

SOLUTION ENABLEMENT

Product MDM for Retail

Release 9.2-MP3 (October 25, 2019)

Table of Contents

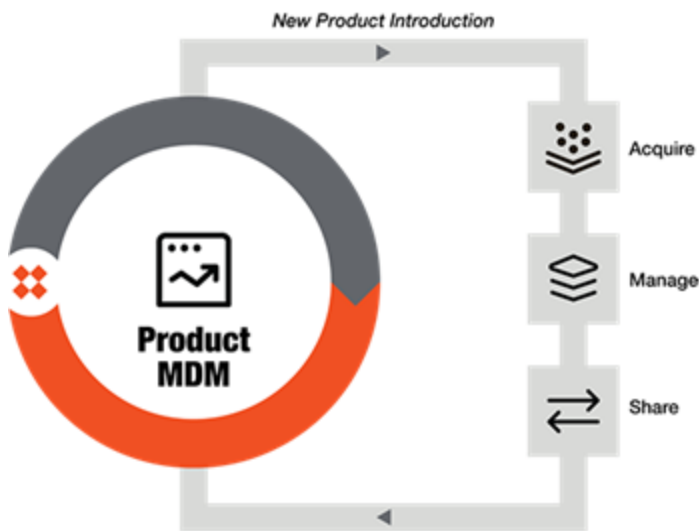
Table of Contents	2
Product MDM for Retail	4
PMDM for Retail Getting Started	4
Product Content Management Module	4
Product Content Management Module Configuration	5
PMDM for Retail Key Actors	6
Retailer's Actors	6
PMDM for Retail Products and Product Data	8
Buy Side and Sell Side	9
Product Data	11
Product Hierarchy and Classification	11
Product Distribution Channels	13
PMDM for Retail Product Lifecycle	14
PMDM and an ERP	15
Product Content Management 'Govern' Activity	17
Data Steward	17
Maintain the ERP and PMDM Classification Mapping	17
Attributes and LOV Data Governance	18
Product Content Management 'Acquire' Activity	20
'Acquire' Activity - Common STEP Workflow	21
Workflow Status Flag	21
SKU ID	21
ERP Product Classification	21
'Acquire' Activity - Create Products in Web UI	22
Create a Single Product	22

Create Multiple Products	24
Create Families and Variants	26
'Acquire' Activity - Create Products via Excel Smartsheet	30
'Acquire' Activity - Create Products via IIEP	34
Product Content Management 'Manage' Activity	35
Enrich Product Data Action	35
Review and enrichment actions by role	36
Review and enrichment action process	37
Collaboration Action	39
Product Content Management 'Share' Activity	43

Product MDM for Retail

Each business is different—your processes, your products, your organization. Implementing a PMDM (Stibo Systems' Product Master Data Management solution) raises lots of questions and can seem challenging.

As PMDM multi-domain specialists, Stibo Systems has studied customers' business processes and configurations and has identified patterns that frequently occur in the retail industry. The big picture of 'PMDM for Retail' is focused on data, and as the 'source of truth' for data, MDM is at the heart of data governance.



Important: 'PMDM for Retail' is a starter pack that allows you to bootstrap your PMDM project. This is a ready-to-use solution, based on the most commonly-observed features in the market, and it can be customized to meet your requirements.

PMDM for Retail Getting Started

PMDM for Retail is organized as modules. This allows you to start with just a few modules / components, and as your PMDM solution grows, additional modules / components can be added.

The following topics are the first that you should read to understand the basics of PMDM for Retail:

- PMDM for Retail Key Actors
- PMDM for Retail Products and Product Data
- PMDM for Retail Product Lifecycle

Product Content Management Module

The following topics explain the activities managed by the 'Product Content Management' module included in PMDM for Retail as displayed in the image above:





- Product Content Management 'Govern' Activity
- Product Content Management 'Acquire' Activity
- Product Content Management 'Manage' Activity
- Product Content Management 'Share' Activity

Product Content Management Module Configuration

Contact your Stibo Systems account manager or partner manager for information and guidance on configuring the Product Content Management Module. Prior to installing, see the **Business Module Manager** topic within the **System Setup / Super User Guide** documentation.

PMDM for Retail Key Actors



PMDM for Retail is a solution that manages product data across your company. But who creates, enriches, and classifies this product data? Even if the answer varies for each organization, the following standard actors are typically involved in Master Data Management.





	User	Role
	Retailer	Buys products from suppliers and sells them to customers.
	Supplier / Vendor	Sells products to retailers.
	Data Provider	Produces product data as a service.
	Customer	Buys products from the retailer.

The retail's actors are discussed below.




Retailer's Actors

From the retailer's perspective, the following tables show the users and roles involved in the PMDM for Retail solution.

	User	Role
	Buyer	Negotiates and buys products from the supplier.
	Quality Assurance Expert	Ensures the quality of the data.

	User	Role
	Marketing Specialist	Writes copy and manages the product's marketing data.
	Image Specialist	Maintains the images and assets of the product.
	Warehouse Specialist	Manages warehouse-specific product data.
	Data Steward	Manages category-specific attributes, LOVs, primary product hierarchy, and classifications.

Technically, MDM also involves machine-to-machine (M2M), where exchange and automation happen between the systems. This means the external systems must also be considered as actors.

	System	Role
	ERP	Optionally sends data to STEP, including a unique SKU ID, and a value used to classify the product automatically (the 'ERP line' attribute).
	STEP	Master Data Management
	Ecommerce platform	Receives the MDM product data to be used on Ecommerce channels.

PMDM for Retail Products and Product Data

A product is an item that you, the retailer, buys from a supplier, and that you sell to a customer. In PMDM terminology, it can be called a 'sell side product' or 'sell side item.'



Note: The Product Content Management module of the PMDM for Retail module only deals with the sell side products.

Various types of products should be considered:

- **Products** are any of the items that you sell.



- **Variant products** are versions of a single product, such as a shirt that is available in a variety of sizes and colors.



- Other product types depend upon your data model as defined during your STEP implementation. For example:
 - Samples: items that are not sold but are distributed.
 - Kits: a repair kit that links to other products.
 - Packs: a group that contains a selection of other items.
 - Bundles: a set of products plus the installation service delivered by a specialist.

Buy Side and Sell Side

It is common practice to make a distinction between products being bought and products being sold as follows:

- The 'buy side' product is what you, the retailer, buys from a supplier.
- The 'sell side' product is what you, the retailer, sells to your customer.

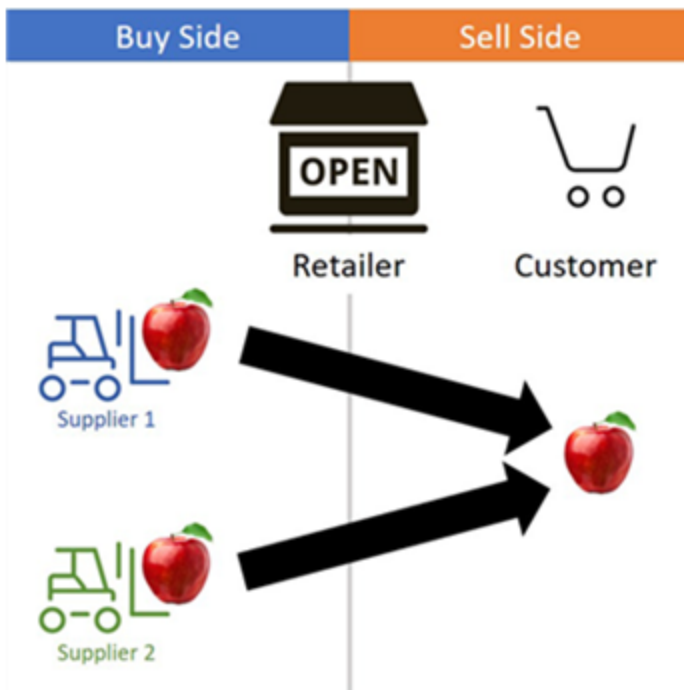


Consider the following scenarios:

- **The same product is bought and sold** - You buy a product and you sell the same product.



- **Multiple products are sold as the same product** - You buy equivalent products from several suppliers and you sell them as the same product.



- **Single product is sold as different products** - You buy one product from a supplier and you sell it as different products.



Product Data

Often the terms 'product' and 'product data' are used interchangeably. In PMDM, 'product' refers to the item being bought and sold, while 'product data' is the supporting information about the item being bought and sold.

Product data is any data that describes it: its name, identifiers (GTIN, EAN, SKU id), product description (such as GPC attributes, marketing texts), pictures, links to other products, link to a classification, etc.


Data for a product is held by the following elements:

- **Attributes** hold characteristics about the product. For more information, see the **Attributes** topic in the **System Setup / Super User Guide** documentation.
- **References** hold links to other products, such as cross sell items, up-sell items, packs, etc. For more information, see the **Reference and Link Types** topic in the **System Setup / Super User Guide** documentation.
- **Assets** are digital items such as images, specifications, instruction manuals, etc. For more information, see the **Digital Assets** documentation.

Product Hierarchy and Classification


The primary product hierarchy is a type of classification used to manage products and identify product families. For more information, see the **Product Hierarchy** section of the **Products** topic in the **Getting Started / User Guide** documentation.

