



Absorption and Variances in SAP S/4HANA: Understanding the Numbers and Reporting Options

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Introduction

- SAP Product Costing offers powerful capabilities, but its complexity can make it difficult to understand where costs, variances, and margins are truly originating. Can you run a trial balance and clearly explain the drivers behind your product margins?
- This session explores key concepts of absorption costing and variance analysis in SAP S/4HANA, along with practical reporting options to help finance and controlling teams gain greater visibility into product profitability. Drawing on real-world implementation experiences, we will highlight important design considerations, common challenges, and proven approaches for building effective costing and reporting solutions.

Topics:

- # Topic 1 Objectives of Costing
- # Topic 2 SAP Building Blocks
- # Topic 3 How does it look in SAP accounting wise
- # Topic 4 Possible outcomes bad
- # Topic 5 Possible outcomes good
- # Topic 6 Conclusions

Topic #1 Objectives of Costing

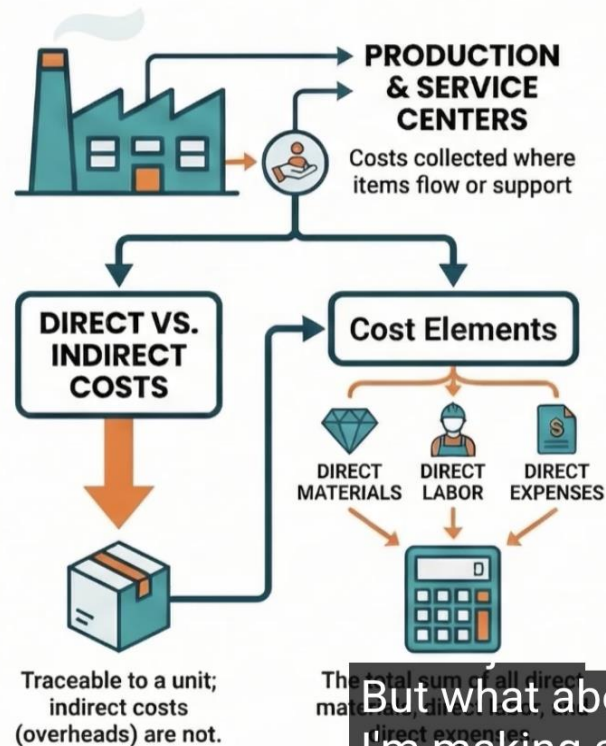
Theoretical concepts around product costing and profitability analysis

Objectives: Product costing and Cost Flow

All companies have costs:
Organize, classify, set
standards, plan, measure→
this is PRODUCT COSTING

CIMA P1 Management Accounting: Chapter 1 – Costing

COST CLASSIFICATION & ELEMENTS



Cost Card Components

DIRECT MATERIALS + LABOR + EXPENSES

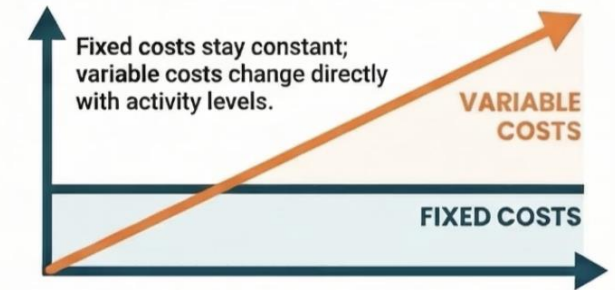
PRIME COST

+ PRODUCTION OVERHEADS

PRODUCTION COST

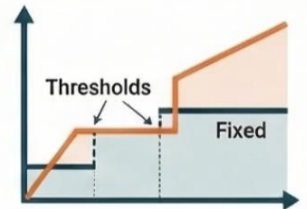
+ NON-PRODUCTION OVERHEADS

COST BEHAVIOR & ANALYSIS

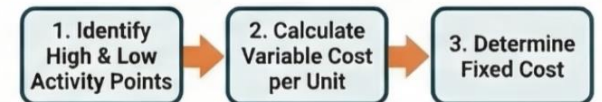


STEPPED & SEMI-VARIABLE COSTS

Costs that increase at specific thresholds or contain both fixed and variable elements.



THE HIGH-LOW METHOD



A calculation used to separate fixed and variable components from total cost data.

But what about the other stuff? Like if I'm making a wooden table, the wood is

Objectives: Profitability Analysis

What is the definition of profitability analysis?

Profitability analysis is the process of examining a business's revenue streams and costs to evaluate its ability to generate profit. It helps you spot opportunities for increasing your bottom line by breaking down the profitability of specific products, geographic locations, business units, initiatives and distribution channels, amongst other factors.

