

2016 CONTROLLING

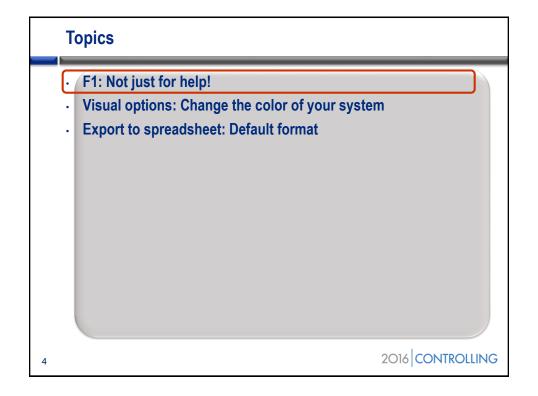
SEPTEMBER 12-15 · SAN DIEGO

Improve your productivity in SAP Controlling

Sydnie McConnell Ashish Sampat

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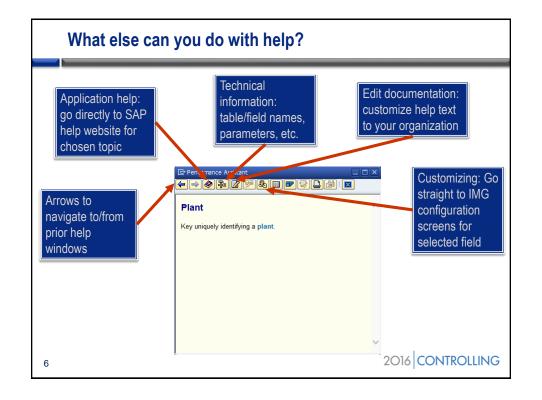
F1: Not just for help!

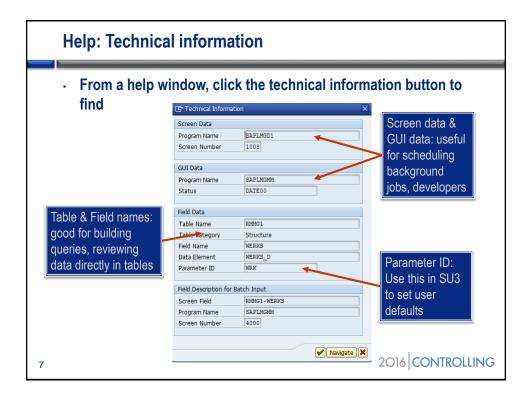
- Multiple methods to access SAP Help
 - Help button
 - Pressing the F1 key
 - · Help menu path
- Each option can give you specific information about the active field or transaction
 - Help menu can also take you to the SAP Library website, glossary, release notes, etc.

Help

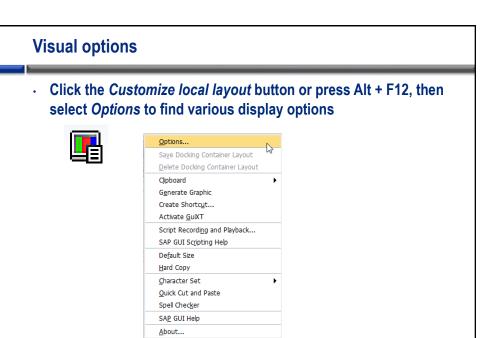
Application Help
SAP Library
Glossary
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SAP Service Marketplace
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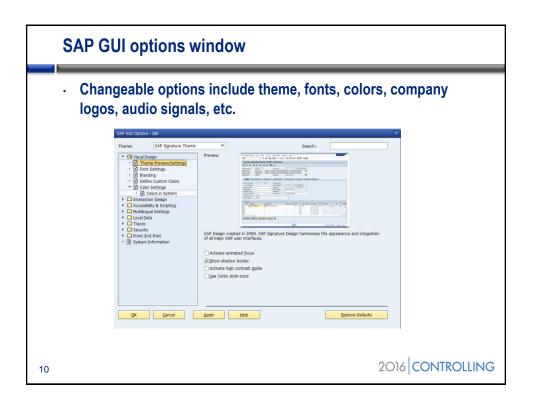
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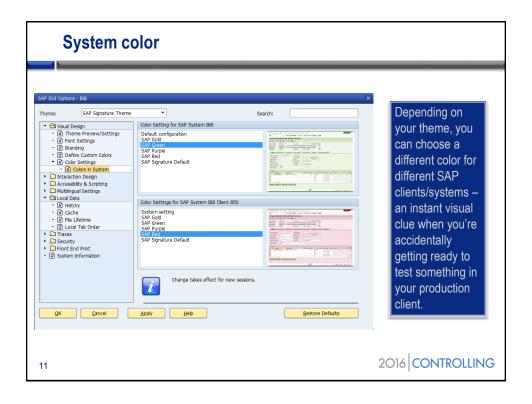




