local	Local	Local

Assumptions

- Master data standards must be available and will be the input to the governance rules required for each Master Data Object
- Data will be cleansed as per the Master data standard rules for all the objects at go live

Constraints

None identified

Impacts

Master Data Governance Organisation : A central governance organization should be established to manage, monitor, and enforce master data standard for all master data objects. This central team will oversee the maintenance of Tier 1 data and govern all master data created within the system to ensure consistency and compliance with established standards. For Tier 2 and Tier 3 master data, which are less critical or more localized, maintenance will be handled by local master data maintenance teams, allowing for flexibility while still adhering to overarching governance rules. There is an opportunity for the Master Data Organization to be part of Syensqo's Shared Services organization.

Integration with Downstream systems: Downstream systems that currently integrate with existing master data solutions will need to update their integration processes to align with the new master data governance system. This will involve modifying integration points and potentially reconfiguring data flows to ensure seamless interaction between the new master data system and the various downstream applications.

Training: Comprehensive training should be provided across the organization to familiarize all relevant personnel with the new master data governance processes. This training will cover how to request master data, understand the new standards, and navigate the updated systems, ensuring that all users are equipped to effectively participate in the new governance framework.

Business Rules

The business rules will depend on the master data objects and the corresponding workflows that will be finalised as part of the detailed design.

Options considered

Following are the Options considered for implementing a master data system

Option A: Single / central SAP master data governance system (MDG)

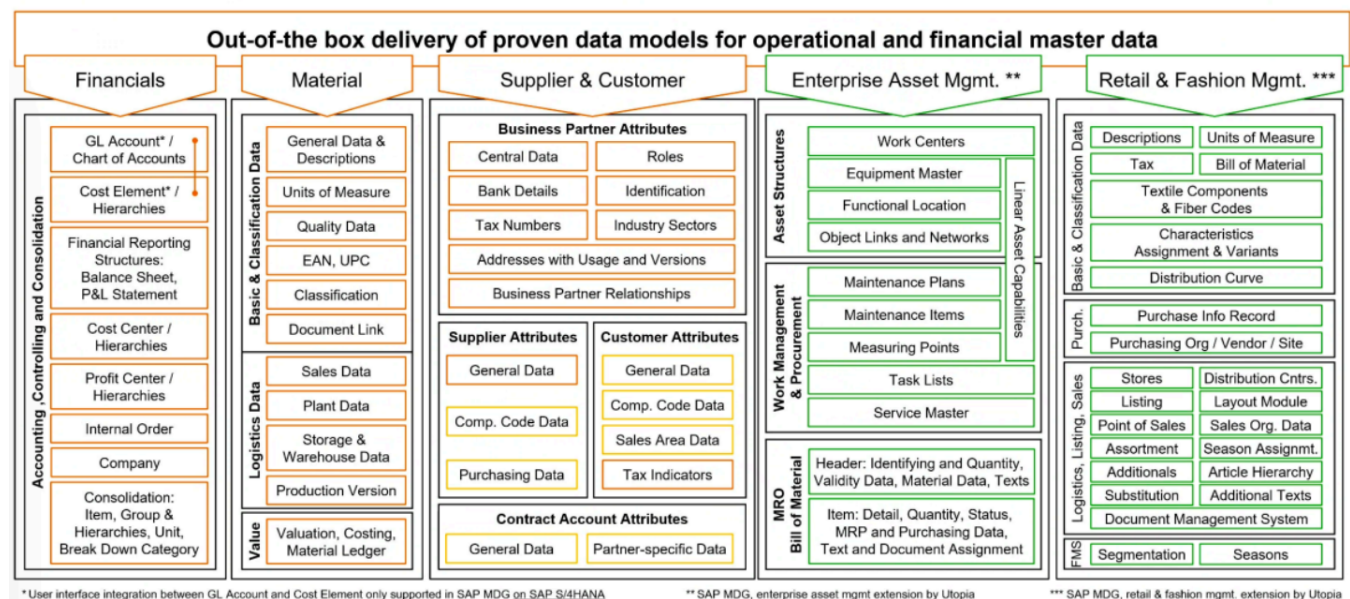
This option involves utilizing SAP Master Data Governance (MDG) as the primary system for managing master data across the organization. SAP MDG is an integrated solution within the SAP environment, designed to centralize master data management and governance, ensuring consistency, accuracy, and compliance. SAP MDG helps streamline the processes for creating, updating, and maintaining master data, providing a robust platform for data governance that aligns with SAP standards and best practices.

