

ROYAL PINES RESORT  
GOLD COAST  
**11-12 NOVEMBER 2024**

## Streamlining Success:

**How Fortescue Transformed Material Creation and  
Inventory Optimization with MDO**

**Noel Kenny**

Superintendent : Materials Management. Fortescue

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Fortescue





Empowering your business  
with **Data**  
**Quality** and **Data**  
**Integrity**

# Streamlining Success: How Fortescue Transformed Material Creation and Inventory Optimization with MDO

We are Fortescue



MDM Magic  
Quadrant 2021

Honourable Mentions



Forrester Wave  
2021

Contender



SAP Endorsed App  
2021

The only one for data  
domain in SAP Store



# Where did our journey start?



#MasteringSAP #MasteringSAPConnect2024

**MASTERINGSAP**  
An SAPinsider Company

# Where did our journey start?


With the transition from a heavily Project based, Greenfields mindset, to a steady state of operations in mining and processing – Fortescue found that Master Data Management was very Ad Hoc, and largely controlled by the customer.

- Cataloguing requests submitted by email, using spreadsheets
- Master data was prepared offline, and uploaded manually to SAP via LSMW, including
  - Create material for Plant and Storage location
  - Create Recursive BOM
  - Extend material for 4 split valuation types
  - Repeat the above steps to extend the material for other Plants and Storage locations
- Multiple team members with access to create / modify materials
- Min / Max levels for first fill of spares had little oversight or forecasting.
- Poor stocking decisions not detected until usage revealed surplus, or stock out situations.
- Optimisation to fix those errors based on emotion not data.



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- Limited governance
- Duplication
- Missing data :  difficult, manual sourcing
- No traceability of requestor (Material Owner)
- Confusing naming conventions, colloquialisms, missing attributes
- Manual creation of supplier info via HERS records.



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- Limited governance
- Duplication
- Missing data : difficult, manual sourcing
- No traceability of requestor (Material Owner) →
- Confusing naming conventions, colloquialisms, missing attributes
- Manual creation of supplier info via HERS records
- Significant excess stock \$\$\$
- Min / Max levels for first fill of spares had little oversight or forecasting.
- Poor stocking decisions not detected until usage revealed surplus, or stock out situations.
- Optimisation to fix those errors was more emotive than data based.



# The way forwards

Seperate processes for different aspects of Material Master Data management.





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- Creation : Add New Catalogue Item (ANCI)
  - Technical attributes advised by maintenance / engineering / projects
  - Product details advised by supplier
  - Warehousing attributes determined by Inventory / Logistics



# The way forwards

## Separate processes for different aspects of Material Master Data management.

- Creation : Add New Catalogue Item (ANCI)
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- Changes
  - Criticality reviews
  - Supplier changes
  - Supercessions / Obsolesence



# The way forward

## Separate processes for different aspects of Material Master Data management.

- **Creation : Add New Catalogue Item (ANCI)**
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  - Product details advised by supplier
  - Warehousing attributes determined by Inventory / Logistics
- **Changes**
  - Criticality reviews
  - Supplier changes
  - Supercessions / Obsolesence
- **Stocking : Additions To Inventory (ATI)**
  - Requested by Maintenance / Planning / Engineering/ Admin
  - Material attributes captured at cataloguing
  - Stocking review conducted by Inventory team
  - Finacial approval required to incur the carrying cost.



# The way forward



MDO was selected as a single platform for Master Data Management and Governance to ensure quality data is available in our S/4HANA system.

Material

Noel Kenny  
(INVENTORY SUPERINTENDENT)