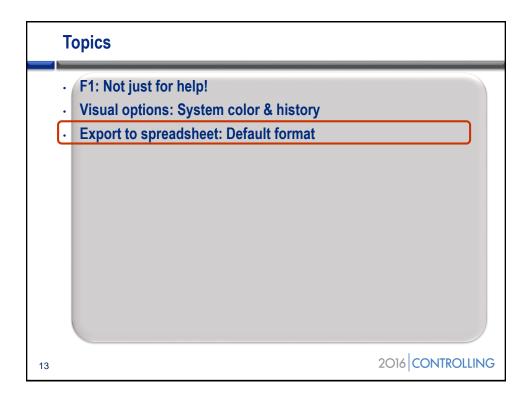


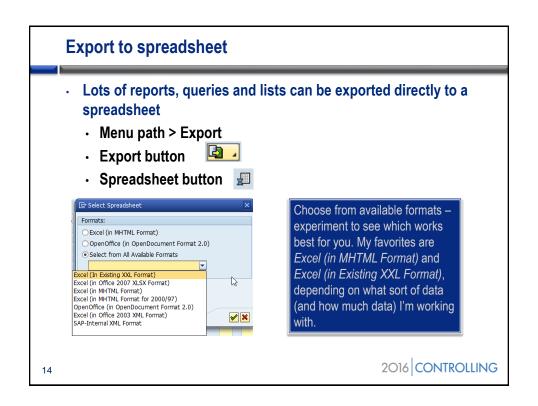


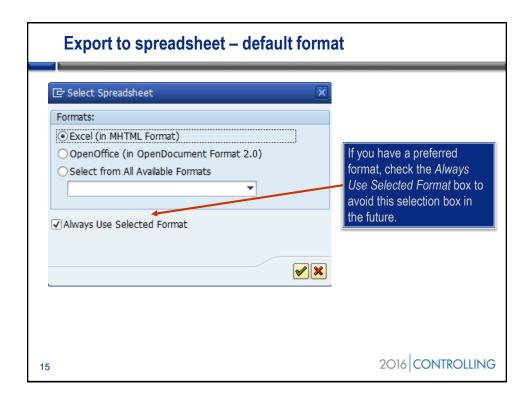


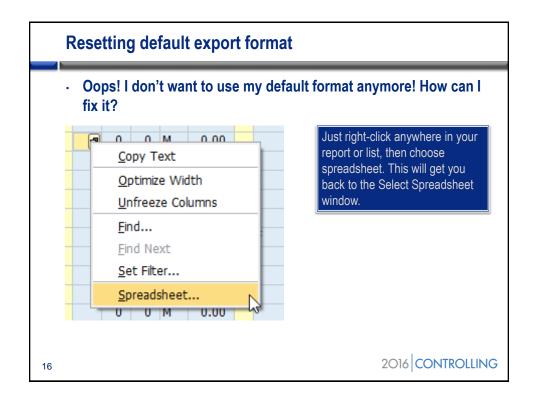












Resources

- First Steps in SAP
 - Authors: Sydnie McConnell and Martin Munzel, Publisher: Espresso Tutorials
 - http://www.espresso-tutorials.com/HR_S0045.php
- · SAP ERP User Guide Tips to Increase Productivity
 - · Author: Sydnie McConnell, Publisher: Espresso Tutorials
 - · Fall 2016 release
- http://scn.sap.com/
- · http://help.sap.com/

