

# Master Data Management For Life Sciences Manufacturers

Achieving Process Excellence

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Successful MDM strategies  
starts with identifying  
broken processes, not  
technology



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## Master Data Management is critical to the successful and timely introduction of new products

Life Sciences companies need to manage and share master data across a number of departments, including development, finance, operations, and quality assurance. Organizations must ensure there is a solid foundation for master data governance and strong processes to support these requirements.

Often, there are gaps between understanding the need to share this data and having an effective system in place to allow this collaboration. Consider your organization; do you have a central repository? Is the data it contains high quality, validated, secure, and readily accessed? Who owns the data? And who is doing the data maintenance across your organization?

Lodestone Management Consultants are challenging traditional approaches to Master Data Management (MDM). Our fresh thinking and innovative approaches can help you improve the process while reducing overall costs.

## Challenges in MDM

### A Crucial and Complex Process

Master Data Management (MDM) is critical to the successful and timely introduction of new pharmaceutical products, biotech products, and medical devices. MDM is also a complex process. Creation of master data begins early in the product life cycle. Well before the product is launched, a vast array of information is collected for registration, demand planning, production planning, production, quality, finance, and distribution. Once the product is launched, master data must be maintained, including the accurate management of changes, deletions, and additions (see Figure 1).

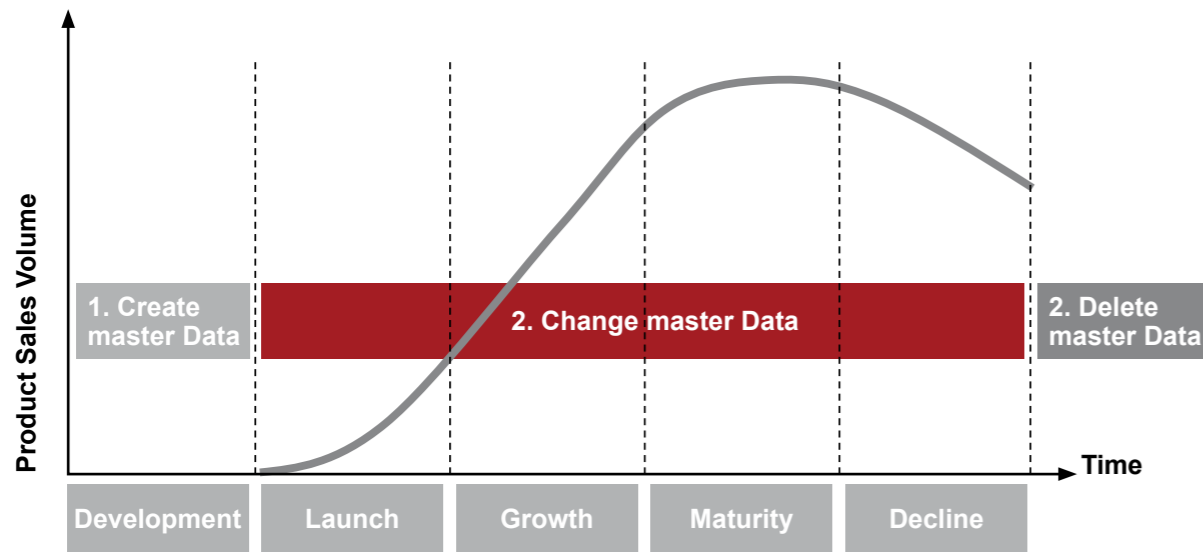


Figure 1: A typical product life cycle and associated master data activities

### Specific Challenges

The co-ordination of master data is complex. Numerous people at various levels contribute to the master data – from those who ensure content and accuracy, to those who perform general maintenance. These stakeholders can be spread across the entire organization – at R&D sites, regional or corporate logistics centers, financial shared service centers, sales branches, and manufacturing plants. Life Science companies must be aware of the potential risk associated with issues or delays with master data creation including delayed or even missed product launches.