187 Tasks Pending

0 Tasks Rejected

56 Tasks Overdue

InboxOutbox

Saved Search Filters Refresh

Sender	Request Detail	CHANGE REQUEST Number	Received On	Due Date	Requester	Requested Date	Event
ONIQUA .	<b>3124718</b> 3124718 has been sent for your approval. <a href="#">Execute</a> <a href="#">Details</a> <a href="#">Forward</a> <a href="#">Claim</a>	CR_884001743805790891	08.11.2024 05:57:53	15.11.2024 05:57:54	ONIQUA .	08.11.2024 05:57:53	Change
ONIQUA .	<b>3187906</b> 3187906 has been sent for your approval. <a href="#">Execute</a> <a href="#">Details</a> <a href="#">Forward</a> <a href="#">Claim</a>	CR_183727831805789963	08.11.2024 05:57:52	15.11.2024 05:57:53	ONIQUA .	08.11.2024 05:57:52	Change
ONIQUA .	<b>3202783</b> 3202783 has been sent for your approval. <a href="#">Execute</a> <a href="#">Details</a> <a href="#">Forward</a> <a href="#">Claim</a>	CR_407578017805788795	08.11.2024 05:57:52	15.11.2024 05:57:53	ONIQUA .	08.11.2024 05:57:52	Change
ONIQUA .	<b>3124683</b> 3124683 has been sent for your approval. <a href="#">Execute</a> <a href="#">Details</a> <a href="#">Forward</a> <a href="#">Claim</a>	CR_805396546805788108	08.11.2024 05:57:51	15.11.2024 05:57:51	ONIQUA .	08.11.2024 05:57:51	Change



# The way forward



MDO was selected as a single platform for Master Data Management and Governance to ensure quality data is available in our S/4HANA system.

Material List

Noel Kenny  
(INVENTORY SUPERINTENDENT)

mdu PURE

Material

Search By Material Number,Material Desc,SAP Number

Saved searches

Create New

View - MATERIAL

Download

Delete

	<input type="checkbox"/>	Material Number	MDO Material No	SAP Number	Material Desc	Material Type	Deactivate / Activate Header	Base Unit Of Measure	Status	User Created	Modified On	
		Starts with	Any Text	Any Text	Any Text	Enter by text	Starts with	Enter by code	Starts with	Starts with	Filter	
	<input type="checkbox"/>	3209755	ERSA013456	3209755	BELT,FAN, FLAT, MULTI V, VOLVO 3886349	Spare Part	off	EA--each	System	Shaun Oconnor	09.11.2024 08:05:23	Ad
	<input type="checkbox"/>	3218622	ERSA023111	3218622	SOCKET,HANDLE,ROTARY EXT 400-630 BLK	Spare Part	off	EA--each	System	Mark Indich	09.11.2024 08:05:23	Ad
	<input type="checkbox"/>	3209766	ERSA013455	3209766	BELT,V RIBBED,VOLVO 20 464710	Spare Part	off	EA--each	System	Shaun Oconnor	09.11.2024 08:05:23	Ad
	<input type="checkbox"/>	3164399		3164399	HANDLE,EXTENDED ROTARY,150MM,140MM	Spare Part	off	EA--each	System	Admin Admin	09.11.2024 08:00:21	Ad
	<input type="checkbox"/>	3203628	ERSA007072	3203628	POWER SUPPLY,UPS,80KVA,415V,12VDC	Spare Part	off	EA--each	System	Scott Royce	09.11.2024 08:00:21	Ad
	<input type="checkbox"/>	3193131		3193131	BUSHING,BOTTOM,SHELL,860X702MM,STEEL	Spare Part	off	EA--each	System	Admin Admin	09.11.2024 07:55:05	Ad

# The way forward

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×

Data quality log

Search

Business Rule: All

Category: All

Status: All

Run mode: All

Run via: All

Run On

Run By: All

Business Rule	Business Rule Name	Category	Status	Message	Run Mode	Run via	Error column
User Defined Rule	MIN LOT SIZE < M...	Validity	ERROR	Min Lot Size Should be Less than or euall to Max. Lot Size	QUALITY MATRIX	Material Master Overall Data Quality Matrix	MAXIMUM LOT SIZE
User Defined Rule	MATERIAL: DQM ...	Consistency	SUCCESS		QUALITY MATRIX	Compliance to Sustainability Metrics	
Missing Rule	MATERIAL: MISSI...	Completeness	ERROR	Please maintain Manufacturer Name	QUALITY MATRIX	Material Master Overall Data Quality Matrix	MANUFACTURER ...