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Questions

- Sydnie.McConnell@woodward.com
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Introduction

- · Tips to troubleshoot common error messages in product costing
- · Review various cost objects available for tracking costs
- Learn how Material Status can control logistics transactions
- Analyze MM-FI flow with transaction key / account modifiers

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Topics

- Troubleshoot product costing messages
- Evaluate the right Cost Object for you
- Utilize Material Status
- Analyze MM-FI Accounting Flow
- Summary

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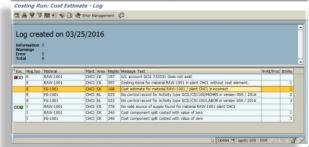
Product Costing Messages

- Accurate and error-free costing is every controller's goal.
- Releasing an incorrect cost estimate may result in incorrect financial postings.
- A costing run will be error-free when relevant master data is accurately setup.
- Getting all materials to cost successfully requires an iterative process where the errors are analyzed in detail, fixes are made, and costing is performed again.
- Costing Run log: messages categorized with traffic lights / message type:
 - Error messages: shown in red (message type "E")
 - Warning messages: shown in yellow (message type "W")
 - Information messages: shown in green with (message type "I")
- Unique message numbers further categorize the type of error
 - E.g. CK 240: Cost component split costed with value of zero

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Product Costing Messages

- Message class (area) and number combine as a category
 - · CK 197: GL account does not exist
 - CK 597: Costing items for material..... without cost element
 - · CK 168: Cost estimate for material is incorrect
 - KL 023: No control record for Activity type ...in version
 - · CK 776: No valid source of supply found for material ...
 - CK 240: Cost component split costed with value of zero



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Troubleshooting Product Costing Messages – 1 of 4

- Compilation of frequent messages during costing
- Some of these messages can be at times cryptic and require further explanation

Message Class	Message No.	Error description	Explanation / root cause	Steps for correction
KL		No control record for Activity type in activity planning / qty planning	Missing planning record for <co Area>/<cost center="">/<activity type=""> in <version> / <year> combination</year></version></activity></cost></co 	Maintain Cost Center Planning (KP26) for given combination in respective version and year
СК	060	Object was not costed	material, depending on proc type	Maintain BOM if proc type in MM03-MRP2 "E" in-house production; maintain purchase price if "E" externally procured
СК		Work center <ww> in plant <pppp> has no cost center</pppp></ww>	, , , , , , , , , , , , , , , , , , ,	Maintain cost center assignment for work center (CRO2) or Resource (CRC2)
MG		The field <mbew-hrkft> is defined as a required field; it does not contain an entry</mbew-hrkft>		Maintain relevant views in material master (MM01 / MM02)
CK		Cost estimate for material <mmmmmmm> in plant <pppp> is incorrect</pppp></mmmmmmm>	Costing result of underlying material was incorrect cost rollup does not take place	Rectify errors in underlying materials
CK		G/L account <chart of<br="">Account> <account> does not exist</account></chart>	Account determination is not setup	Create the GL account, or modify GL Account in MM-FI Account determination (OBYC) for GBB-VBR