In addition, master data can contain errors. This can lead to inaccuracies further downstream, leading to costly delays and missed opportunities. Life science companies should be constantly striving to implement better processes and improve the organization in order to mitigate this risk.

	Product Complexity	Data Fields	Work time per stock item
<b>Creation</b>	Med – High	180 – 300	5 hrs – 20 hrs
<b>Change</b>	Med – High	1	30 min – 90 min
<b>Creation</b>	Low	80 – 110	30 min – 2 hrs
<b>Change</b>	Low	1	10 min – 20 min

Table 1: Effort requirements for master data creation and maintenance



Life Science companies have a good grasp of the challenges they face in managing master data. A survey of these firms asked them to rank these hurdles (see Figure 2).

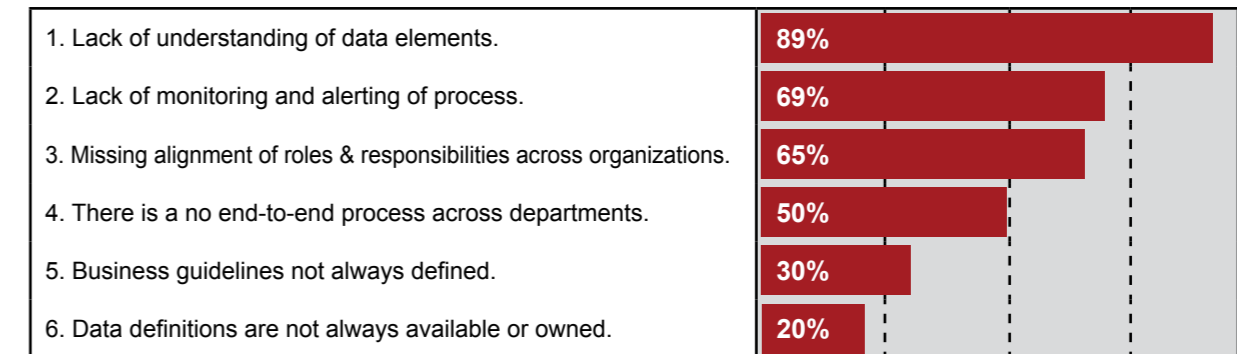


Figure 2: The challenges of master data management, as ranked by global Life Sciences companies

## Best Practice Model for Master Data Governance

Every Life Sciences company faces unique challenges. Yet the first steps in addressing the challenges of Master Data Management are common to all – analyze your organization's current practices, clarify your pain points and needs, and define a new model for Master Data Governance (MDG). In practice a company should validate their pain points, issues and needs through a Master Data Management project. There should be a key business objective to create accurate, compliant, on-hand master data resulting in a significant reduction in costs for master data management.

The integrated process should span across all departments covering all stages of the product lifecycle.