The product is classified in a unique location in the Primary Product Hierarchy. GPC classification and Open classification are two types of classification 'content' that can be used, as defined below.



GPC classification allows the standard GPC attributes to be automatically attached to each relevant 'level'.

- Products
 - 1 Level Not Categorized
 - Arts/Crafts/Needlework
 - Arts/Crafts/Needlework Supplies
 - Airbrushing Supplies
 - Airbrushes (Powered)
 - Airbrushing Equipment - Replacement Parts
 - Airbrushing Supplies Other
 - Airbrushing Supplies Variety Packs
 - Artists Painting/Drawing Supplies
 - Arts/Crafts Variety Packs
 - Basketry Craft Supplies
 - Candle/Soap Craft Supplies
 - Glasswork/Enamelling/Marquetry Craft Supplies
 - Jewellery Craft Supplies
 - Needlework/Toy Making Craft Supplies
 - Paper/Card Making Craft Supplies
 - Printing Craft Supplies
 - Sculptors/Pottery Craft Supplies
 - Spinning/Weaving Craft Supplies
 - Wood Burning/Engraving Craft Supplies
 - Audio Visual/Photography
 - Automotive
 - Beauty/Personal Care/Hygiene
 - Building Products
 - Camping
 - Cleaning/Hygiene Products
 - Clothing
 - Communications
 - Computing

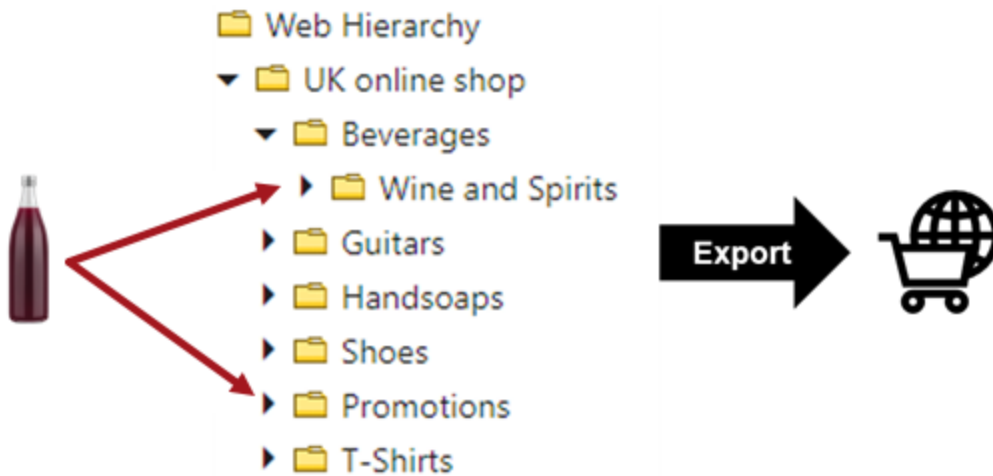


Open classification allows you to manually define the attributes needed for each node of the classification.

- Products
 - Level1
 - Level2
 - Level3
 - Level4
 - Level5
 - Level6
 - PMDM.PRD.Product
 - PMDM.PRD.ProductFamily
 - PMDM.PRD.Product
 - PMDM.PRD.Product
 - PMDM.PRD.ProductFamily
 - PMDM.PRD.Product
 - PMDM.PRD.Product
 - PMDM.PRD.ProductFamily
 - PMDM.PRD.Product
 - PMDM.PRD.Product
 - PMDM.PRD.ProductFamily
 - PMDM.PRD.Product
 - UnCatLevel1

Another classification type is the web classification, as illustrated in the 'Web Hierarchy' classification shown below. A common practice is to use an 'alternate' classification to export data to the e-commerce platform.

In the example web classification, the bottle of wine product can be placed at several locations, for instance, in the 'Wine and Spirits' folder, as well as in the 'Promotions' folder.



Product Distribution Channels

The retailer can distribute its products in different ways:

- **Directly** through its own shops (physical stores), online channels (site, app), distance selling (phone and mail, paper catalogs, TV shopping as showcases).
- **Indirectly** through marketplaces such as Amazon, eBay, Walmart, Wayfair, BOL.com, CDiscount, PriceMinister, Google Shopping, Etsy, Facebook, etc.
- **White label** for another brand. The retailer sell its own products, but with a different brand, operating this brand's channel.

Each of these 'channels' can have different assortments. For example, stores in one area will not have the same assortment as stores in another area. The products available in a physical store may not be available online (for instance, because home delivery is not possible), and vice versa. There can also be online-only products.

Multichannel or omnichannel scenarios are common practice in retail. The idea is to have a continuity of purchase experience through the different channels. The most common example is 'click and collect' where you buy a product online and pick it up in a shop. Another scenario is the other way around where you buy a product in a store and it is delivered at home. This requires the capacity to manage product data across these channels.

To cover these distribution needs, a common practice is to use one 'alternate classification' per channel, such as the 'Web Hierarchy' classification mentioned above. The retailer creates dedicated alternate classifications for each of its channels.

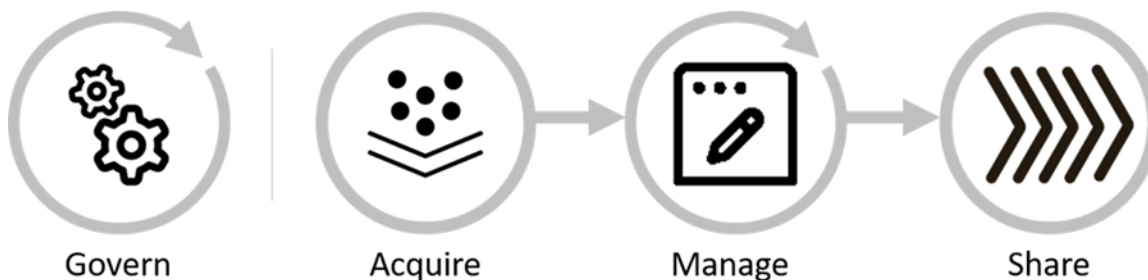
PMDM for Retail Product Lifecycle

Product data is crucial for your business. To sell efficiently, product data needs to be accurate. To sell fast, product data must be available, centralized, and controlled. With the **Product Content Management** module, the retailer can add, enrich, maintain, and publish product data directly into Stibo Systems' MDM.

Siloed, duplicated, and inaccurate product information has a strong competitive business impact on any retail business: impersonal experiences, higher product return rate, low up-sell / cross-sell conversion. Agile and fast decisions are key to support customer-centric brand experiences.

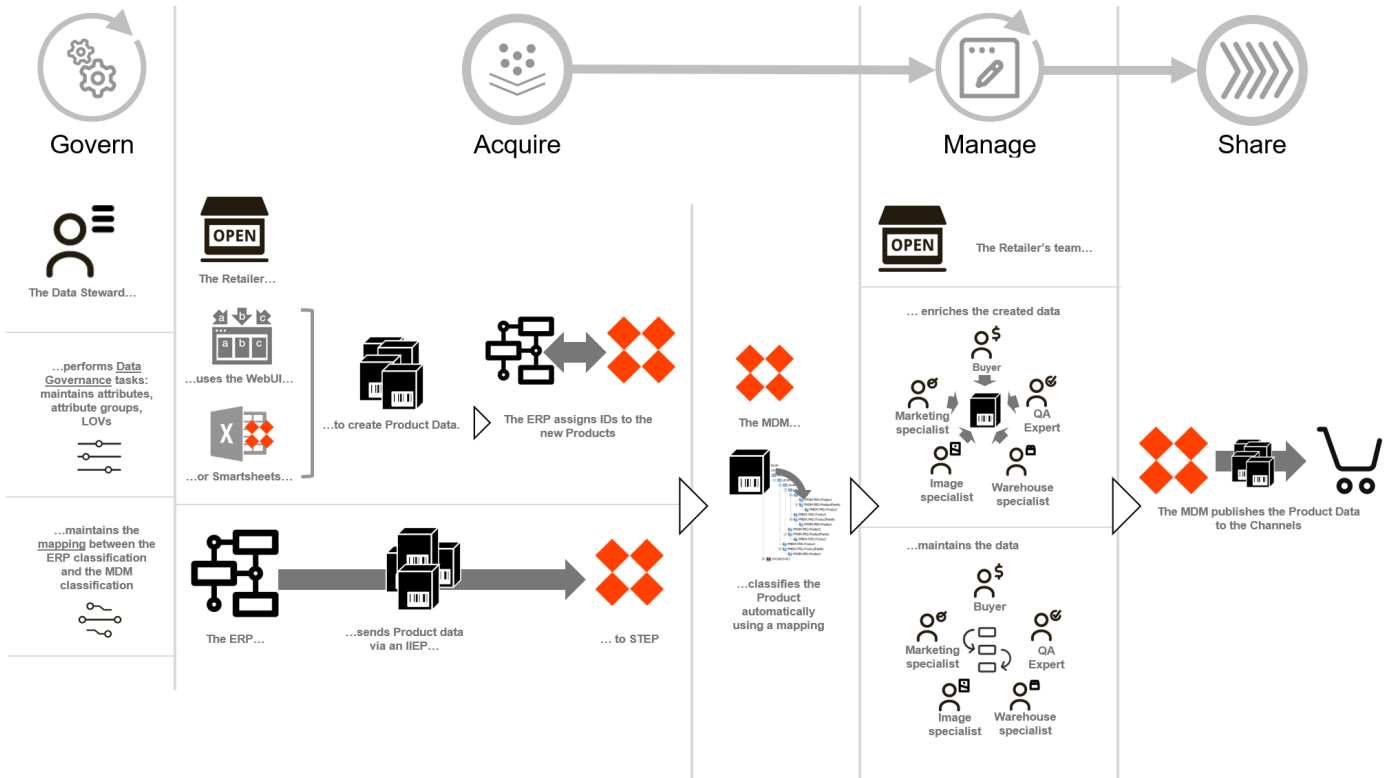
Managing accurate, up-to-date product information enables you to increase up-sell / cross-sell and to reduce the returns rate. You also gain the insight to manage products with complex hierarchies and attributes, and to fuel customers' engagement with products, create customer retention, and drive more sales.