This form of analysis involves using profitability ratios and qualitative data to identify strengths and weaknesses in a business's revenue generation and cost structures. Such insights can help you prioritise initiatives that enhance profitability, allocate resources effectively and drive sustainable growth.

Why is profitability analysis important in business?

Profitability analysis is crucial as it allows you to:

- Understand which areas of your business are driving profit.
- Identify where fixed and variable costs need to be reduced.
- Evaluate operational efficiencies and inefficiencies.
- Spot opportunities to change your product mix to maximise profit.
- See which customer or supplier relationships enhance or detract from profitability.
- Create short and long-term goals to enhance profit and expand your business.
- Spot trends by comparing current profitability against historical data.
- Benchmark profitability against industry standards or competitors.

Does your company do this?

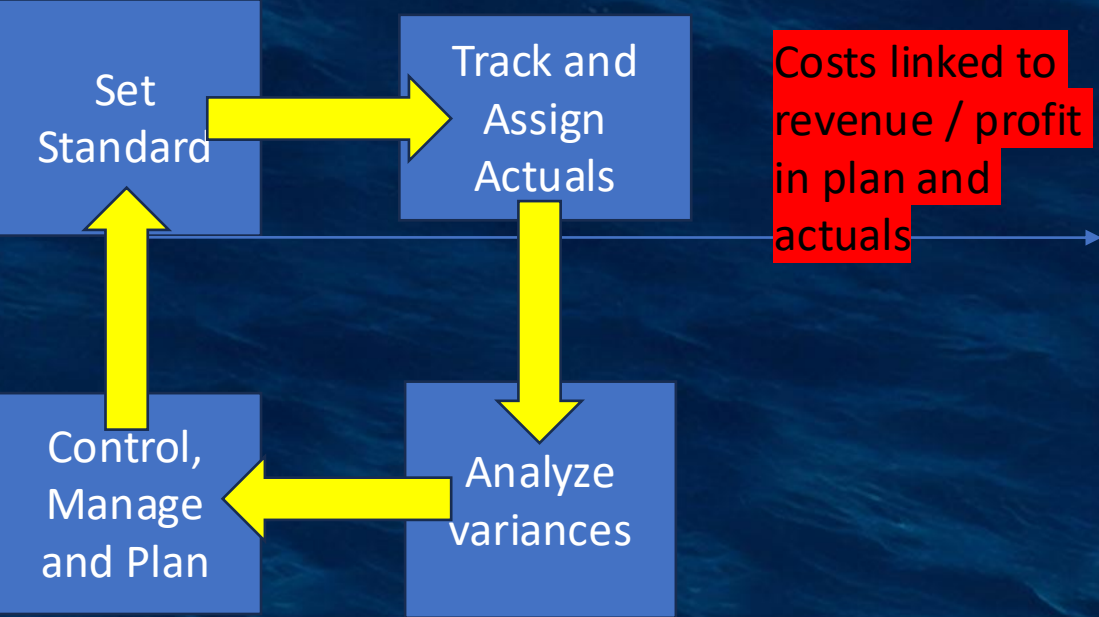


<https://www.fathomhq.com/blog/profitability-analysis-a-comprehensive-guide>
<https://www.costperform.com/product-profitability-analysis-definition-and-examples/>

Objectives of Costing: Linking Cost Flow with Profitability

What Is Flow of Costs?

Flow of costs describes how a company tracks and allocates expenses like materials, labor, and overhead as products move through production. It shapes the valuation of inventory and cost of goods sold and is reported using methods such as FIFO, LIFO, or weighted-average cost. Manufacturers like Ford use these cost-flow approaches to guide financial reporting and operational decisions.