MDG has two flavours variants: (1) classic and (2) cloud ready . Both can co-exist and don't need any additional licences than the MDG licenses.

Classic MDG: As part of the classic MDG the following objects are supported. Note that EAM and Retail are supported by partner extension (Utopia).

SAP Master Data Governance

Integrated Object Model



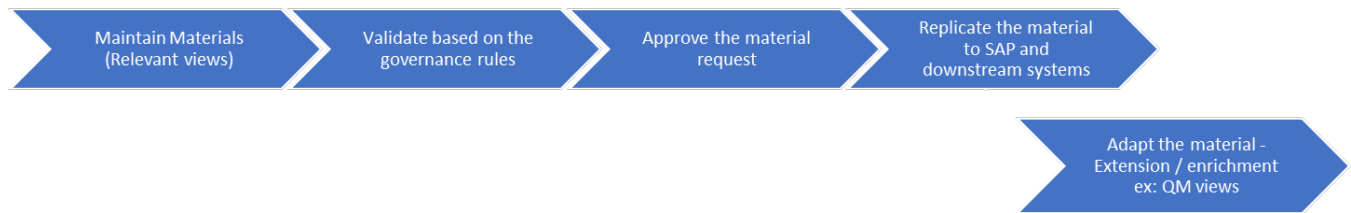
Cloud Ready MDG: This is an attempt from SAP to harmonise MDG, MDG for S/4 HANA public cloud and MDG in BTP. It supports Fiori UI and uses BTP as the workflow layer. Uses BRF+ for master data rules configuration. It is a very recent product and supports only some roles of Business partner at the moment. Material support is planned in the next release in 2025, and no roadmap is confirmed beyond that.

For the sake of evaluation, this option considers adopting the master data objects available as part of the cloud ready MDG and the rest via Classic MDG.

As a part of this option

Tier	Approach	Examples
Tier 1 Data	Implement the master data governance in SAP MDG. For the objects that are not available custom development required	Material Master General View
Tier 2 Data	Governance workflows and reports custom developed in SAP MDG	Material Master QM view
Tier 3 Data	Governance and maintenance managed locally - System to be determined by the local team	TM - Transportation Zones

Example workflow:



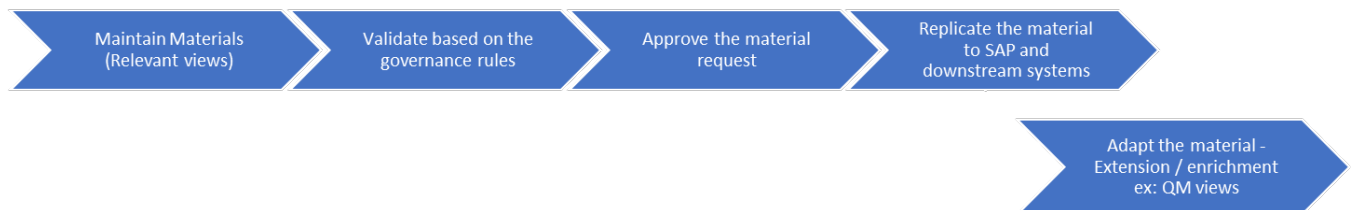
Option B: Single / Central master data governance system

This option involves using an external, non-SAP system as the centralized master data governance solution. The chosen system could be a specialized master data management (MDM) platform or another enterprise solution that is capable of integrating with various systems across the organization. The external system would serve as the single source of truth for all master data, centralizing governance and ensuring data consistency, quality, and accessibility across multiple platforms and applications within the organization.

A detailed analysis and system selection will be done during detailed design.

Tier	Approach	Examples
Tier 1 Data	Implement the master data governance in a Master data management tool	Material Master General View BOM's
Tier 2 Data	Governance workflows and reports custom developed in Master Data tool	Material Master QM view
Tier 3 Data	Governance and maintenance managed locally - System to be determined by the local team	TM - Transportation Zones

Example Workflow: The workflow and the governance model is similar to Option A but the tool is different