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Message Class	Message No.	Error description	Explanation / root cause	Steps for correction
CK	229	determined for material	Missing routing (CA03) / recipe (C203) setup for the quantity structure date	Maintain routing (CR02) / Recipe (CRC2)
СК	239	is not assigned to a cost	Missing assignment of cost element to cost components (OKTZ)	Maintain configuration for cost components (transaction OKTZ), map cost element to appropriate cost component
CK	240	costed with value of zero	Costing result was zero, no cost components could be determined	Maintain BOM if proc type in MM03-MRP2 "E" in-house production; maintain purchase price if "E" externally procured
СК	322		Incorrect valuation class setup in MM03-Accounting 1 view	Check valuation class in MM03- Accounting 1 view/ A valid class will point to correct consumption account.
CK	323	for exchange rate type <p> on <mm dd="" yyyy="">: <usd< td=""><td>Missing exchange rate for currency combination for given exchange rate type and valuation date</td><td>Maintain exchange rate (transaction OB08, updates table TCURR)</td></usd<></mm></p>	Missing exchange rate for currency combination for given exchange rate type and valuation date	Maintain exchange rate (transaction OB08, updates table TCURR)
CK	354		Material status does not require it to be costed	Change the status of the material (MM02-MRP1 view) or exclude the material from CK40N selection

Troubleshooting Product Costing Messages – 3 of 4

Message Class	Message No.	Error description	Explanation / root cause	Steps for correction
СК		00001 in itemization is 0		Analyze data setup. Sometimes there could be valid reasons to have items on BOM with 0.001 quantity (CS03) or price at 0.01
CK		No valid source of supply could be found	Missing Source List (ME03)	Maintain Source List (ME01 or ME05)
СК		<mmmmmmm> plant</mmmmmmm>	Missing Bill of Material even though proc type (MM03-MRP2 view) is "E" In-House production	Create Bill of Material, or change the procurement type to "F" - External procurement
СК		No price could be determined for material/batch <mmmmmmm> plant <pppp></pppp></mmmmmmm>	Costing result was zero	Maintain BOM if proc type in MM03-MRP2 "E" in-house production; maintain purchase price if "E" externally procured
СК			Missing price for activity AAAAA and cost center CCCCC combination	Maintain activity price directly (KP26) or via activity price calculation (KSPI), verify price (KSBT)
СК		determined for	Missing PIR (ME13) for subcontracting, even though MM03- MRP2 view has Special Proct Type 30 - Subcontracting	Maintain PIR (ME11 / ME12) with subcontracting category for the given valuation date

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CK 776		Eı	ror description	Explanation / root cause	Steps fo	or correction	
		Costing items for material <mmmmmmm> in plant <pppp> without cost element. No valid source of supply found for material <mmmmmmm> plant <pppp></pppp></mmmmmmm></pppp></mmmmmmm>		GL Account maintained in configuration does not exist as a cost element (KA03)	Create the cost element, or m GL Account in MM-FI Account determination (OBYC) for GBB		
				, ,		11) or modify PIR given valuation d	
Category			Transaction description		Transaction code		
categ			Create Material Cost Esti	CK11N			
Fransa	ction		Display Material Cost Est	CK13N			
codes	ucod		Price Update: Mark Stand	CK24			
		Individual Costing	Price Update: Release Sta	CK24			
or cos	ting	Costing	Comparison of Itemization			CK33	
	_		Display Price Change Doc	CKMPCD			
			Reorganization of Cost Estimates				
			Edit Costing Run		CK40N		
		Mass	Delete Costing Run		CK44		
		Costing	Display Materials To Be C		CKAPP01		
			Search for Price Change I			CKMPCSEARCH	
				al Cost Estimates: Results of Costi		S_ALR_8709993	
		Reports	Analyze/Compare Materi	ial Cost Estimates: Price vs Cost Es	timate	S_ALR_8709993	
		reports	Analyze/Compare Materi	ial Cost Estimates: Variances Betw	een Costing Runs	S_ALR_8709993	
			Analyze/Compare Materi	S P99 4100011			