×

Duplicate records

Match	Object Number	Short Description
47 %	FUSE570	BEARING,BALL,ANG CONT,100MM,105 MM,10 MM
47 %	FUSE574	BEARING,BALL,ANG CONT,100MM,105 MM,10 MM

×

All errors

Fix the following errors to proceed

≡

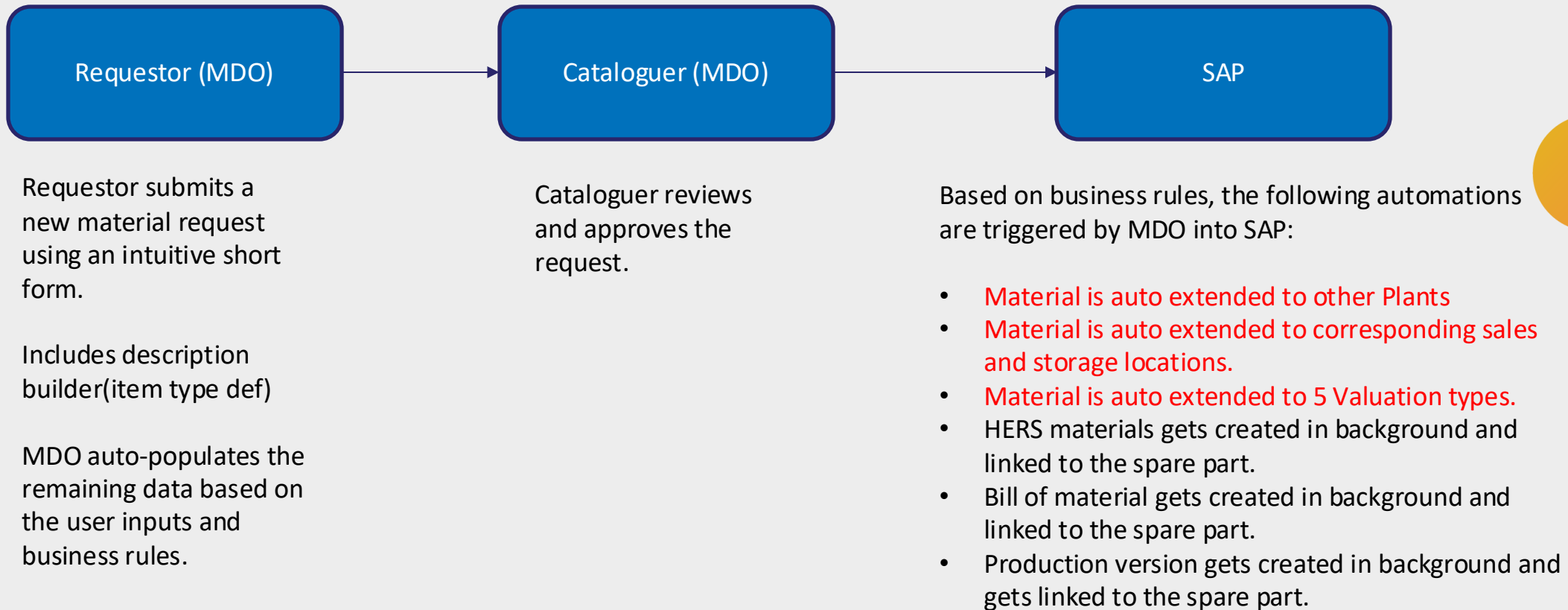
Base Unit of Measure field under Basic Data 1 section in Material Master dataset - Field value not present

#

Net Weight field under Basic Data 1 section in Material Master dataset - Net Weight Should be Less than Gross Weight

# Process Improvements with MDO

## New Material Creation (ANCI) process with MDO



# Process Improvements with MDO

## New Material Creation (ANCI) process with MDO

Class  
BEARING -- BALL

Short description  
English  
BEARING,BALL,ANG. CONT. (23 DEG),100 MM

Long description  
English  
BEARING,BALL,TYPE:ANGULAR CONTACT (23 DEG),INSIDE DIAMETER:100 MM,OUTSIDE DIAMETER:10.1/2 IN,WIDTH:10 MM,ROW:SINGLE

TYPE \*  
ANGULAR CONTACT (23 DEG) -- ANGULAR CONTACT (23 DEG)

INSIDE DIAMETER \*  
100 MM -- 100 MM

OUTSIDE DIAMETER \*  
10.1/2 IN -- 10.1/2 IN

WIDTH \*  
10 MM -- 10 MM

Comments Validation

12 JUN

Brendan Allerton 3:15 PM  
Hi, I need help verifying the following data  
🤖

16 JUN

Jamie Adley 5:05 PM  
I hope these documents will help

RW Rick Woods 5:00 AM  
I have made some further modifications based on your changes. This is now ready for MDA approval.