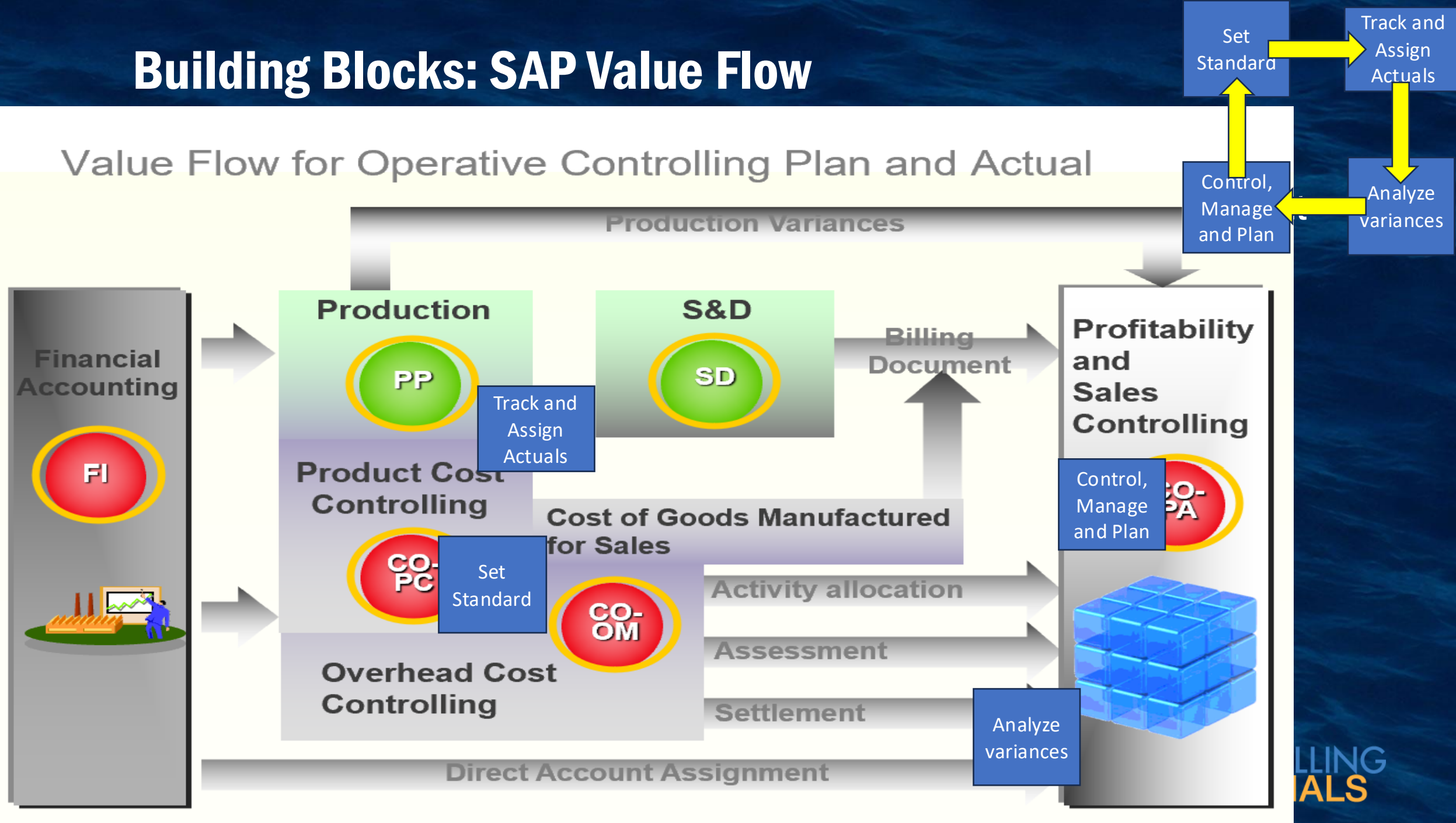
Profit Planning		Budgetary Control		
		Responsibility Budgets	Deviations	Actuals
Profit Plan		Sales Volume Profitability (C) Expenses	Volume Profitability (C) Expenses	For comparison with additional responsibility budgets and provision of data as necessary
		Production Volume Expenses	Volume Expenses	
		General Expenses	Expenses	
		Financial Cash Flow Capital Exp. Working Exp.	Cash Flow Capital Expenditure Working Capital	
Historical Data		Costs	Control Data	Current Data
Income Expenses Finance		Products Processes Services	Variances Standard costs of actual deliveries	Income Expenses Finance
Financial Accounting		Cost Accounting	Cost Accounting	Financial Accounting
Notes: AB Budgetary control may operate on a broad basis using only financial accounting data, or on accurate basis using the data available from a cost accounting system.				
C Predetermined costs are needed to exercise effective budgetary control over profitability.				