PMDM for Retail allows organizations to acquire, manage, and share product data from a variety of internal and external systems with their customers and value chain partners. The Product Content Management module implements this logic using a typical business process which covers the scenarios frequently encountered.



The Product Content Management module includes these activities:

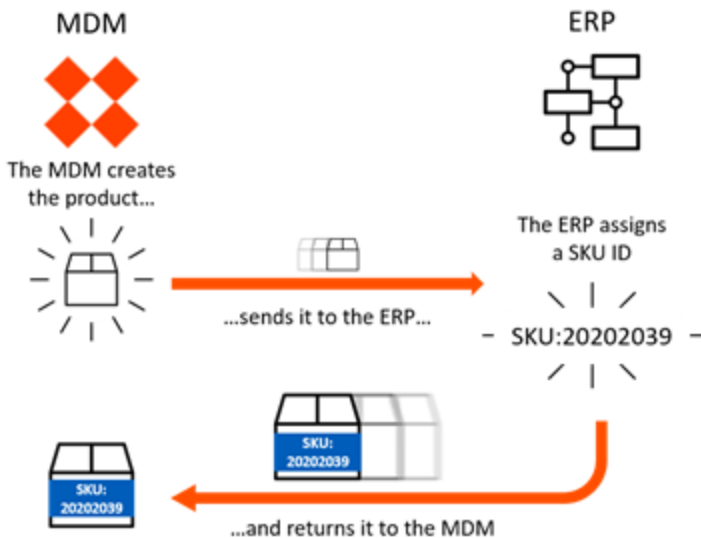
- **Govern** - maintain key elements of the data model like attributes, LOVs, and mappings
- **Acquire** - add or import product data into the MDM
- **Manage** - enrich the product data: copyright, digital assets, and warehouse data
- **Share** - export product data for users or external systems



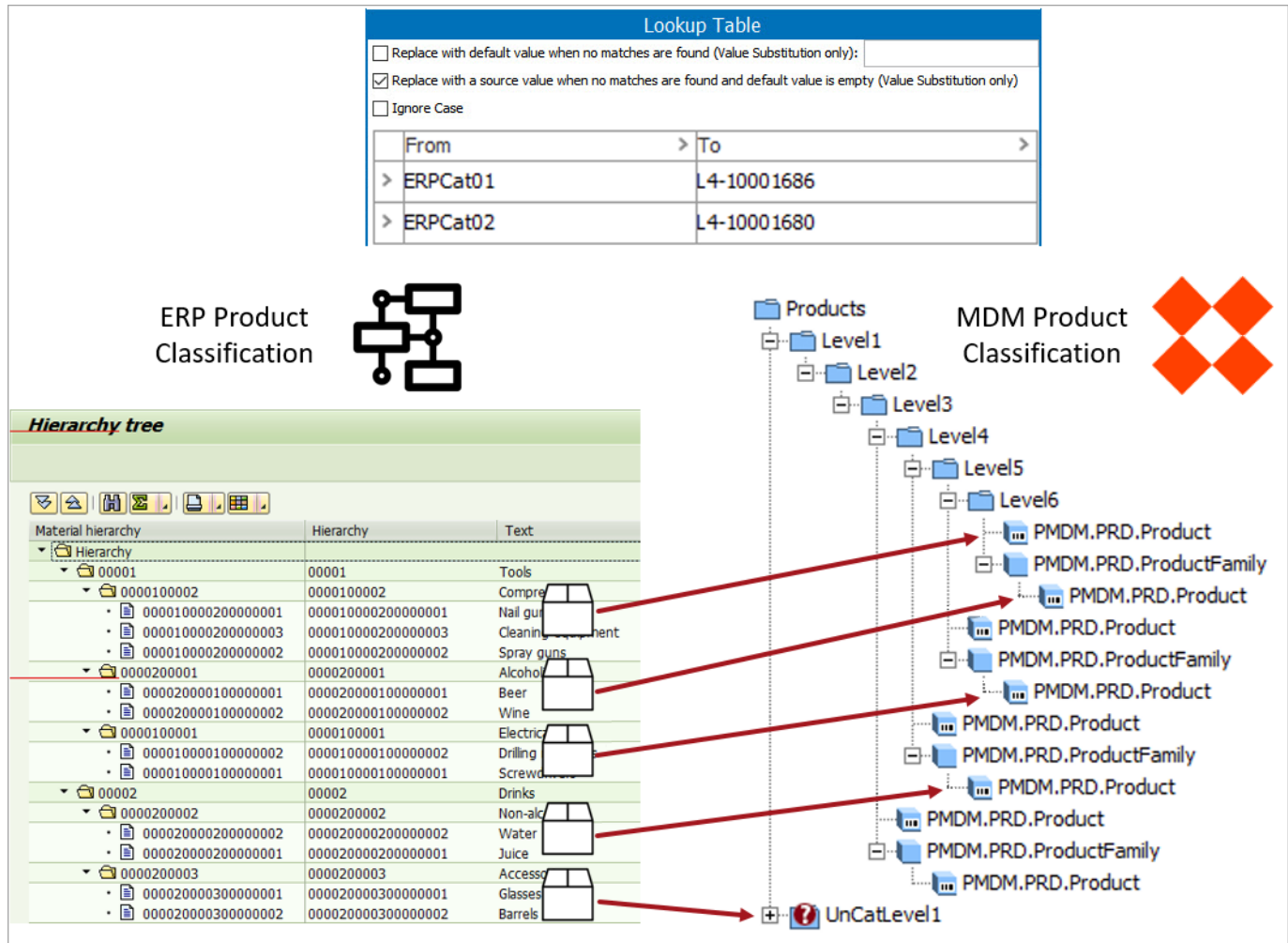
PMDM and an ERP

Frequently, STEP and an ERP (enterprise resource planning) software communicate to manage:

Attribution of a unique identifier by the ERP - The ERP holds the product identifier, also called 'SKU ID.' When a product is created in STEP directly, STEP requires an ID from the ERP.



Mapping of the ERP classification with the one of the PMDM classifications - PMDM and the ERP have specific product classifications that can differ from one another. A 'mapping' describes the classifications in PMDM that are equivalent to the ones in the ERP. This mapping is maintained by the data steward, during the 'govern' activity.



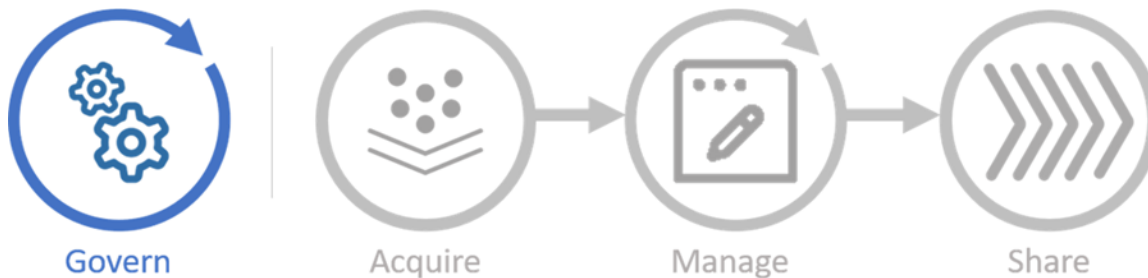
A mapping identifies a relationship between the following two attributes:

- 'ERP Product Classification (PMDM.AT.ERPLine)' attribute sent by the ERP.
- 'ExternalIdentifier (ExternalIdentifier)' attribute on the primary product hierarchy node to which the product must be attached.

This mapping is maintained in the 'ERP To PMDM Mapping (PMDM.LUT.ERPToPMDMMapping)' lookup table.

Product Content Management 'Govern' Activity

The Product Content Management module includes the Govern, Acquire, Manage, and Share activities.



Data Steward

The data steward:



- maintains the mapping between the ERP classification and the MDM classification.
- performs Data Governance tasks to maintain attributes, attribute groups, and LOVs.

Each of these tasks are defined below.

Maintain the ERP and PMDM Classification Mapping

Within the Product Content Management module, the 'govern' activity includes defining and maintaining a mapping between the ERP and PMDM. This task is usually performed by the data steward.

The product is automatically classified in the primary product hierarchy using a value ('ERP line') provided by the ERP. And it is also possible to classify products directly in STEP.