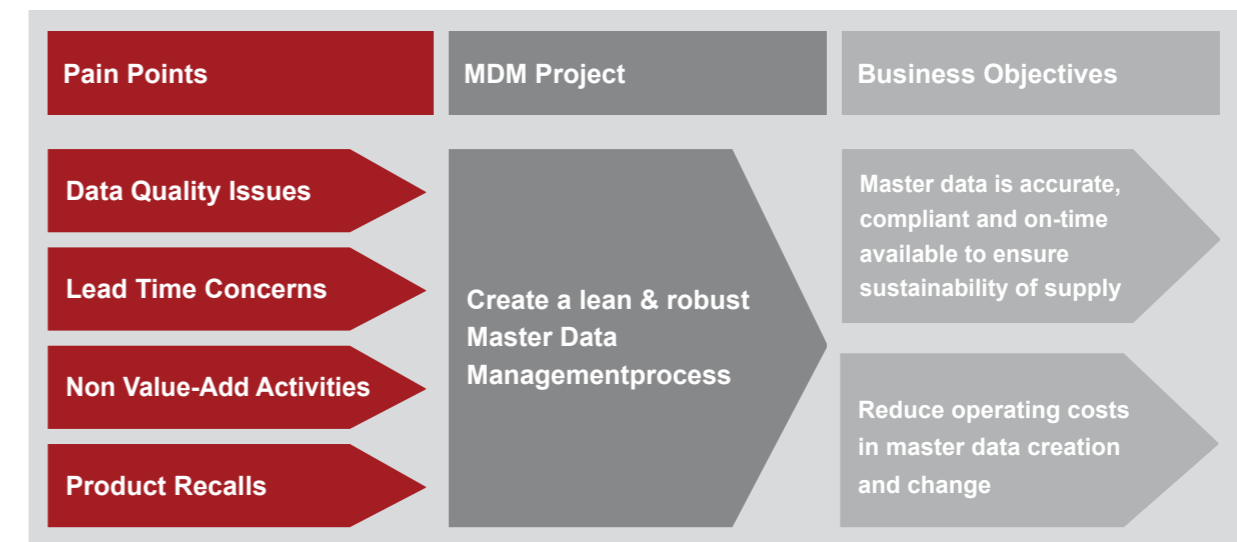


Figure 3: Typical pain points that lead to the introduction of a Master Data Management process



## Master Data Governance Model

When building a model for Master Data Governance, there are many different factors to consider. An effective model will have each of the following factors included:

### Prioritize

Give Master Data the right priority and commit to the development of a more effective MDM process.

### Own

Appoint one senior person to manage the process, end to end. This role will collaborate with all other departments, such as development, manufacturing, quality assurance, regulatory, finance, and logistics.

### Clarify

Establish clear roles and responsibilities at local, regional, and global levels. Balance needs for centralization against the need for flexibility and efficiency

### Define

Determine the right level of information. Reduce irrelevant, redundant and inaccurate information

### Assign

Ensure that the right people throughout the organization are managing the data and trained accordingly.

### Stage Processes

Create and modify master data using a staged approach: upstream processes like forecasting must be executed at an early stage

### Attention

Specific processes like Technology Transfer (change sites) need extra attention

### Support

Reliable work processes with triggers and timing agreements.

### Measure

Incorporate process performance measurements for Master Data Management processes.

From our experience we have determined that the needs of many Life Sciences companies are converging. After gaining insight into the issues being faced by the company we can then identify high level needs to build a best practice model for Master Data Governance.

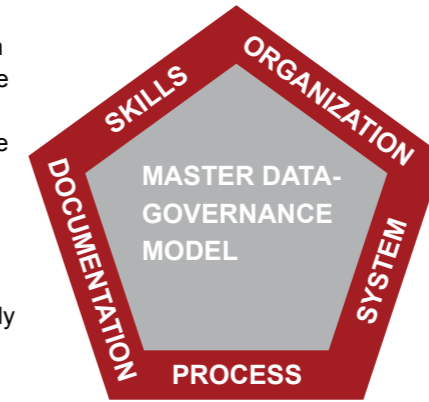
The Life Sciences Master Data Governance model needs to be balanced around 5 dimensions (see Figure 4). The overall performance of the model will be as weak as the lowest performance of all dimensions. When each of these dimensions is in balance overall performance improves dramatically.

### SKILLS

- Involved people are fully trained in order to have a sound knowledge of the Master Data Management process, the organization and the data elements

### DOCUMENTATION

- All processes and roles are clearly documented in global manuals
- Processes and roles are documented



### PROCESS

- Harmonized processes exist for the MDM organization across sites and regional/global departments
- The processes are integrated across all regional/global organizations
- The processes are followed up by ways of clear Key Performance Indicators

### ORGANIZATION

- All roles in the processes and the data elements are clearly defined
- Roles are harmonized across the regions and globally

### SYSTEMS

- Enable parallel working for data creation
- Handle all triggers and performs checks on the process automatically
- Master data functionality uploads data to different transactional systems

Figure 4: When each of these dimensions is in balance, overall MDM performance improves dramatically

With an effective and balanced Master Data Governance model in place companies can then look for opportunities to leverage technology to further streamline and improve master data processes.