# Process Improvements with MDO



## New Material Creation (ANCI) process with MDO

Automate and streamline the master data processes during creation. Spare parts are cataloged according to the built-in class library ensuring consistency of the data.



**mdo** Material Create Miyuru Attanayake (Initiator)

Back Next

**Header**

Material Type \*  Industry Sector I-Mining Industry

Desc Code \*  [Description Generator](#)

Description

**Plant Data**

**Sales Data**

**Valuation Data**

**Storage Location**

**Material Create** Miyuru Attanayake (Initiator)

1 Material and Noun 2 Confirm and Create

Review attribute and values : Noun - BEARING,BALL

TYPE	<input type="text"/>
DIAMETER*	<input type="text"/>
MATERIAL	<input type="text"/>
NUMBER OF ROWS	<input type="text"/>
INSIDE DIAMETER	<input type="text"/>
OUTSIDE DIAMETER	<input type="text"/>
WIDTH	<input type="text"/>
SERIES	<input type="text"/>

\*Mandatory Field values

MATERIAL DESCRIPTION  
BEARING,BALL,

LONG DESCRIPTION  
BEARING BALL DIAMETER

# Process Improvements with MDO



## New Material Creation (ANCI) process with MDO

### Benefits under new process

MDO has contributed to cost reduction by automating the master data creation process and enhancing material availability. All information related to the parts can be stored in the ANCI and ATI requests, which directly supports the purchasing team in reducing sourcing costs. The built-in class library helps catalogers accurately classify materials while maintaining consistency.

### Visibility / tracking

Each ANCI request undergoes a two-step process: the end user submits the request, which is then immediately forwarded to the cataloger workflow for approval. Each request can then be tracked and monitored accordingly.



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# Process Improvements with MDO