Applying automatic classifications requires a mapping between the 'ERP line' code, provided by the ERP, and a unique identifier of a node (a level) in the primary product hierarchy. This identifier is the attribute 'External Identifier (ExternalIdentifier)'.

This mapping is served by a Transformation Lookup Table (PMDM.LUT.ERPToPMDMMapping) and must be maintained in the workbench.

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Tree <

Product Creation Workflow

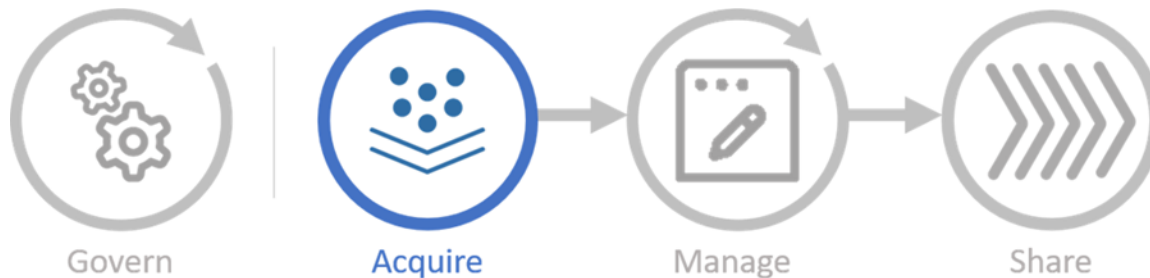
Collaboration Workflow

Data Governance

- Attributes
 - ▶ Category Specific Attributes
 - ▶ Product Maintenance
 - ▶ Asset Metadata
 - ▶ Web Category Attributes
- List of Values
 - ▶ GPC LOVs
 - ▶ Product Attribute LOVs

Product Content Management 'Acquire' Activity

The Product Content Management module includes the Govern, Acquire, Manage, and Share activities.



Within the Product Content Management module, the 'acquire' activity is performed by the buyer working with the sell side products.

Product data can be created via the following activities and is defined below:

- In STEP Web UI by the retailer.
- With an Excel Smartsheet by the retailer.
- From the ERP via an inbound integration endpoint (IIEP).

Regardless of the method used to create product data, a unique Product Creation Workflow is executed. Among other things, the workflow communicates with the ERP and performs the following tasks (see the **PMDM and an ERP** section of the **PMDM for Retail Product Lifecycle** topic):

- Requests the SKU ID from the ERP: a common scenario in retail is that the ERP holds SKU identifiers. This logic is included in the process.
- Automatically classifies the product: implements the 'manage' activity, which consists of dispatching the enrichment and review activities of the team.

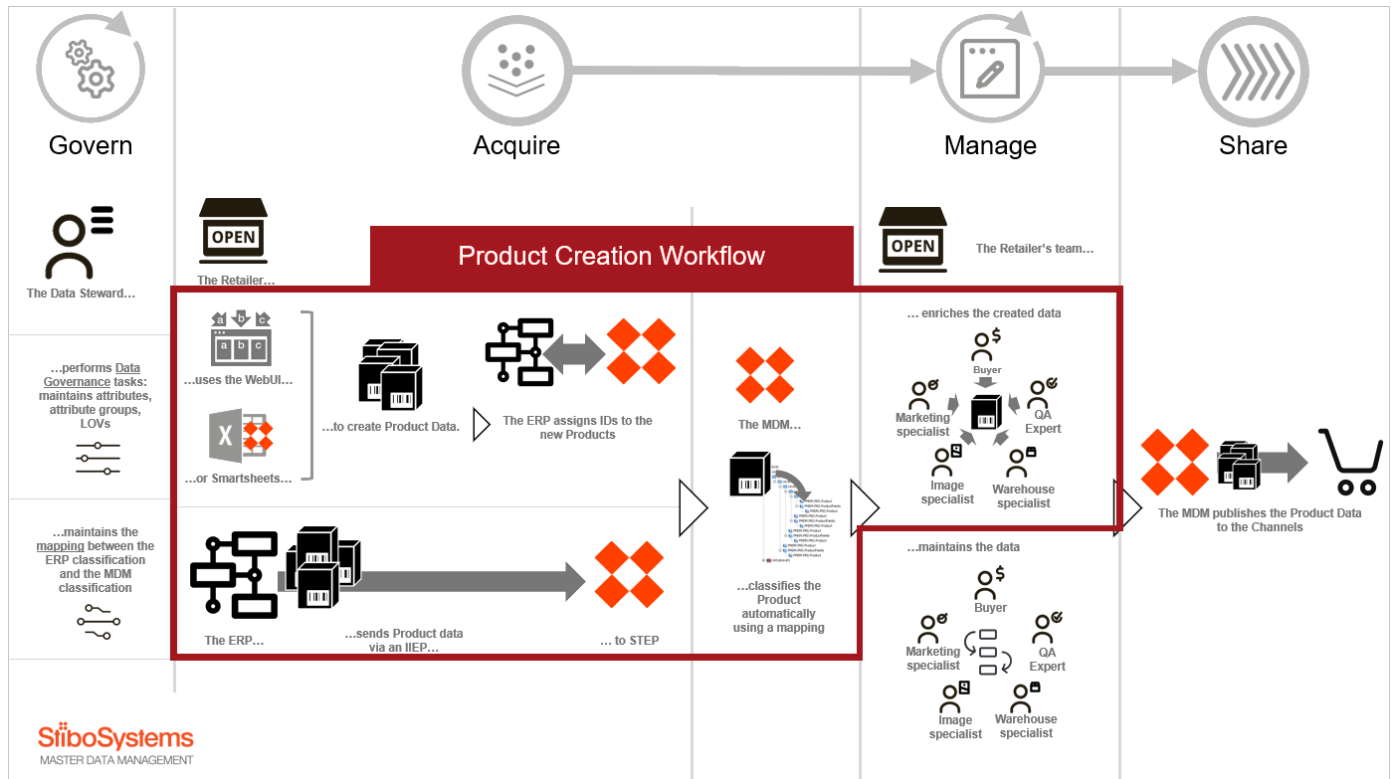
The topics that describe the 'acquire' activity include:

- 'Acquire' Activity - Common STEP Workflow
- 'Acquire' Activity - Create Products in Web UI
- 'Acquire' Activity - Create Products via Excel Smartsheet
- 'Acquire' Activity - Create Products via IIEP

'Acquire' Activity - Common STEP Workflow

Regardless of the method used to add a product—in the Web UI, Excel Smartsheet, or IIEP—a single STEP workflow handles the business processes in the red frame below.

For more information, see the **Workflows** documentation.



Workflow Status Flag

In a specific state, the product can be in two statuses: 'Normal' or 'High.' When a product enters the workflow, the status is set to 'Normal.' When a product is 'rejected' by the QA group, the status becomes 'High.'

SKU ID

The SKU ID is the identifier sent by the ERP for a specific product. When the product is created by the ERP, it is assumed that it has a SKU ID, in PMDM this attribute is 'SKU (PMDM.AT.SKU)'.

ERP Product Classification

Mapping identifies a relationship between the ERP and PMDM for the following two attributes:

- 'ERP Product Classification (PMDM.AT.ERPLine)' attribute sent by the ERP.
- 'ExternalIdentifier (ExternalIdentifier)' attribute on the primary product hierarchy node to which the product must be attached.

This mapping is maintained in the 'ERP To PMDM Mapping (PMDM.LUT.ERPToPMDMMapping)' lookup table.

'Acquire' Activity - Create Products in Web UI

The retailer uses the Web UI to add one or more new products in PMDM.

The methods available for adding new product using the Web UI include:

- Create a single product
- Create multiple products
- Create families and variants

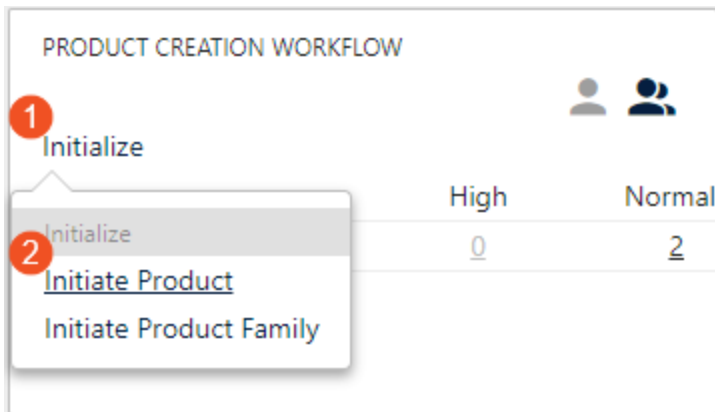
Each is defined in the sections below.

Create a Single Product



The buyer performs all steps to create a single product.

1. On the 'Product Creation Workflow' homepage widget click the **Initialize** link and click the **Initiate Product** link.



2. Supply the necessary information and click the **Create** button.

The screenshot shows the 'Initialize Product' form in the StiboSystems interface. The form includes the following fields and values:

Field	Value
Name	Lund's Apple Juice
* Parent Node	Fruit Juice - Ready to Drink (Shelf Stable)
SKU	LUND-9783598215032
GTIN	9783598215032
Short Item Description	Bottle of Lund's Apple Juice
Country of Origin	PORTUGAL

At the bottom of the form, there are two buttons: 'Create' (with a save icon) and 'Reset' (with a refresh icon).