Category	Transaction description	Transaction code	
	Display Material	MM03	MM / DD / OO :!!-
Material Master	Material List	MM60	MM / PP / CO related
	Display Material BOM	CS03	transaction codes for
	Explode BOM: Level by Level	CS11	troubleshooting
Bill of Material	Explode BOM: Multilevel BOM	CS14	_
	Where-Used List: Material	CS15	messages during
	Display Work Center	CR03	costing
Work Center /	Display Resource	CRC3	
Resource	Work Center / Resource List	CR05	
	Assignment of Work Centers / Resources to Cost Centers	CR06	
/	Display Routing	CA03	
	Display Rate Routing	CA23	
Routing / Recipe	Display Master Recipe	C203	
	Production Version: Mass Processing	C223	
	Maintain Source List	ME01	
	Display Source List	ME03	
Source List	Generate Source List	ME05	
	Source List for Material	ME0M	
	Create Info Record	ME11	
Purchasing	Change Info Record	ME12	
Information Record	Display Info Record	ME13	
	Info Records per Material	ME1M	
Cost Center	Display Cost Center	KS03	
Accounting Master	Display Cost Element	KA03	
Data	Display Activity Type	KL03	
	Set Planner Profile	KP04	
	Change Cost Element / Activity Input Planning	KP06	
Cost Contar Planning	Display Cost Element / Activity Input Planning	KP07	
Cost Center Planning	Change Activity Type / Price Planning	KP26	
	Display Activity Type / Price Planning	KP27	2016 CONTROLLING
	Activity Type Price Report	KSBT	

Topics

- Troubleshoot product costing messages
- Evaluate the right Cost Object for you
- Utilize Material Status
- Analyze MM-FI Accounting Flow
- Summary

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Evaluate the right cost object for you

- · Cost objects and their uses:
 - Production order: used to track product costs in discrete manufacturing
 - Process order: used to track product costs in process manufacturing
 - · CO production order: can be used in any industry
 - Product cost collector: used in repetitive manufacturing
 - Internal order: used to collect, monitor, and settle costs for specific project
 - Plant maintenance order: used to track costs for maintenance
 - Sales order: used to assign costs to a sales order
 - Cost center: most widely used master data elements in controlling

Cost objects: Prerequisites (Master Data), Order Type used

- · Production Order: Material Master, BOM, Work Center, Routing (Order category 10, Type PP01)
- Process Order: Material Master, BOM, Resource, Master Recipe. (Order category 40, Type PI01)
- CO Production Order: Material Master. (Order category 4, Type CP01)
- Product Cost Collector: Material Master, BOM, Work Ctr, Routing. (Order cat. 5, Order Type RM01)
- Internal Order: No logistics master data is necessary. (Order cat. 1, several order types available)
- Plant maintenance order: Work Center, Functional Location. (Order category 30, Type PM01)
- · Sales Order: Sales and Distribution side master data. (Order category is not applicable)
- Cost Center: No logistics master data is necessary. (Order category is not applicable)

		Production Order	Process Order	CO Production Order	Product Cost Collector	Internal Order	Plant Maintenance	Sales Order (as cost object)	Cost Center
	Material Master	MM03	MM03	MM03	MM03	NA	NA NA	MM03	NA.
Pre-requisite	Bill of Material	CS03	C503	NA	CS03	NA.	NA NA	NA.	NA.
master data	Work Center / Resource	CR03	CRC3	NA.	CR03	NA.	CR03	NA:	NA.
	Routing / Master Recipe	CA03	C203	NA.	CA03	NA.	NA NA	NA.	NA.
Settlement info	Example Order Type (KOT2)	PP01	PI01	CP01	RM01	0100 / 0600	PM01	NA.	NA.
	Object Type (KOT2)	Production	Production	Production	Production	Overhead / Investment	Overhead	NA.	NA.
	Order Category (KOT2)	10-PP Production Order	40-Process Order	4-CO Production Order	5-Product Cost Collector	1-Internal Order	30- Maintenance Order	NA.	NA
	Settlement Profile (KOT2 / OKO7)	PP01- Production order	PI01-Process order	PP01- Production order	PP01- Production order	20-Overhead; 50-Asset Settlement	40- Maintenance	NA.	NA.
	Allocation Structure (OKO7 / OKO6)	A1-CO Allocation structure	A1-CO Allocation structure	A1-CO Allocation structure	A1-CO Allocation structure	20 - Internal Ord; 50 - Investmnt Ord	A1-CO Allocation structure	NA.	NA.
	PA Transfer Structure (OKO7 / KEI1)	E1-PA settlement	E1-PA settlement	E1-PA settlement	E1-PA settlement	E1-PA settlement; NA	NA.	NA.	NA.