## How SAP Technology Can Help

Once the Master Data Governance model is in place, the right technology can further streamline and enhance the Master Data Management process. The client case below illustrates the improvements of a master data solution that can be achieved in a heterogeneous system environment.

The challenge: A global pharmaceutical company was running their product portfolio management and product launch processes in a home grown system (non ERP / non SAP based), with master data spread across several systems. Best of breed and legacy tools were used for marketing processes like artwork for packaging, print publishing and catalogue management. Even the code generation was triggered from a non-ERP based system. This highly heterogeneous landscape resulted in numerous interfaces, redundant data, and inefficiency.

The solution: Store all data for all processes in a single tool focused solely on Master Data Management. Provide users a single point of entry for data and processes, easily accessible via a portal or web-enabled user interface. A phased implementation approach resulted in the end-state architecture in Figure 6.

The result: The solution resulted in fewer interfaces, non redundant data and streamlined processes which are highly integrated into the overall landscape. Data is now harmonized and independently distributed to target systems. The architecture has also allowed the organization to benefit the integration of internal and external web services.

### ▪ Data Roles

Different user groups can access the single point of truth with dedicated authorization roles. Every user can see the content and data relevant for him.

### ▪ Data Access

The access is organized using portal technology. This technology enables access to the modular based structure on different business processes like product development, global master data, etc. The access can incorporate different systems as well as external web services.

### ▪ Data & Process Management

The data layer represents the MDM hub. In this hub the consistent corporate data model is hosted. The corporate data model ensures that the process orchestration of a cross-system workflow works as well as the feasibility of data access to the different roles.

### ▪ Data Integration

The data integration exchanges the data between the MDM hub and the different business applications like Product Lifecycle Management, ERP, Data Warehousing and other tools which are utilizing the master data. A middleware based on standard web services supports a fast integration.

Experience has shown that a heterogeneous complex system environment requires a central repository for master data functionality with web access and easy distribution & workflow functionality.