Topic #2 SAP Building Blocks

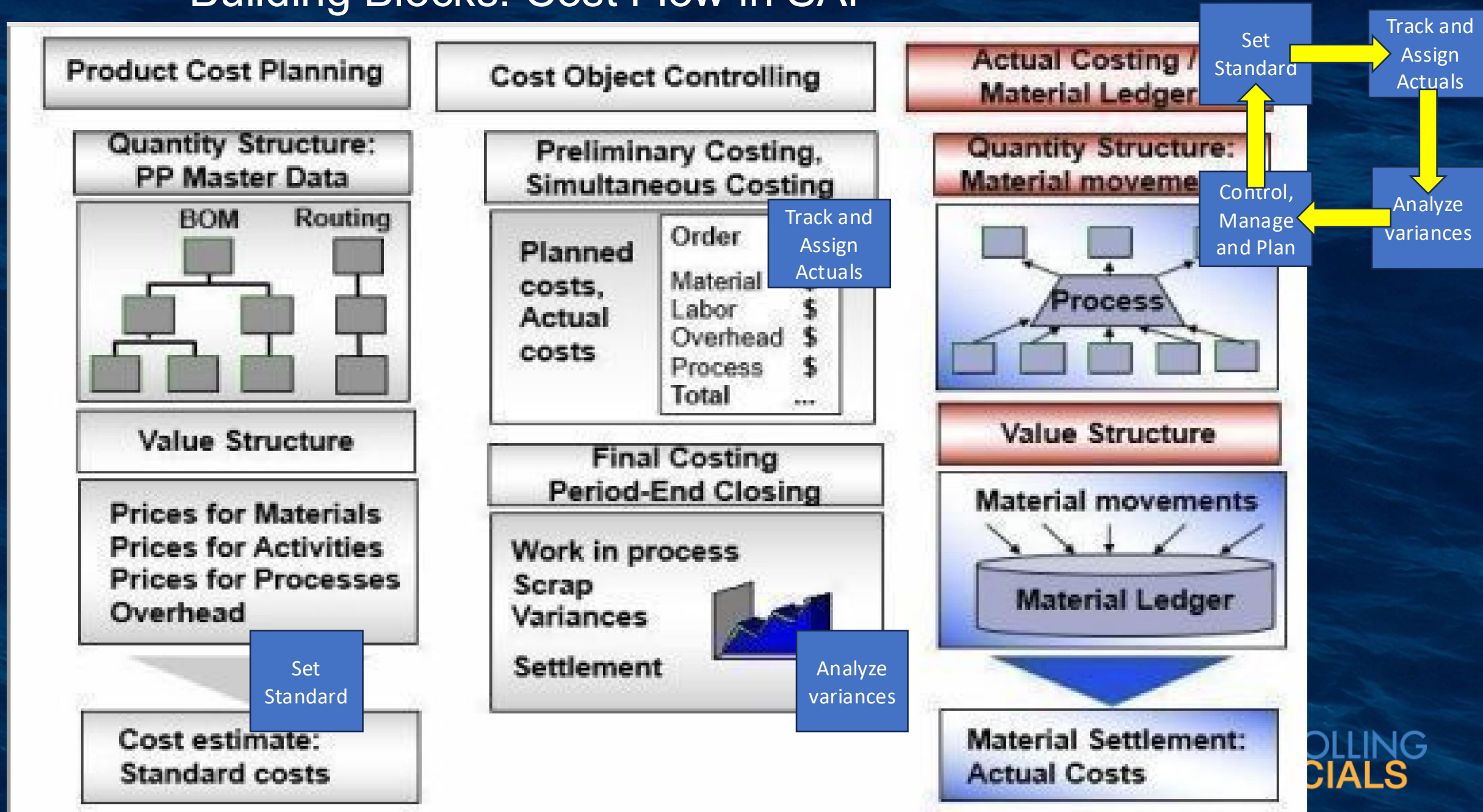
SAP standard functionality offers a lot all you have to do is set it up

Building Blocks: SAP Value Flow

Value Flow for Operative Controlling Plan and Actual

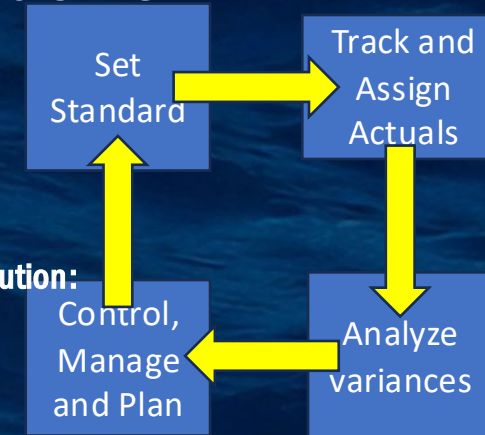


Building Blocks: Cost Flow in SAP



Building Blocks : Product Costing cost components backbone

- Product costing is the activity that determines the standard cost for a material that is bought, or manufactured
- Standard Cost estimates are planned costs for products saved by cost components/ cost elements
- Standard Cost estimate is saved as the standard cost for each material plant
- Standard cost estimate is used to track against the actual costs for each material or component, the cost components during supply chain execution:
 - Plan / target
 - Actual
 - Variance
- When Inventory is sold, the standard cost components PLUS the variances make up the COGS
- This allocation is done via material ledger, and other functions providing LIFO, FIFO or MAC and completing cost flow