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Cost objects: Transaction codes for various processes

- Configure order types, setup pre-requisites master data (previous slide)
- Setup cost object data, perform transactions, carry out period-end closing steps (WIP, Variance, Settlement, overhead calculation, template allocation, revaluation of activity prices)

Process	Process (rows), cost object	Production	Process Order	CO Production	Product Cost	Internal Order	Plant	Sales Order	Cost Center
group	(columns), transaction code (cells)	Order		Order	Collector		Maintenance	(as cost	
								object)	
	Create	CO01	COR1	KKF1	KKF6N / KKF6	KO01	IW31	VA01	KS01
Cost object	Change	CO02	COR2	KKF2	KKF6N / KKF7	KO02	IW32	VA02	KS02
data	Display	CO03	COR3	KKF3	KKF6N / KKF8	KO03	IW33	VA03	KS03
Goods	Goods Issue	MIGO / MB1A	MIGO / MB1A	MIGO / MB1A	MFBF	MIGO / MB1A	MIGO / MB11	NA.	MIGO / MB1
movement/	Confirmation	CO11N / CO15	COR6N / CORK	KB21N	MFBF	KB21N	IW41	NA.	KB21N
activities	Goods Receipt	MIGO / MB31	MIGO / MB31	MIGO / MB31	MFBF	MIGO / MB31	MIGO / MB31	NA.	NA.
	Overhead - individual	KGI2	KGI2	KGI2	CO42	KGI2	KGI2	VA44	KSI4
	Overhead - collective	CO43	CO43	CO43	CO43	KGI4	KGI4	VA44	KSI4
	Revaluation of Activity prices-	MFN1	MFN1	MFN1	CON1	KON1	KON1	VAN1	NA
	individual								
	Revaluation of Activity prices-	CON2	CON2	CON2	CON2	KON2	KON2	VAN1	NA.
	collective								
	Template Allocation - individual	CPTA	CPTA	CPTA	CPTE	CPTA	NA.	CPTJ	KPAS
Period-end	Template Allocation - collective	CPTD	CPTD	CPTD	CPTD	CPTB	NA.	CPTJ	KPAS
closing	WIP - individual	KKAX	KKAX	KKAS	KKAS	KKA1	KKA1	KKA3	NA.
	WIP - individual display	KKAY	KKAY	KKAT	KKAT	NA	NA.	KKA3	NA
	WIP - collective	KKAO	KKAO	KKAO	KKAO	KKAI	KKAI	KKAK	NA
	WIP - collective display	KKAQ	KKAQ	KKAQ	KKAQ	NA	NA.	KKAK	NA
	Variance - individual	KKS2	KKS2	KKS6	KKS6	NA	NA.	NA.	KSS1
	Variance - collective	KKS1	KKS1	KKS5	KKS5	NA	NA.	NA.	KSS1
	Settlement - individual	KO88	KO88	KO88	KK87	KO88	KO88	VA88	NA
	Settlement - collective	CO88	CO88	CO88	CO88	KO8G	KO8G	VA88	NA
Reporting	Line Item Display (specific to object /	KOB1	KOB1	KOB1	KRMI / KOB1	KOB1	KOB1	KVBI	KSB1

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Topics

- Troubleshoot product costing messages
- **Evaluate the right Cost Object for you**