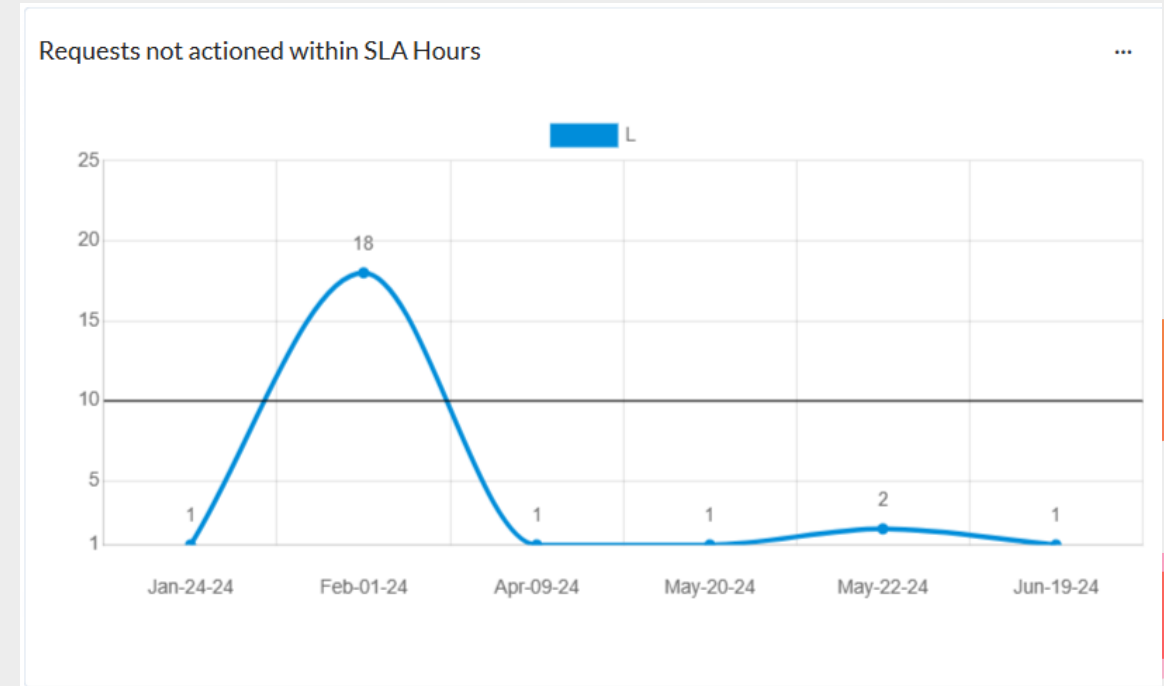
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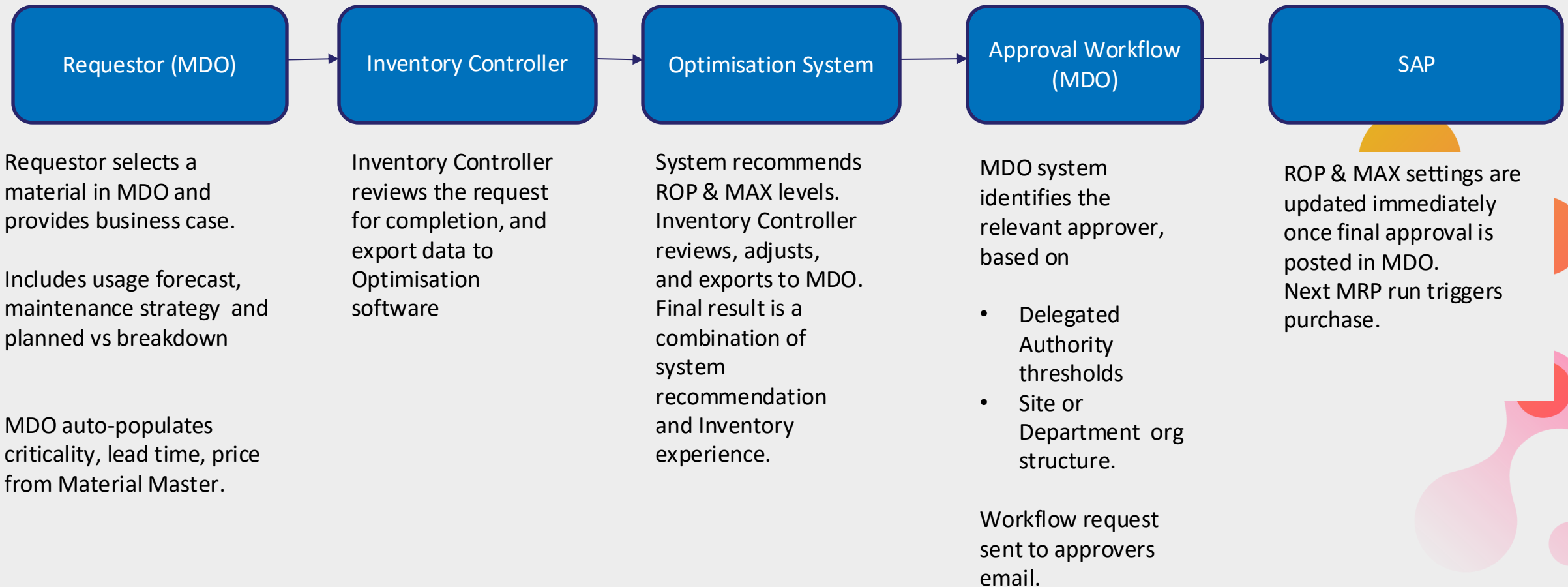
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# Process Improvements with MDO

## Stocking Requests : Add To Inventory (ATI)





# Process Improvements with MDO

## Stocking Requests : Add To Inventory (ATI)

Material Change

SAP Number: 6011102 BOGIE,TRUCKS,ASSY,COMPLETE,DC HI-AD (CR\_225157002389446569)