3. Choose a method to categorize the product:

- Manually - Click the **Categorize Manually** button if the product is not already categorized in the Product Primary Hierarchy.
- Automatically - First select an 'ERP Product Category' from the dropdown and then click the **Categorize Automatically** button to align ERP Product Categorization and the PMDM Product Categorization.

The screenshot displays the StiboSystems MDM interface for a product named 'Lund's Apple Juice'. The breadcrumb trail is: Beverages > Non Alcoholic Beverages - Ready to Drink > Fruit Juice - Ready to Drink (Shelf Stable). The product details include: Name: Lund's Apple Juice, SKU: LUND-9783598215032, GTIN: 9783598215032, and a status of 'Never Approved'. A workflow diagram shows steps: Buyer Review (selected), SKU Request, Error Review, Copywriting Review, Asset Review, Warehouse Review, and Product Review. The 'Product Categorization' section asks 'Is the product categorized?' and shows a warning: 'Warning: the product is categorized in the MDM but not in the ERP. If you wish to classify it using the ERP's classification, select an 'ERP Product Category'. The dropdown menu is set to 'Fruit Juice - Ready to Drink (Shelf Stable)'. At the bottom, there are buttons for 'Add to basket', 'Save', 'Reset', 'Categorize Manually', 'Categorize Automatically', and 'Collaboration'. Red circles with numbers 1 and 2 highlight the ERP Product Category dropdown and the 'Categorize Automatically' button, respectively.

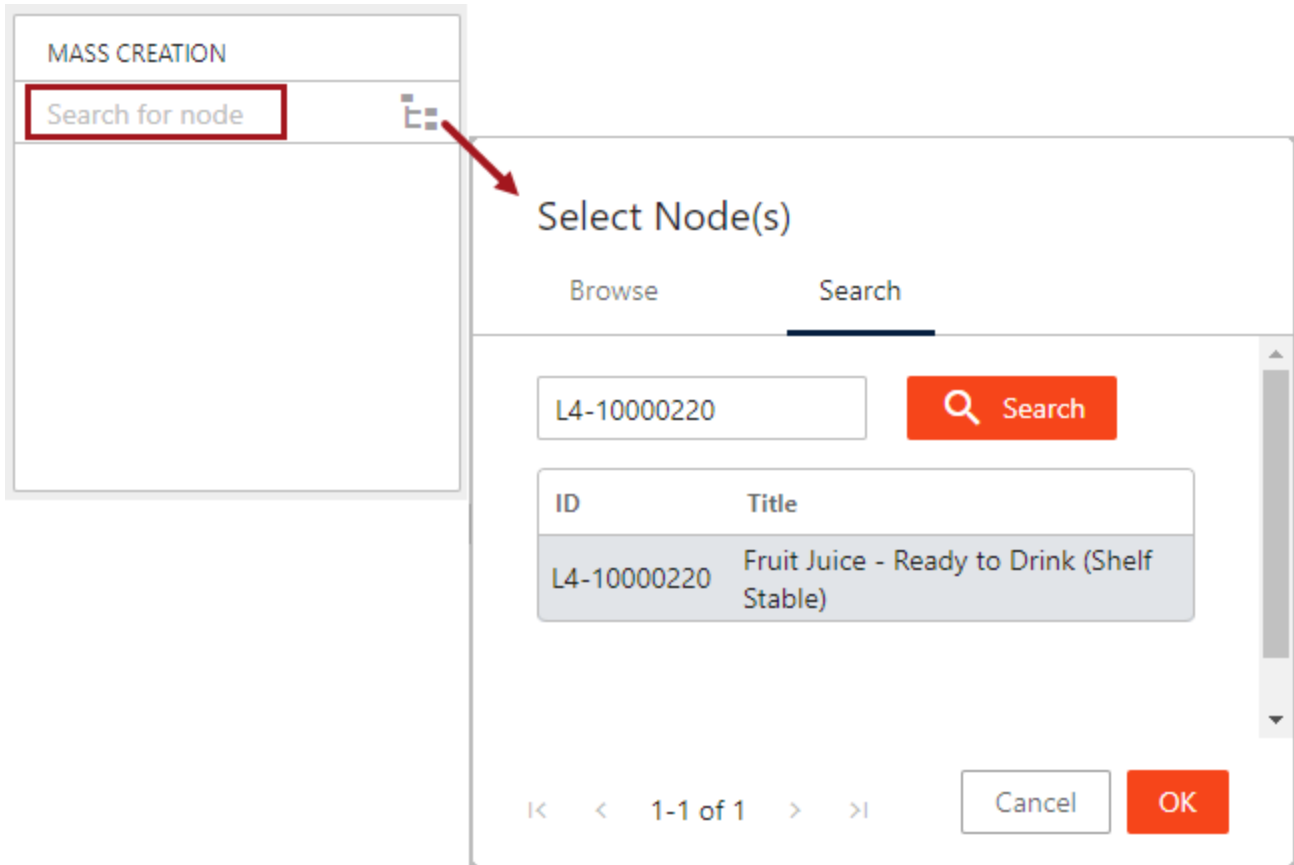
4. If desired, continue in the workflow and assign the task by clicking the **Assign to Me** or the **Assign to Group** option and then clicking the **Proceed** button. The product task can be worked.
5. Continue with the **Product Content Management 'Manage' Activity** topic.

Create Multiple Products

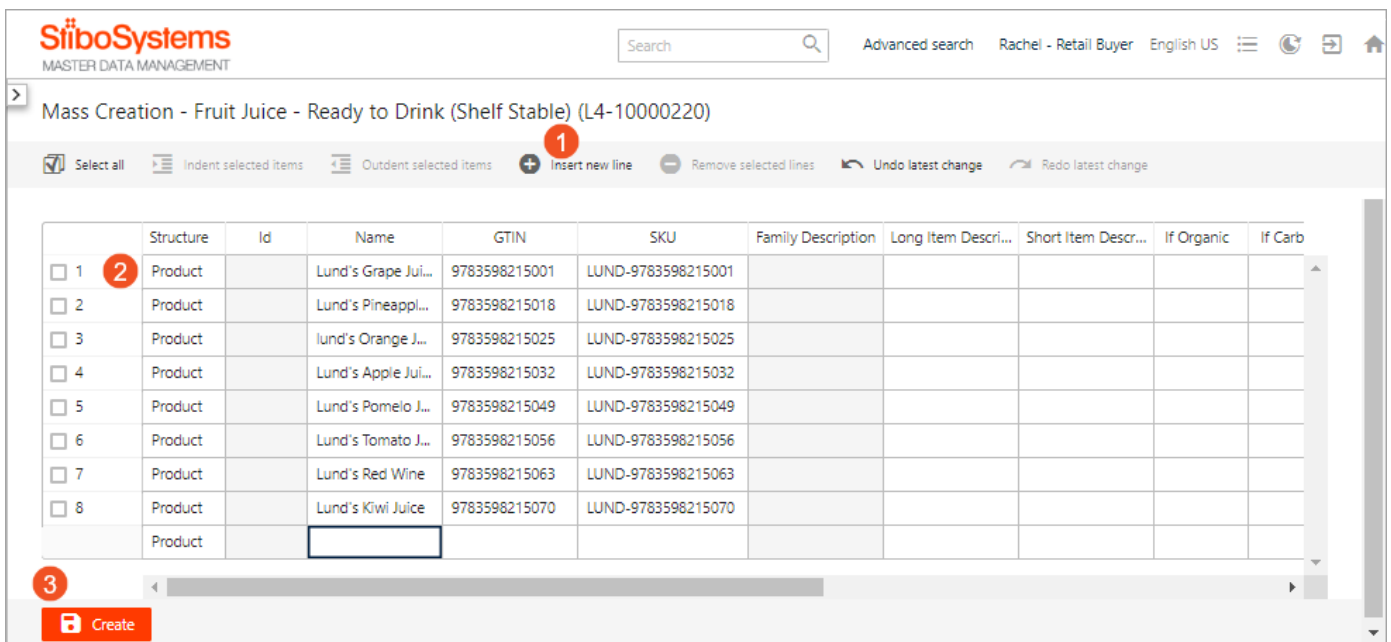


The buyer performs all steps to create multiple products.

1. On the homepage 'Mass Creation' widget, choose a method to identify the node under which the products will be created:
 - Type a node into the text box.
 - Click the hierarchy button to display the Select Nodes dialog. Use the Browse or Search option, select the node and click the **OK** button.



2. Click the **Insert new line** button and add the necessary information on the new row inserted. Repeat this step until all new products are displayed.



3. Click the **Create** button.
4. Continue with the **Product Content Management 'Manage' Activity** topic.

Create Families and Variants

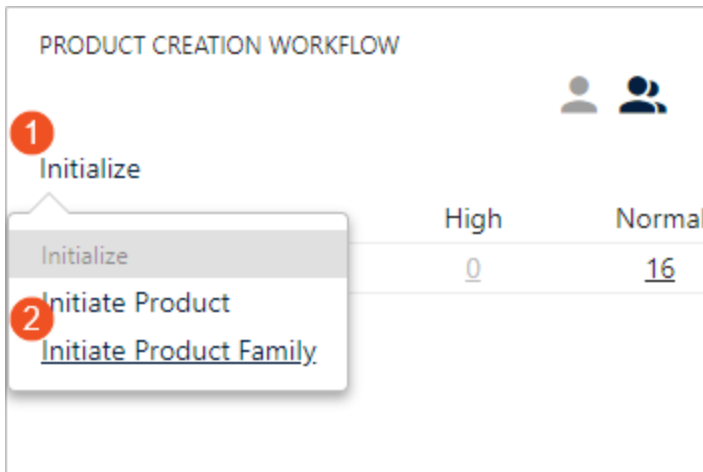
The buyer performs all steps to create families and variants.