Utilize Material Status

- Analyze MM-FI Accounting Flow
- Summary

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Use Material Status to Control Logistics Transactions

- The material status determines how a material is handled (which transactions are allowed / disallowed) in different applications and in business processes like procurement, MRP, plant maintenance, costing, forecasting, etc.
- Cross-plant material status maintained in the Basic Data view applies to all plants, but Plant-specific material status (MRP1 and Costing 1) override the status in Basic Data
- Material status and its attributes are defined in configuration transaction OMS4
 - Menu path: Tools → Customizing → IMG → SPRO Execute Project → SAP Reference IMG → Logistics – General → Material Master → OMS4 – Define Material Statuses
- Indicative list of material status (will vary based on business requirement)
 - 10 Material under setup
 - · 20 Development phase
 - 30 Commercial production
 - 40 No production, deplete stock
 - · 50 Obsolete, deletion flag

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Explanation of Material Status in OMS4

- Message flags in OMS4:
 - Flag "A" (warning): A warning message is returned when performing the function
 - Flag "B" (error): An error message is returned when performing the function.
 - Flag "<blank>": No message (transaction is allowed)
- Example: when material status is 40 (No production, deplete stock) production order should not be allowed to be created anymore
 - Flag "B" (error) is set for production order in OMS4. Orders that are already setup are not impacted, but new orders cannot be created anymore.
 - Inventory movement transactions are allowed (warning message)



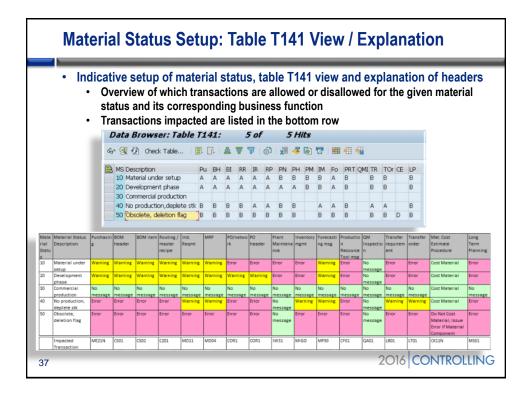
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Impact of Material Status on Order Creation (Example)

- When material status is 10 (Material under setup) production order should <u>not</u> <u>be allowed</u> to be created
 - Flag "B" (error) is set for this combination in OMS4
 - When a user tries to create an order from transaction COR1 or via the MRP run, an error message will be returned
- When material status is 20 (Development phase) production order should be allowed to be created, but with a <u>warning</u> message to the user
 - Flag "A" (warning) is set for this combination in OMS4
 - COR1 / MRP run will issue a warning message
- When material status is 30 (Commercial production) production order should be allowed to be created, with no messages
 - Flag "<blank>" (no message) is set for this combination in OMS4
- When material status is 40 (No production, deplete stock) production order should <u>not be allowed</u> to be created anymore.
 - Flag "B" (error) is set for production order in OMS4
 - · COR1 / MRP run will issue an error message

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MM-FI: Movement Types and Accounting Entries

- OBYC MM-FI account determination forms the core of SAP's integration
- Summary of movement types and accounting entries