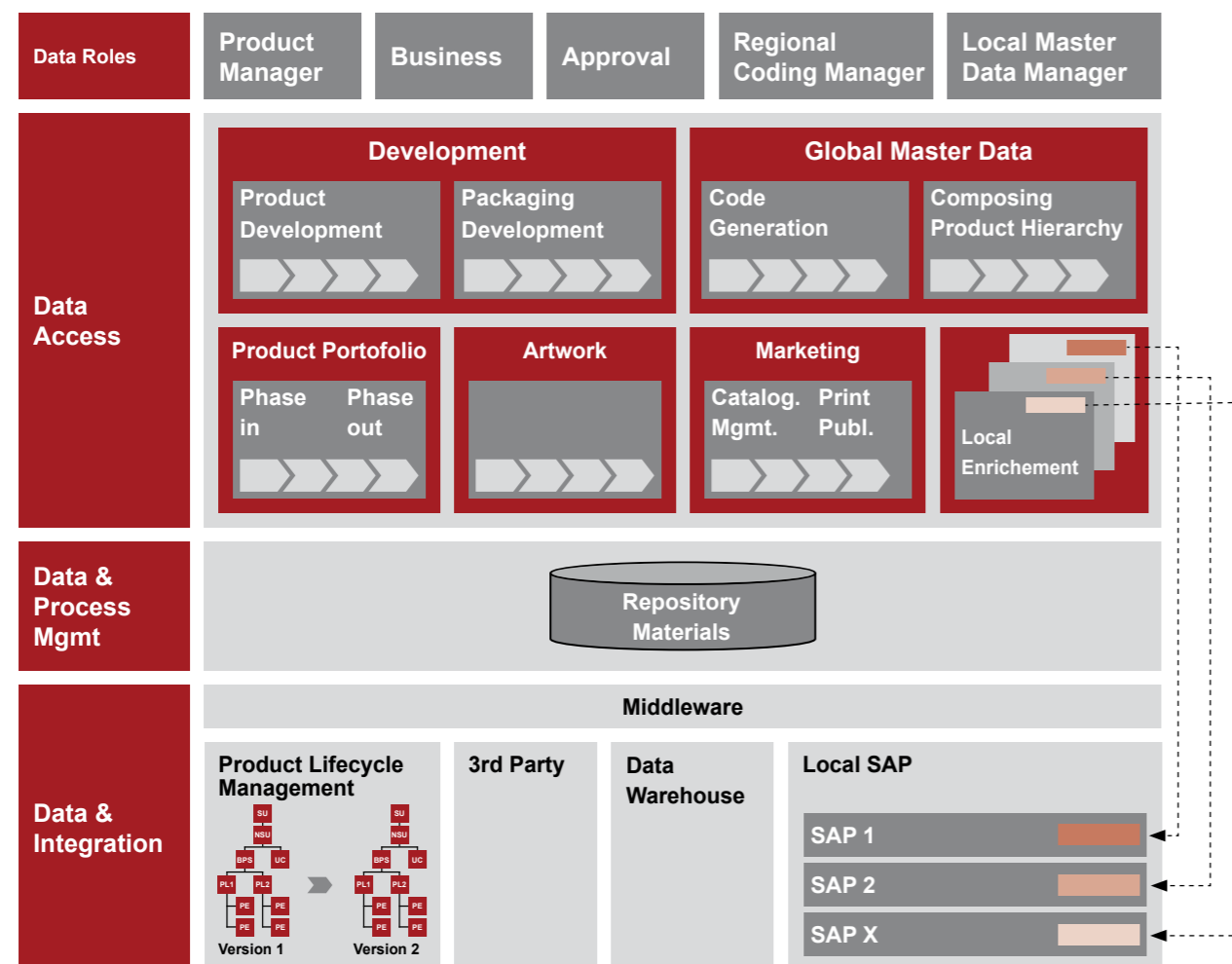


Figure 5: A central repository for master data improves accuracy and process efficiency

## Conclusion

Life Sciences companies face significant Master Data Management challenges. With distributed organizations and systems, there is much room for improvement. Process excellence is achieved by analyzing current practices, identifying needs, and developing a Master Data Governance model. The Master data governance model needs to ensure the process for managing master data is adequately defined, including all departments, all systems and all roles involved in maintaining the data. The people in all relevant roles across the organization need to be trained on the process and the process needs to be well documented.

Once the governance model is in place, an SAP system can dramatically streamline and improve the Master Data Management process, increasing efficiency and reducing costs. The result is an integrated process spanning all departments and covering all stages of a product's life cycle and ensuring data is maintained at the right time.

## Authors

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Michael has been involved in SAP enabled business transformation programs for more than 15 years mainly in the Life Sciences industry. In his client delivery role he supports clients in ERP Transformation programs, ERP strategy, organization design and master data initiatives.



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Before Geert worked as a consultant, he gained a broad experience in the Electronics and Machine industry in supply chain functions and he was responsible for various change and performance improvement projects in an international context. Geert has 11 years consulting experience, mainly into supply chain management projects in logistics centers, manufacturing plants and distribution. Geert is focusing both on innovative Life Sciences SAP projects and on SCM transformation projects.



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Prior to working as a consultant Colin spent 5 years in the Pharmaceutical industry working as a Clinical Research Associate. For the last 10 years Colin has worked as an SAP and Management Consultant primarily focused in Pharmaceutical and CPG industries. Colin SAP expertise is in Sales & Distribution and Project Management.



Lodestone is a global management consultancy, committed to designing and delivering solutions that enable companies to thrive in today's complex business environment. Lodestone has developed significant experience and expertise in Master Data Management and has a proven track record in delivering solutions to global Life Sciences companies.

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