In PMDM for Retail, a 'variant' is a product which has a 'family' for parent. The buyer must first create a family and then create as many variants as necessary.

Note: PMDM for Retail includes generic 'Size (PMDM.AT.Size)' and 'Color (PMDM.AT.Color)' attributes for variants. If GS1 also has 'size' and 'color' specific data, it can be complex to implement. The use of generic 'size' and 'color' attributes is commonly encountered.

1. On the homepage 'Product Creation Workflow' widget, click the **Initialize** link and click the **Initiate Product Family** link.



2. Add a name, select a parent node, add a family description, and click the **Create** button.

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Search Advanced search Rachel - Retail Buyer

> Initialize Product Family

Name

* Parent Node

Family Description

3. Create variants using one of the following methods:

- On the **To Do** tab, click the **Create Variants** button to display the Create Variants dialog. This method is similar to the steps described above in the **Create a single product** section.

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< 5/18 > Search Advanced search Rachel - Retail Buyer English US

Footwear > Athletic Footwear > Athletic Footwear - General Purpose

Lund's sneakers
Fam-103501 • Never Approved • 0.1 • Last edited 9 August 2019 12:15:24 UTC+2

To do Information & References Product Variant Detail Digital Assets Pricing & Cost Category Attributes Warehouse Information

Name

Product Creation Workflow
Buyer Review SKU Request Error Review Copywriting Review Asset Review

Process Notes

Message to Buyer Group

Workflow Messages

Product Categorization
Is the product categorized? The product is both categorized in the MDM and in the ERP.

ERP Product Category
This field must be populated in order to use the "Categorize Automatically" feature.

Variants Product attributes

2

No existing records

Number of items : 0

On the 'Create variants' dialog, add the variant information and click the **OK** button.

Create variants

Object type: Product

Size

Source: 37, 39

Result: 36, 38

Color

Source: Black, Blue, Gray, Red

Result:

2 variants

Cancel OK

- Select a family from the Tree, then click the **Create variants** button to create the variants.

The screenshot shows the StiboSystems interface with the following elements:

- Tree (Left):** A navigation tree with 'Lund's sneakers' selected, indicated by a red circle '1'.
- Product Details (Top):** 'Lund's sneakers' (Fam-103501) with a 'Never Approved' status and a 'Create variants' button highlighted with a red circle '2'.
- Table (Center):** A table listing the created variants with columns for Thumbnail, ID, Size, and Color.

Thumbnail	ID	Size	Color
(Prod-103510)	Prod-103510	37	Black
(Prod-103511)	Prod-103511	36	Gray
(Prod-103512)	Prod-103512	36	Black
(Prod-103549)	Prod-103549	39	
Gray sneakers	Prod-103509	37	Gray
Light blue sneakers	Prod-103555	37	Blue
- Bottom Bar:** Action buttons including 'Add to basket', 'Save', 'Save & Approve', 'Reset', 'Categorize Manually', 'Categorize Automatically', and 'Collaboration'.

On the 'Create variants' dialog, add the variant information and click the **OK** button.

Create variants

Object type: Product

Size

Source	Result
37	36
39	38

Color

Source	Result
Black	
Blue	
Gray	
Red	

2 variants

Cancel OK

'Acquire' Activity - Create Products via Excel Smartsheet

Excel is often a vital part of an organization. For example, the retailer can export an Excel Smartsheet from STEP and send it by email to a supplier. The supplier updates the Excel Smartsheet and returns it to the retailer. The retailer validates the data using the built-in STEP validation feature of the Excel Smartsheet format, and imports it into STEP. For more information, see the **Excel Smartsheet Format** topic in the **Data Exchange** documentation.

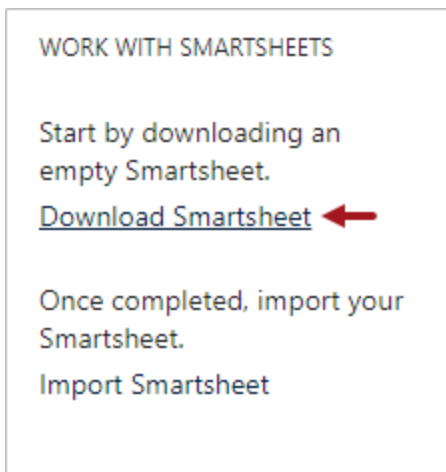


The buyer performs most of the steps to create products using Excel Smartsheet.

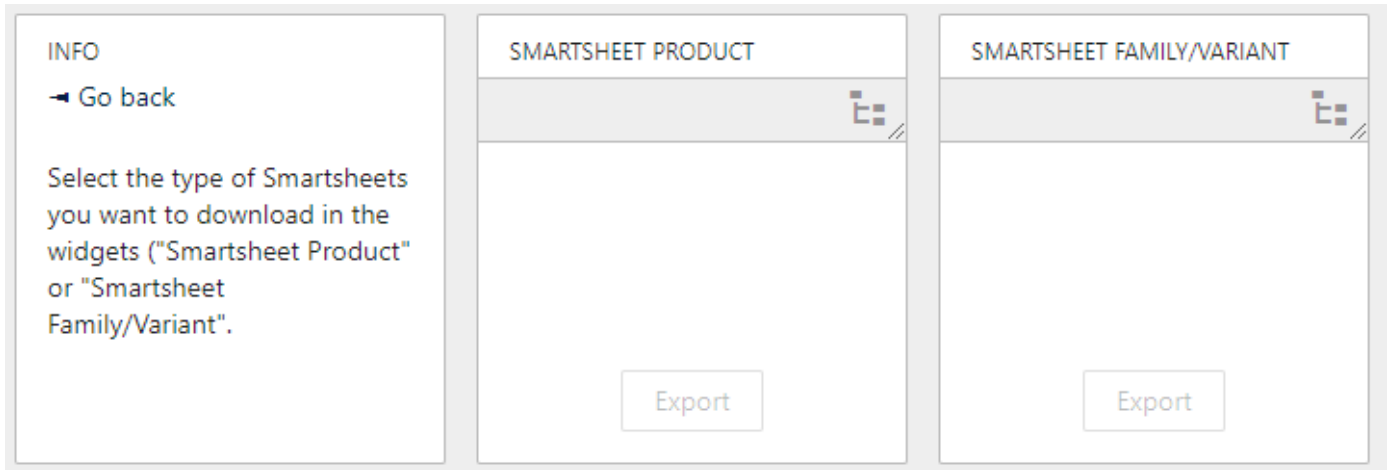


The Smartsheet user supplies data for the Excel Smartsheet.

1. On the homepage 'Work With Smartsheets' widget, click the **Download Smartsheet** link.



2. Select the appropriate widget to create products or families / variants, select a node, and export the Smartsheet.



3. On the Background Process Details page, click the background process link to download the Smartsheet.

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Search [] Advanced search Rachel - Retail Buyer English US [] [] [] []

Background Process Details

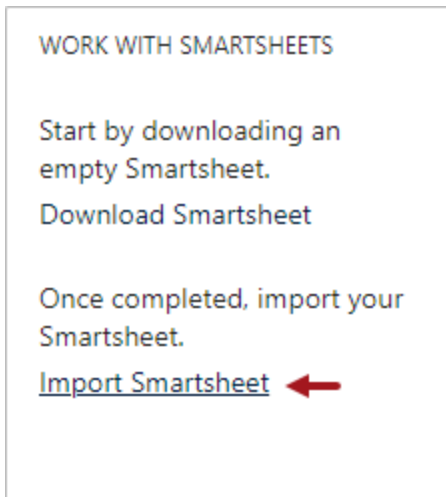
ID: BGP_103572
 Started By: RACHEL
 Description: Smartsheet template export
 Template ID: Export Manager Pipeline
 Status: ✓ Succeeded
[Fruit Juice Ready to Drink Shelf Stable - 2019-08-09--13-06.xlsm](#) ←
 Started: 09/08/19 13:06:11
 Finished: 09/08/19 13:06:12
 Elapsed: 3 s

Export

ID	Type	Text
10	Info	Export process started (Fri Aug 09 13:06:11 CEST 2019)
20	Info	Logging on to PIM server pmdm-enablement-dev2.stibo.com as RACHEL...
30	Info	Logged on
40	Info	Analysis started. (Fri Aug 09 13:06:11 CEST 2019)
50	Info	Analyzed 1 objects from initial object selection in 0 seconds. (Fri Aug 09 13:06:11 CEST 2019)
70	Info	Analyzed 0 children objects (including aggregates) in 0 seconds. (Fri Aug 09 13:06:11 CEST 2019)

1-25 of 52

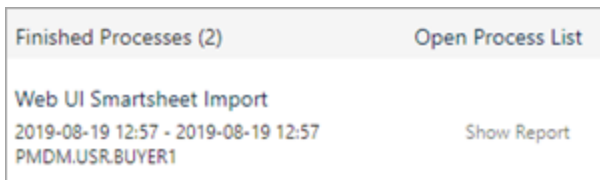
- Send the downloaded Excel Smartsheet to the Smartsheet user to complete, validate, and return to the buyer.
- On the homepage, click the **Import Smartsheet** link.