Process	Movement Type - Description	Transaction- Account Modifier	Debit GL	Debit GL Description	Transaction- Account Modifier	Credit GL	Credit GL Description
Purchase of Raw Material	101 - Goods receipt for Purchase Order	BSX	300000	Inventory - Raw Material	WRX	191100	Goods Received / Invoice Received
Consumption of Raw Materials to Process Order	261 - Goods Issue for order	GBB-VBR	400010	Raw materials consumed	BSX	300000	Inventory - Raw Material
Production of Semi-Finished Materials for Process Order	101 - Goods receipt for Process Order	BSX	790000	Unfinished products	GBB-AUF	895000	Factory output of production orders
Consumption of Semi-Finished Materials to Process Order	261 - Goods Issue for order	GBB-VBR	890000	Semi-finished products consumed	BSX	790000	Unfinished products
Production of Finished Materials for Process Order	101 - Goods receipt for Process Order	BSX	792000	Finished goods inventory	GBB-AUF	895000	Factory output of production orders
Sampling for Quality Inspection	331 - Goods Issue to sampling Quality Inspection	GBB-VQP	237000	Losses - consumption of quality control	BSX	792000	Finished goods inventory
Sale of Finished Material	601 - Goods issue: delivery	GBB-VAX	892000	Change in finished products inventory	BSX	792000	Finished goods inventory
Scrapping of Finished Material	551 - Goods Issue for scrapping	GBB-VNG	890001	Scrapped material - own production	BSX	792000	Finished goods inventory
Cycle Count (Physical Inventory) of Finished Material	701 - Goods receipt for physical inventory adjustment	BSX	792000	Finished goods inventory	GBB-INV	233000	Losses - inventory variance
Initial Inventory Load of Finished Material	561 - Initial entry of stock balances	BSX	792000	Finished goods inventory	GBB-BSA	799999	Inventory migration
Consumption of Raw Material from Sub-Contractor stock (special stock "O")	543 - Goods Issue from stock at sub- contractor	GBB-VBO	400010	Raw materials consumed	BSX	300000	Inventory - Raw Material
Production of Finished Goods by Sub-Contractor (Production)	101 - Goods receipt from sub- contractor	BSX	792000	Finished goods inventory	BSV	893010	Sub-contract stock change
Production of Finished Goods by Sub-Contractor (Tolling Fee)	101 - Goods receipt from sub- contractor	FRL	417001	Purchased services	WRX	191100	Goods Rcvd/Invoice Rcvd

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MM-FI Accounting Flow

- Transaction-account modifier and valuation class drive the accounting entries
 - · Transaction key: determines general ledger accounts for posting
 - · Account modifier: differentiates account determination based on procedure
 - Transaction keys are predefined in the SAP system and cannot be changed
- Purchase of raw materials:
 - Configuration setup of transaction BSX (inventory posting) is responsible for the inventory posting; WRX (GR/IR clearing account) for GR/IR posting
 - When movement type 101 is used to record goods receipt for a purchase order of raw material (valuation class 3000), the system looks up the GL account for transaction BSX and WRX for valuation class 3000 and records in the accounting
- Consumption of raw materials:
 - When raw material is consumed using movement type 261, the system looks up transaction GBB (offsetting entry for inventory posting) for account modifier VBR (consumption for internal goods issues) and records GL account in accounting

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Topics Troubleshoot product costing messages Evaluate the right Cost Object for you Utilize Material Status Analyze MM-FI Accounting Flow Summary Topics CONTROLLING

Resources

- Expert Tips to Unleash the Full Potential of SAP Controlling
 - · Author: Ashish Sampat, Publisher: Espresso Tutorials
 - · Fall 2016 release
- · First Steps in SAP Controlling (CO)
 - · Author: Ashish Sampat, Publisher: Espresso Tutorials
 - https://espresso-tutorials.com/Controlling_S0069.php
- Get answers to the top 9 SAP Controlling questions
 - · Several authors, Publisher: ERP Corp
 - http://www.erpcorp.com/learn-more-about-controlling-2016-lp2/

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Key Ideas

- Review message categories to troubleshoot costing messages
- Evaluate cost objects, prerequisites, order types, transactions
- Use Material Status to control logistics transactions
- · Analyze MM-FI flow with transaction key / account modifiers

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Questions

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Controlling 2016 Conference

- September 12-15, 2016 in San Diego
- Ashish Sampat to present:
 - · Expert tips to boost productivity in SAP Controlling
 - Case Study: How Mondelez International effectively tracks costs and variances
- Sydnie McConnell to present:
 - Case Study: How Woodward improved SAP BPC performance
- http://controlling.erpcorp.com/
- Register by August 31 and save \$500 off the onsite price

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