Purchase Price \$ 45
Freight and Duty costs \$

Bill of Material
Routing
Work Center

Planning	Actual
Material Std Planned Price 1 Vendor Price	Issue part Buy part
Activity Rates	Wages Fringe cost center
Activity Rates Costing Sheets	Wages, Invoices cost center
Additive Costs	Freight Duty

XYZ FERT Manufactured Material		
Cost Component	Value at Standard	Itemization
10 Materials/ FOB	200.00	591000
20 Labor	200.00	590000
30 Overhead	90.00	590001
40 Factory OH	10.00	590001
50 Freight	0.00	661xxxx
Total	500.00 / 10 EA	COGS 550xx0/1/2

Variances
Manufacturing variance
Purchasing variance
Freight Duty variance

510300		
Variances MV and PPV	PPV:	
1) 50 PPV	\$ 40 --- CC FOB price	
	\$ 10 --- CC Freight	
4)100 MV	MV:	
	\$ 80 ---CC Material use	
	\$ 20 -- CC Overhead	
See T accounts in appendix		

Building Blocks: Cost Flow is based on the standard cost estimate

Actual postings come from automatic / other modules will trigger postings onto the production order, and off the production order

Sale to customers 10 EA
COGS \$ XXXX include expected scrap

Cost center 72635

Activity Confirmation O
590000 25 MIN

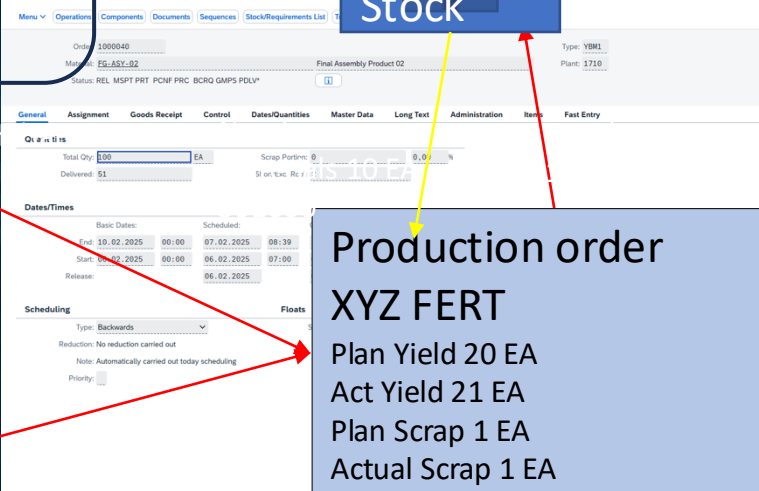
Confirmation
Record yield 10 EA
Record Scrap 1 EA



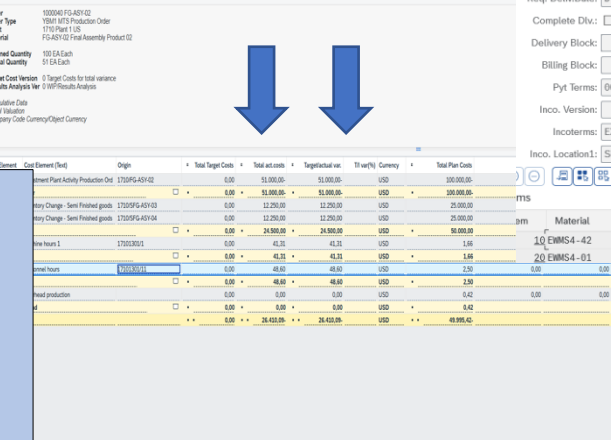
Stock



Production order
XYZ FERT
Plan Yield 20 EA
Act Yield 21 EA
Plan Scrap 1 EA
Actual Scrap 1 EA



SAP Stock Confirmation screen showing Order 1000040, Material FG-ASY-02, and various tabs like General, Assignment, Goods Receipt, etc.



SAP Production Order screen showing Order 1000040, Material FG-ASY-02, and various tabs like General, Assignment, Goods Receipt, etc.