- A background process is initiated as noted in a notification similar to the one below.



- The background process is reported.



- Products are initiated into the 'Product Creation Workflow' as reported in the notifications panel.

← Web UI Smartsheet Import (100%) ↓

All (11) Errors (0) Warnings (0)

Import Started

Logged On

Started 1 objects in Workflow
'PMDM.WF.ProductCreation' (0 failed).

Started 1 objects in Workflow 'PMDM.WF.VariantHandling'
(0 failed).

Imported 1 new products, 0 new classifications, 0 new entities and 0 new assets.

Processed 0 existing products, 0 existing classifications, 0 existing entities and 0 existing assets.

Skipped 0 products, 0 classifications, 0 entities and 0 assets.

Deleted 0 products, 0 classifications, 0 entities and 0 assets.

Found 0 warnings

Found 0 errors

Import completed

'Acquire' Activity - Create Products via IIEP

Products, as well as families and variants, can be created by an inbound integration endpoint (IIEP) 'Products Inbound (PMDM.IIEP.ProductsInbound)', connected to the ERP.

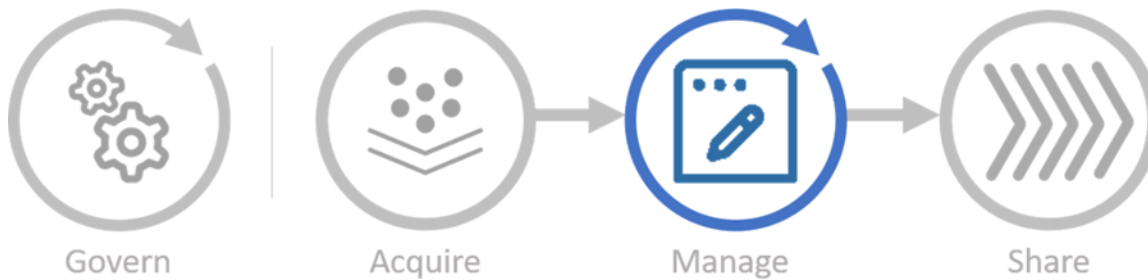


- The ERP creates product data with a few pieces of key information, one of them being the 'SKU.' The ERP generates a STEPXML file and saves it in a hot folder.
- STEP automatically imports the STEPXML file and creates and/or updates products.
- The products created already have a SKU assigned by the ERP and are initiated into the 'Product Creation Workflow.'

For more information, see the **Creating an Inbound Integration Endpoint** topic in the **Data Exchange** documentation.

Product Content Management 'Manage' Activity

The Product Content Management module includes the Govern, Acquire, Manage, and Share activities.



Two actions are included in the 'manage' activity:

- Enrich data for a newly created product in the Product Creation Workflow.
- Collaborate about any subject on a product or a family in the Product Collaboration Workflow.

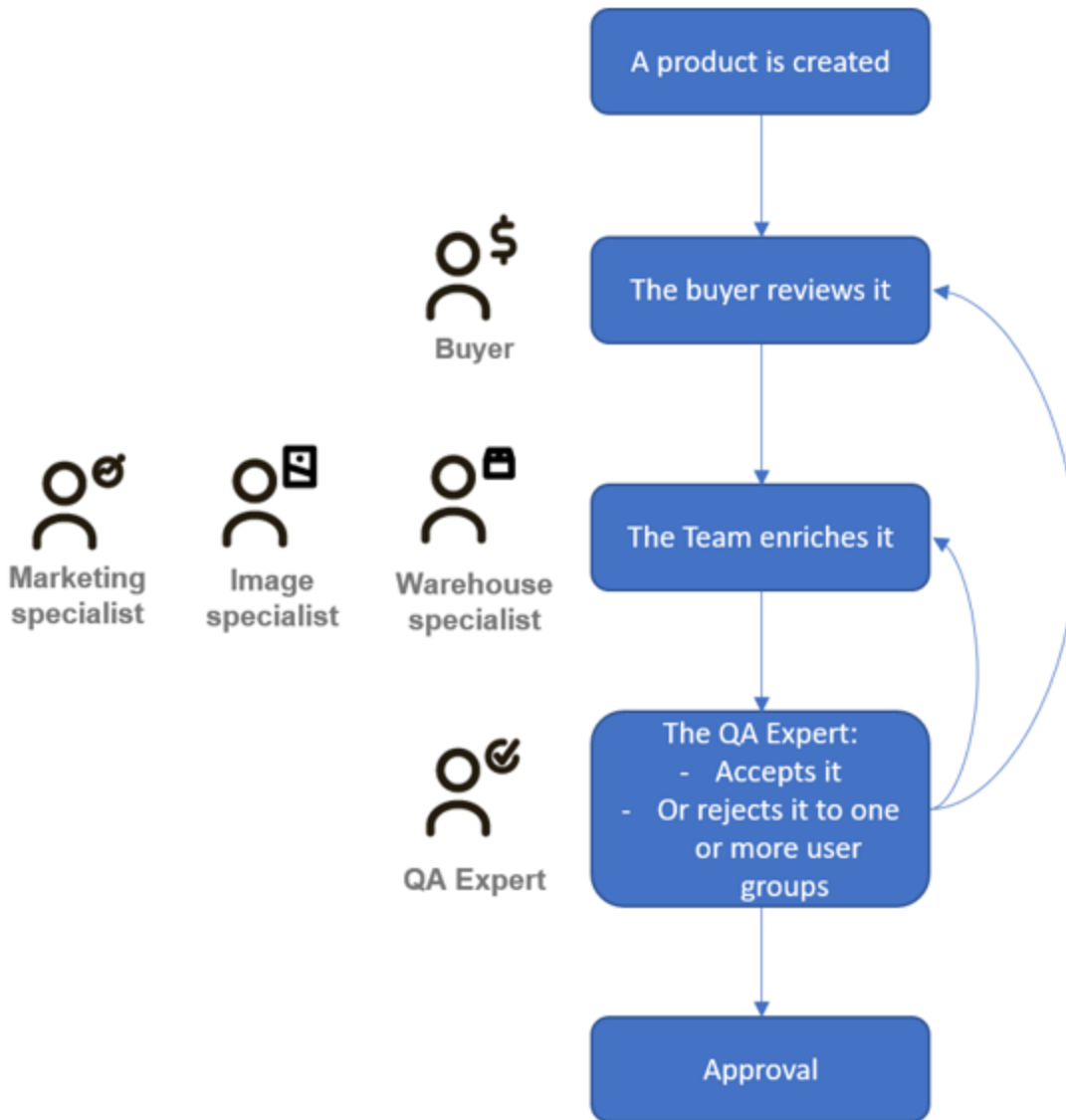
Each action is described below.

Enrich Product Data Action

Within the Product Content Management module, the 'enrich' action involves user groups for images, marketing copy, and warehouse providing the required data for the buyer's approval.

The business logic in this action is as follows:

- STEP checks if the product is classified, and if not, the product is assigned to the 'Buyer Group' for manual classification. This is repeated until the product is classified.
- The **Buyer** reviews the data. If the data is not acceptable, the task is reassigned to the previous individual user for additional data review.
- The product is reviewed and enriched by these user groups:
 - The **Marketing Copy Group** handles the 'Copy Writing' state and enriches marketing information.
 - The **Image Group** handles the 'Digital Assets' state and uploads digital assets relevant to the product.
 - The **Warehouse Group** handles the 'Warehouse Data' state and enriches warehouse data information.
- The **QA Expert** reviews all data and either accepts or rejects the product.



Review and enrichment actions by role



The Buyer reviews a newly-completed product completely before submitting it to the rest of the team.



The Marketing Specialist must assign the product to a Web Category, and should also provide additional review as necessary.



The Image Specialist must attach a Primary Product Image, and should also provide additional review as necessary, and clicks the 'Proceed' button.



The Warehouse Specialist has no required actions, as this role can vary per customer. This review can include attribute information for Base Unit Information (the package of the 'each' dimensions and weight), Country of Origin, Regulatory Information, and Packaging Hierarchy (in this module, Packaging Hierarchy are modeled as a Data Container).



The QA Expert performs the final review and validation, and then approves or rejects the product.

Review and enrichment action process

1. On the homepage in the Product Creation Workflow widget, specialists see the number of products ready for review and enrichment based on role. In this example, the Marketing Specialist clicks the link to display the 'To do' tab and the tasks in the Copywriting Review state.

PRODUCT CREATION WORKFLOW			
	High	Normal	
Copywriting Review	0	4	

2. On the To Do tab, the specialist reviews the product, focusing on the data listed, and clicks the **Assign To Me** button if editing is required. In this example, the Marketing Specialist clicks the 'Assign to me' button before providing the data for the Copywriting Review task.