Claim Request

Approve

Send For Correction

Workflow Log

Header			
Material Type	Rotables	Industry Sector	I--Mining Industry
Material Desc	BOGIE,TRUCKS,ASSY,COMPLETE,DC HI-AD	Desc Code	38--Mining
Plant	1007--Rail Operations	Valuation Type	1-NEW
Storage Location	Y010--Main Warehouse		

Material basic Info

Base Unit of Measure ⓘ	EA--each	Material Criticality	B--Partial Loss of Pro...
Estimated Per Unit Price	938899.58	Maximum Stock Level	
Order Point		Storage bin	DEMAND



# Process Improvements with MDO

## Stocking Requests : Add To Inventory (ATI)

ATI Request Info.			
Suggested Reorder point	0	Insurance spare (Y/N) ⓘ	No
	<a href="#">Change Log</a>		<a href="#">Change Log</a>
Capital Spare (Y/N) ⓘ	No	Stock to return (Y/N)	Yes
	<a href="#">Change Log</a>		<a href="#">Change Log</a>
How many to return?*	1	Set Size ⓘ	1
	<a href="#">Change Log</a>		<a href="#">Change Log</a>
Replace Existing material	No	Functional location*	ROP-LO-FL01-LO002 -BOG...
	<a href="#">Change Log</a>		
Qty installed	11	MTBF (Months) ⓘ	180
	<a href="#">Change Log</a>		<a href="#">Change Log</a>
		Repair time(Days)	120
			<a href="#">Change Log</a>

# Process Improvements with MDO

## Stocking Requests : Add To Inventory (ATI)

### Information in support of this ATI request

1) Reason to hold this material in inventory?

This material is already available within our supply system as individual components. The individual components are already at the vendor being assembled and this ATI will be

[Change Log](#)

3) What has our usage been in the last 12 months?

0

[Change Log](#)

5) How can we mitigate these risks?

Complete the build and make available the rotatable unit to free issue to the successful bidder of the rebuild tender to expedite the rebuild time frame.

[Change Log](#)

7) If material value >\$100K, confirm that Asset Management have been notified?

There is no Rail element in Asset Management. This has been requested by Port/Rail Engineering Department.

[Change Log](#)

2) What has changed in our Operations to justify the addition to inventory?

Dash 9 Rail Phase one project to extend the life of the loco fleet to 2030. These units were meant to be returned to the USA in 2023 & 2024 and had not been maintained to suit

[Change Log](#)

4) What are the risks of not holding this material in inventory?

Delay in Dash 9 Rail Phase one project delivery timeline.

[Change Log](#)

6) Is there any risk of future changes making this material obsolete?

Yes, once the planned eleven Dash-9 locomotives have been rebuilt, there will be an option to return the whole unit back into the individual components back into inventory.

[Change Log](#)

# Process Improvements with MDO

## Stocking Requests : Add To Inventory (ATI)

Inform

Comments

Validation

1) Re  
mate

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Change Log

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Change Log

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Yes. once the planned eleven Dash-9 locomotives have been  
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Validation

Workflow Log for 3043916--WASHER HUB LOCK FRONT TOYOTA 70 SER

Initiated By	Narendra Potluri	Initiator Role	FMG_ADMIN
Event	Excel Connect	Workflow path	Prospecta Support
Change_Request_ID	CR_874396224408306349		

Steps	Users	Role	Received On	Actioned On	SLA Hours	Status
Approval	Narendra Potluri	FMG_ADMIN	24.08.2022 08:31:23	24.08.2022 08:31:23		

Workflow Log for 3043916--WASHER HUB LOCK FRONT TOYOTA 70 SER

Initiated By	Karl Kingi	Initiator Role	Initiator
Event	Excel Connect	Workflow path	MASS_MATERIAL_CREATE_INITIATOR
Change_Request_ID	CR_148741508364210984		

Steps	Users	Role	Received On	Actioned On	SLA Hours	Status
INITIATOR	Karl Kingi	Initiator	15.07.2022 14:38:43	15.07.2022 14:38:43		
WASHER	Matthew Ridley	CATALOGUER	15.07.2022 14:38:43	15.07.2022 14:46:43	168	

to extend the life of the loco  
want to be returned to the  
maintained to suit

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# Process Improvements with MDO