Standard Order: 1

Sold to Party: EWM17-CU01

Ship to Party: EWM17-CU01

Item Overview

Req. Deliv.Date: 17.12.2024

Complete Div: ☐

Delivery Block: ☐

Billing Block: ☐

Pvt Terms: 0004

Inco. Version: ☐

Inco. Location: Site

Net Value: 1,515.00

Company EWM Domestic Customer 01, 500 Main Street, Atlanta GA 30344, U

Company EWM Domestic Customer 01, 500 Main Street, Atlanta GA 30344, U

Cust. Reference: CPO - R202

Cust. Ref. Date:

Deliver Plant:

Total Weight: 15.018 K

Volume: 13.508 L

Pricing Date: 17.12.2024

Req. Segment

Order Quantity

Work Center: F132

Plant: 1710

Status: PCNF MILE PRT REL

Suboperation: ☐

Milestone: ☒

Progress confirmation: ☐

Quantity/Activity

Dates/Times

Personnel/Additional Data

Quantity/Forecast

Administration

Confirmation Type

Partial Confirm: ☒

Final Confirm: ☐

Clear Reservation

Quantities

To Be Confirmed	Unit	Confirmed to Date	Planned for Conf.	Unit
Yield 1	EA	57	100	EA
Scrap 0		0	0	
Rework 0		0		
Rework (M) 0				
Reason for Var:				

Activities

Act. to Be Confirmed	Unit	Confirmed to Date	Planned Activity	Unit
Setup 0	MIN	0,000		MIN
Machine 1	MIN	24,000	100,000	MIN
Labour 1	MIN	24,000	100,000	MIN