Option C: Single / Central Master Data System with enhanced workflows

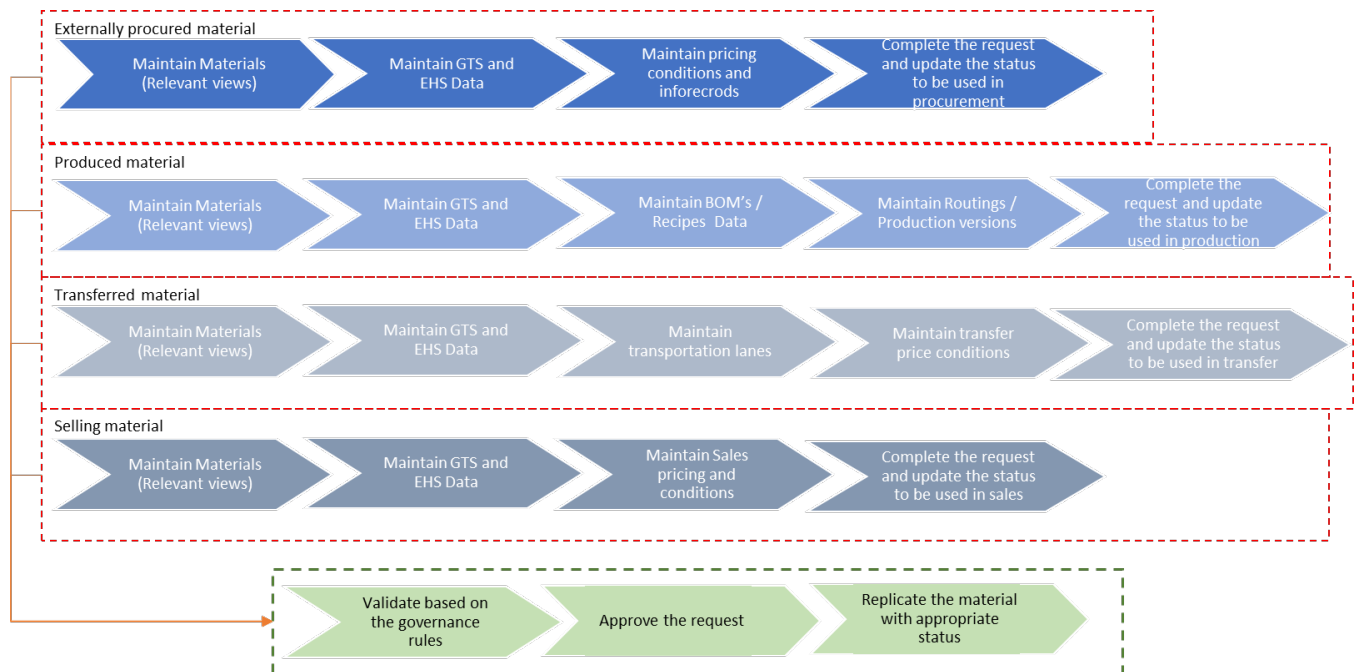
This option proposes the use of central master data governance system with workflows tailored to specific master data objects or business needs. The system would serve as the single source of truth for all relevant master data, centralizing governance and ensuring data consistency, quality, and accessibility across multiple platforms and applications within the organization. Enhanced workflows streamline data management tasks and ensure that the processes are well-aligned with the specific needs of each master data object.

Following is the implementation approach

Tier	Approach	Examples
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Tier 1 Data	For a master data object and the corresponding dependent objects, implement a master data governance workflow that will best cater to that master data object	Master Data Object	Dependent Objects	Master Data Governance
		Materials (All relevant views)	GTS Data, EHS Data, BOM's, Production version, Transportation lanes etc.	Materials Workflow
		Business Partner	Bidders, Prospects, Customers, Vendors, Customer hierarchy, Vendor Hierarchy, GTS Licenses, Supplier Risk etc.	Business Partner Workflow
Tier 2 Data	Governance workflows and reports custom developed in the system chosen	Material Master QM view		
Tier 3 Data	Governance and maintenance managed locally - System to be determined by the local team	TM - Transportation Zones		

Example workflow:



Criteria	Option A: Single / central SAP master data governance system (MDG)	Option B: Single / Central master data governance system	Option C: Single / Central Master Data System with enhanced workflows
Fit for Purpose	❌ SAP solution supports only limited master data objects ex: Business Partners, materials and finance objects. Any other master data needs to be implemented as a custom object ex: Production BOM's / Recipes	❌ No system out in the Market which supports all the master data objects. Some customisation required to support all the relevant master data objects	✅ Master data system with governance tailored based on the needs of each of the master data objects