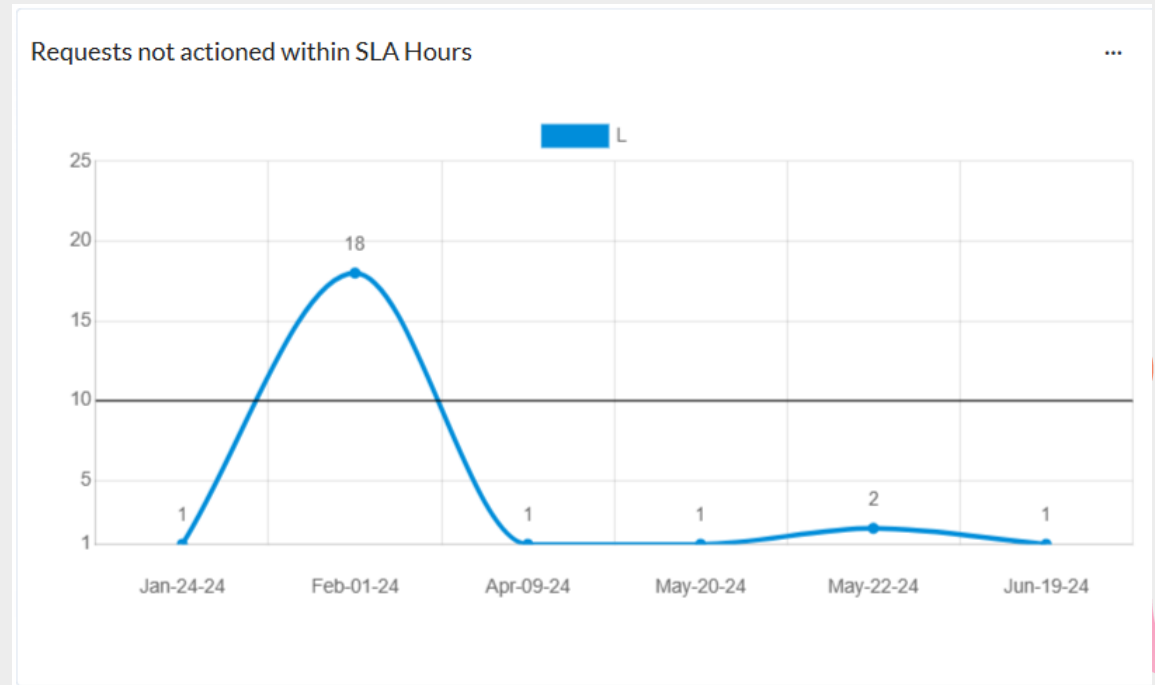
## Stocking Requests : Add To Inventory (ATI)

### Benefits under new process

- Accurate assessment of stocking requirements
- Realistic ROP/Max levels to avoid surplus / obsolescence
- History of reasons for request.

### Visibility / tracking

- Every material in the warehouse has a history.
- Comments and conversations attached allow good decisions
- Financial accountability - approvers can see why material is being stocked.
- Complete workflow history.



# Process Improvements with MDO



**Right Material – Right Place – Right Time – Right Cost.**



# Get in touch with Prospecta



- Discuss your Master Data objectives
- Centralize Data Governance and Quality Management within one tool
- Discuss our AI initiatives in the Master Data space
- Explore how MDO can support your Data strategy to the upcoming digital transformation
- Discuss MDO business benefits and case studies



**#MasteringSAP #MasteringSAPConnect2024**

# Lessons learned along the way

## Lessons Learnt

**Fixing Data Quality issues  
prior to migration to  
S/4HANA is a must**

**Scope Clarity**

**Predicting the future**

## Worked Well

**MDO Platform flexibility to  
incorporate custom  
business rules**

**MDO Automation a big  
efficiency gain**

**Partnership with  
Prospecta**

# How to Connect with Me

**E:** [noel.kenny@fortescue.com](mailto:noel.kenny@fortescue.com)

**M:** +61 423 275 426

**Li:** [linkedin.com/in/noel-kenny-49898b12/](https://www.linkedin.com/in/noel-kenny-49898b12/)

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