KKS2 Calculate scrap and manufacturing variances

Variance Calculation: Initial Screen

Order: 17018880

Parameters

Period: 12

Fiscal Year: 2021

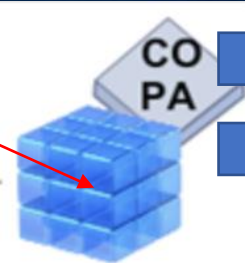
☐ All target cost vsns

☒ Selected Target Cost Vsns

000,001,002

000

Settle variances to COPA
595001
580001



CO PA

Customer Bob and Bobs trading

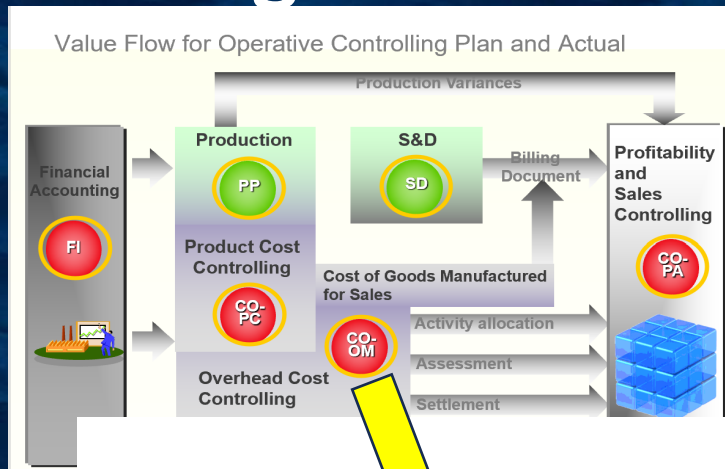
XYZ FERT Manufactured Material

MR21 or loading a standard ONLY will put the cost into MATERIAL cost component

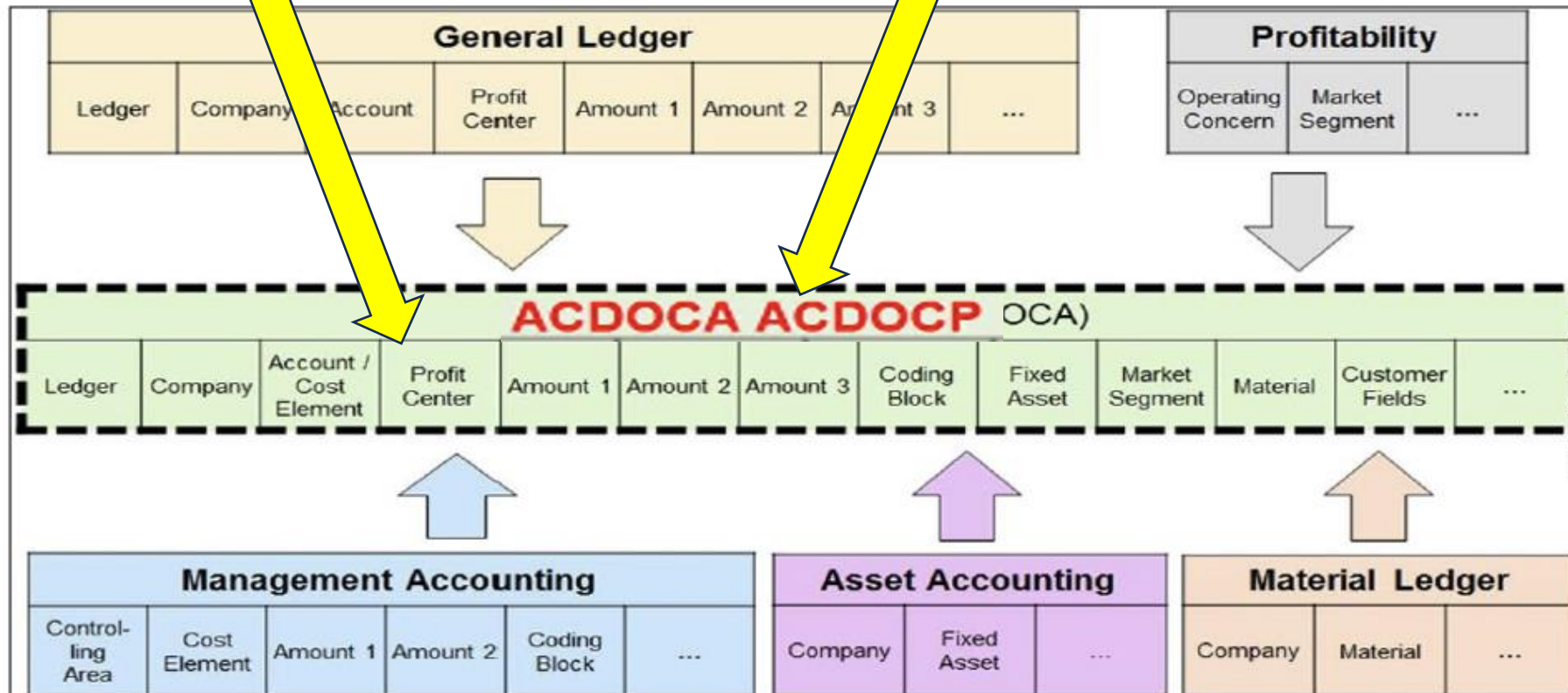


Cost Element Displayed in	TOTAL 1 USD	ALLOC 1 USD	ENGINEER 1 USD
4* MI_REV Revenue Gross	83831,491.53	0.00	712,013.05
4* MI_COGS COGS gross	32325,707.26	6,415.70	328,858.26
4* MI_CONSGA Conversion and Opera	1,808.88	0.00	0.00

Building Blocks: ACDOCA and the SST

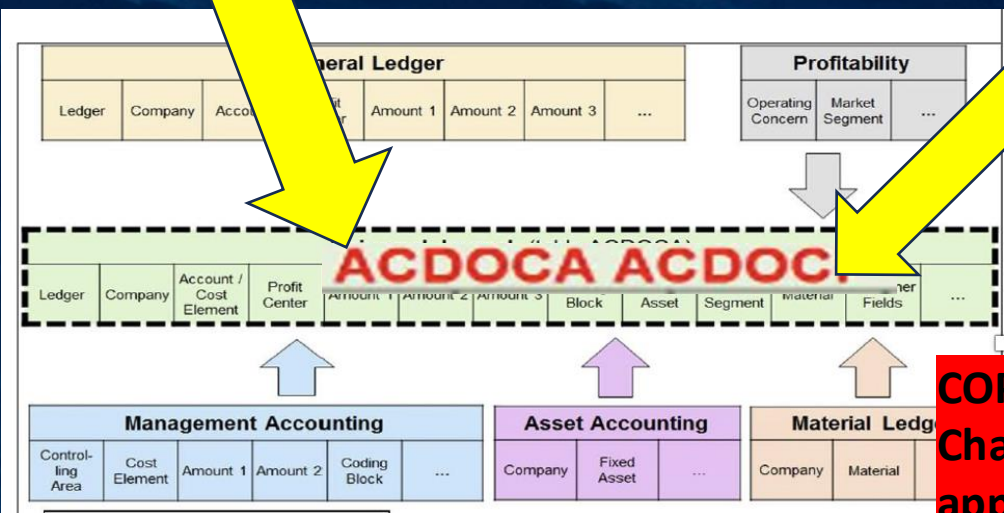
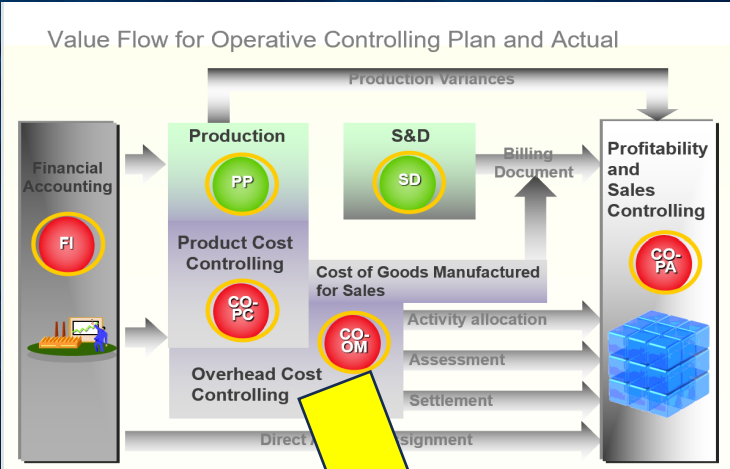


- **Primary costs:** External business events result in primary costs.
- **Secondary costs:** Business transactions between cost objects are secondary costs.