The screenshot shows the StiboSystems Master Data Management interface for a product named 'Lund's Apple Juice'. The breadcrumb trail is: Beverages > Non Alcoholic Beverages - Ready to Drink > Fruit Juice - Ready to Drink (Shelf Stable). The product details include: Name: Lund's Apple Juice, SKU: LUND-9783598215032, GTIN: 9783598215032, and a primary product image of a bottle. The product creation workflow shows several review steps: Buyer Review, SKU Request, Error Review, Copywriting Review (marked with a '2'), Asset Review, Warehouse Review, and Product Review. The 'Marketing Descriptions' section is expanded, showing 'Long Item Description' and 'Short Item Description' (Bottle of Lund's Apple Juice). A table on the right lists related items, with one entry: WebCat_100599, Beverage, Website Category, Website Link. The bottom navigation bar includes buttons for 'Add to basket', 'Save', 'Reset', 'Collaboration', 'Assign To Me', and 'Proceed'.

3. After each team completes the review and enrichment, the QA Expert validates the data quality and takes one of these actions:
- **Accepts** the product, which is then automatically approved and exported, as defined in the **Product Content Management 'Share' Activity** topic.
 - **Rejects** the product and returns it to the Buyer, Copy Writing, Digital Assets, and/or Warehouse group, adding a message for the group(s).

The screenshot displays the StiboSystems Master Data Management interface for the product 'Lund's Apple Juice'. The top navigation bar includes the StiboSystems logo, a search bar with 'Lund's Apple Juice', and links for 'Advanced search', 'Calista - Quality Assurance', and 'English US'. The breadcrumb trail shows the path: 'Beverages > Non Alcoholic Beverages - Ready to Drink > Fruit Juice - Ready to Drink (Shelf Stable)'. The product name 'Lund's Apple Juice' is prominently displayed, along with its product ID 'Prod-103315', status 'Never Approved', and last edited date '21 August 2019 09:34:54 UTC+2'. Below this, there are tabs for 'To do', 'Information & References', 'Digital Assets', 'Pricing & Cost', 'Category Attributes', and 'Warehouse Information'. The main content area is divided into two columns. The left column contains product details such as Name, SKU, GTIN, and a primary product image. The right column, highlighted with a red box, contains collaboration options for four different groups: Buyer, Digital Assets, Copy Writing, and Warehouse. Each group has a 'Reject To' radio button (selected) and an 'Accept' radio button. There is also a 'Message to [Group] Group' text area and a 'User ID' field for each group. At the bottom of the interface, there are buttons for 'Add to basket', 'Save', 'Reset', 'Assign To Me', and 'Proceed'.

Collaboration Action

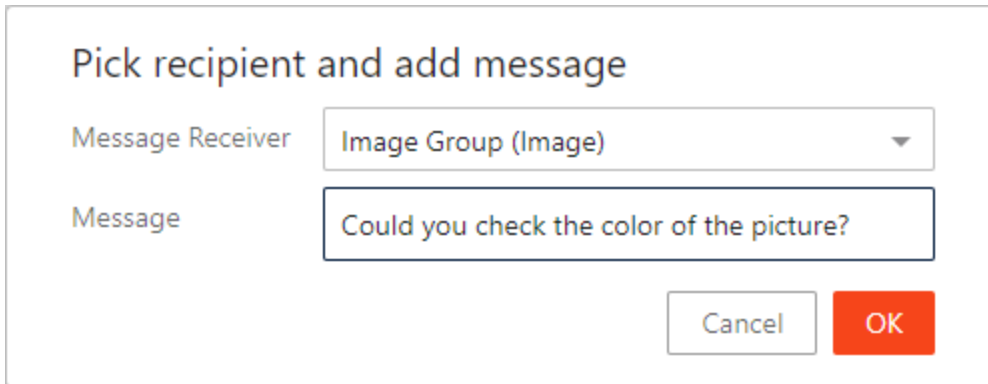
PMDM for retail integrates a Collaboration feature based on a workflow. When browsing a product page, a member of the team can forward the product to a user group with a message. Collaboration can be used to raise a question, request action from a team member, etc.

For example, consider the following process to conduct a conversation between Rachel, the buyer, and Imogen, the image specialist.

1. Buyer Rachel clicks the Collaboration button.

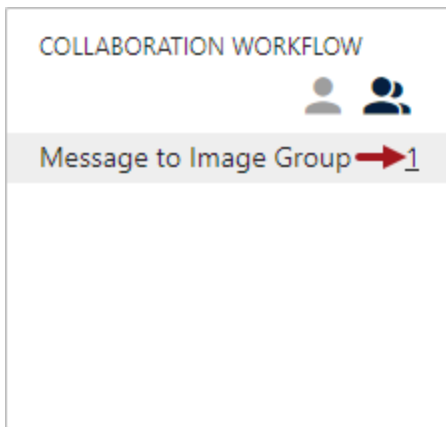


2. Buyer Rachel selects the Image Group as recipient and adds a message.



The dialog box has a title "Pick recipient and add message". It contains two input fields: "Message Receiver" with a dropdown menu showing "Image Group (Image)" and "Message" with a text input field containing "Could you check the color of the picture?". At the bottom right, there are two buttons: "Cancel" and "OK".

3. Image specialist Imogen sees there is a message for the Image Group on the homepage Collaboration Workflow widget and clicks the link.



4. Image specialist Imogen reviews the latest message in the task list.

The screenshot shows the SiiboSystems interface with the following elements:

- Header: SiiboSystems MASTER DATA MANAGEMENT, Search bar, Imogen - Digital Asset Manager, English US, and navigation icons.
- Section: Product Collaboration - Message to Image Group - Available
- Action: Select all (checked)
- Table:

ID	Title	Assignee	Assigned to me	Messages
Prod-103555	Light blue sneakers	Image Group	<input type="checkbox"/>	2019-08-09 14:01:23 Rachel - Retail Buyer → Image Group Could you check the color of the picture?

Number of items : 1

5. Image specialist Imogen uses the 'Assigned to me' header to claim the task.

The screenshot shows the SiiboSystems interface with the following elements:

- Header: SiiboSystems MASTER DATA MANAGEMENT, Search bar, Imogen - Digital Asset Manager, English US, and navigation icons.
- Section: Product Collaboration - Message to Image Group - Available
- Action: Select all (checked)
- Table:

ID	Title	Assignee	Assigned to me	Messages
Prod-103555	Light blue sneakers	Image Group	<input checked="" type="checkbox"/> ←	2019-08-09 14:01:23 Rachel - Retail Buyer → Image Group Could you check the color of the picture?

Number of items : 1

6. Image specialist Imogen views the conversation thread on the product page.

The screenshot shows the StiboSystems interface for a product named 'Light blue sneakers'. The breadcrumb trail is 'Athletic Footwear > Athletic Footwear - General Purpose > Lund's sneakers'. The product details include: Prod-103555, status 'Never Approved', version 0.2, and last edited on 9 August 2019 at 12:47:53 UTC+2. There are six tabs: 'To do' (selected), 'Information & References', 'Digital Assets', 'Pricing & Cost', 'Category Attributes', and 'Warehouse Information'. The main content area shows a table with the following data:

Name	Light blue sneakers
SKU	LUND-9783598215094
GTIN	9783598215094
Primary Product Image	
Messages	2019-08-09 14:01:23 Rachel - Retail Buyer → Image Group Could you check the color of the picture?

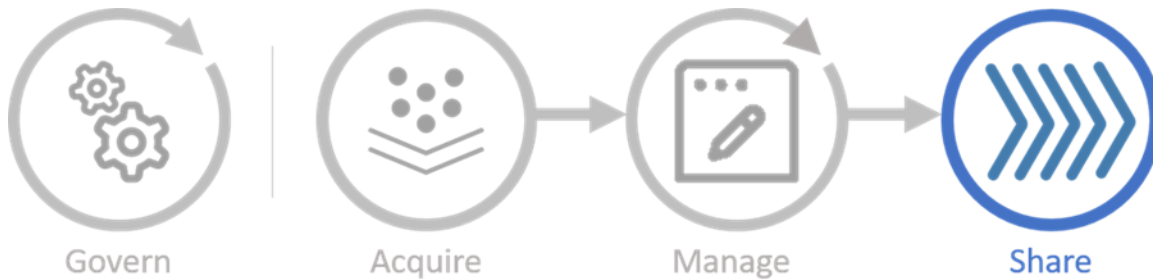
At the bottom, there is a row of action buttons: 'Add to basket', 'Save', 'Save & Approve', 'Reset', 'Collaboration', 'Release Task', and 'End Collaboration'.

7. Image specialist Imogen can perform the following actions:

- Continue the conversation by adding a new message and clicking the **Collaboration** button.
- Click the **Release Task** button to remove the current assignment so that someone else in the group can work the task.
- Click the **End Collaboration** button to finish the conversation.

Product Content Management 'Share' Activity

The Product Content Management module includes the Govern, Acquire, Manage, and Share activities.



Within the Product Content Management module, the 'share' activity includes an outbound integration endpoint (OIEP) that exports data in the STEPXML format to a hotfolder. The targeted system then imports the data and processes it.

The OIEP 'Products Outbound (PMDM.OIEP.ProductOutbound)' is triggered on each approval.



For more information, see the **Outbound Integration Endpoints** topic in the **Data Exchange** documentation.