Integration and Compatibility	+ Easy integration to SAP Landscape - Very few out of the box integrations available. Rest needs to be custom built (All the integrations except materials / business partners / finance data has to be custom built)	+ Easy integration to SAP Landscape as majority of the best of breed MDM solutions support SAP integrations - Custom integrations still required for some of the bespoke master data objects	+ Easy integration to SAP Landscape as majority of the best of breed MDM solutions support SAP integrations + Intergration to various SAP applications ex: EHS possible due to the tailored workflows - Custom integrations still required for some of the bespoke Master Data objects
Flexibility	- Moderately flexible as most of the objects are custom	- Least flexible as most of the objects are custom	+ Most flexible as the governance workflows are enhanced based on the requirements
Complexity and Maintenance	- Complex system for configuration (BRF+ rulesets) and maintenance	- Complex system for configuration and maintenance as one system supports all the master data objects	- Complex system for configuration and maintenance as one system supports all the master data objects including the enhanced workflows
Licenses	- Expensive licenses	+ Comparatively lower licenses costs as SAP MDG is the costliest based on Gartner report	+ Comparatively lower licenses costs as SAP MDG is the costliest based on Gartner report
Implementation and Cost	- Complex implementation due to the complexity of the BRF+ rules that needs to be configured and the custom objects that needs to be built ex: BOM's , Equipment etc.. Based on SAP's feedback customer typically implement 5-10 master data objects	+ Relatively less complex implementation compared to Option A and Option C	- Complex implementation as multiple workflows and multiple systems
Scalability	- Scalability is difficult as a lot of objects are custom built	+ Scalable across various systems and data types (Assumption that the tool chosen is able to support the tier 1 and tier 2 master data objects)	+ Scalable across various systems and data types and Governance requirements
Suitability for Critical vs. Non-Critical Data	- Best suited for critical data in SAP - However the number of objects supported in Standard are very less. Less efficient for non-critical (ex: Tier 2 master data objects) as the effort to build the governance rules is significant and effort outweighs the benefit SAP has mentioned that the top MDG users typically configure 5-10 master data objects in MDG	- Best suited for Moderately critical and non-critical data	+ Suitable for both critical and non-critical data by centralizing critical data and localizing non-critical data.

See also

File	Modified
PDF File Workspace Mail - Fwd_ ERP Rebuild SteerCo - 29th Oct - ACTIONS.pdf	Nov 06, 2024 by FALL-ext, Cheikh

Change log

Version	Published	Changed By	Comment
CURRENT (v. 29)	Sept 11, 2024 19:57	NARAHARI-ext, Bhargavi	
v. 28	Sept 11, 2024 19:51	NARAHARI-ext, Bhargavi	
v. 27	Sept 11, 2024 18:59	NARAHARI-ext, Bhargavi	
v. 26	Sept 11, 2024 17:00	NARAHARI-ext, Bhargavi	
v. 25	Sept 11, 2024 16:48	NARAHARI-ext, Bhargavi	
v. 24	Sept 10, 2024 11:50	NARAHARI-ext, Bhargavi	
v. 23	Sept 10, 2024 11:39	NARAHARI-ext, Bhargavi	
v. 22	Sept 09, 2024 10:24	WENNINGER-ext, Sascha	

v. 21	Sept 05, 2024 12:20	NARAHARI-ext, Bhargavi
v. 20	Sept 05, 2024 11:16	NARAHARI-ext, Bhargavi

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Workflow history

Title	Last Updated By	Updated	Status
There are no pages at the moment.			

Workflow history

This view shows the 5 most recent entries. The complete workflow log is available from the 'Document Activity' menu item.

Nov 06, 2024	Actor	Type	Activity	Version
Approved	 FALL-ext, Cheikh	State	changed state to Approved at 1:30 pm	v29
Pending SteerCo Review	 FALL-ext, Cheikh	State	gave <i>Final Approval</i> approval at 1:30 pm	
Sept 26, 2024				
	 FALL-ext, Cheikh	State	changed expiry date to '10 Oct, 2024 01:18 pm' at 1:18 pm	
		State	changed state to Pending SteerCo Review at 1:18 pm	v29
Pending Stakeholder Review	 FALL-ext, Cheikh	State	gave <i>Stakeholder Review</i> approval at 1:18 pm	
Sept 17, 2024				
	WENNINGER-ext, Sascha	State	changed expiry date to '24 Sept, 2024 04:36 am' at 4:36 am	
		State	changed state to Pending Stakeholder Review at 4:36 am	v29