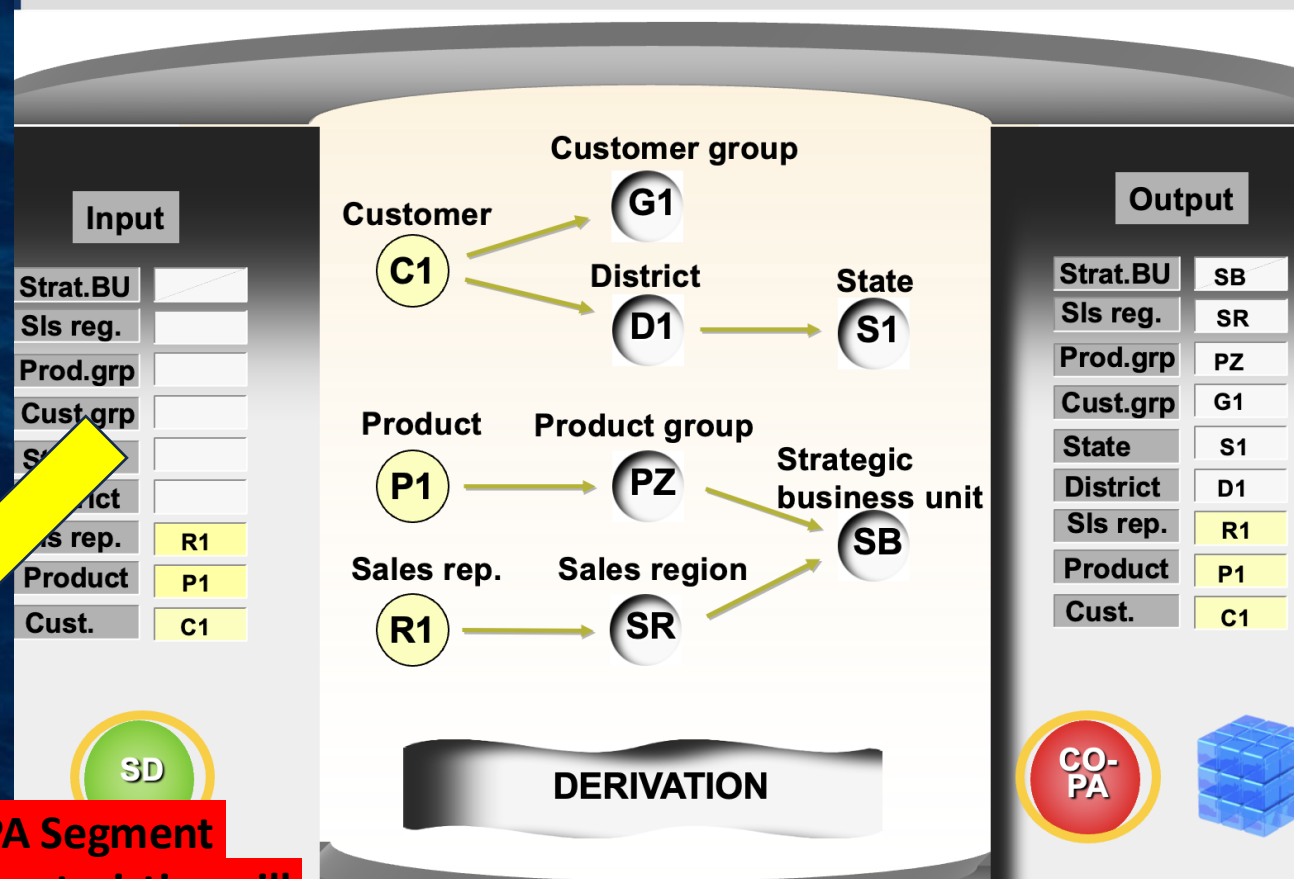
All transactions posting for production and distribution are made into the SST

Building Blocks: ACDOCA and COPA



COPA Segment Characteristics will appear on ACDOCA in S4

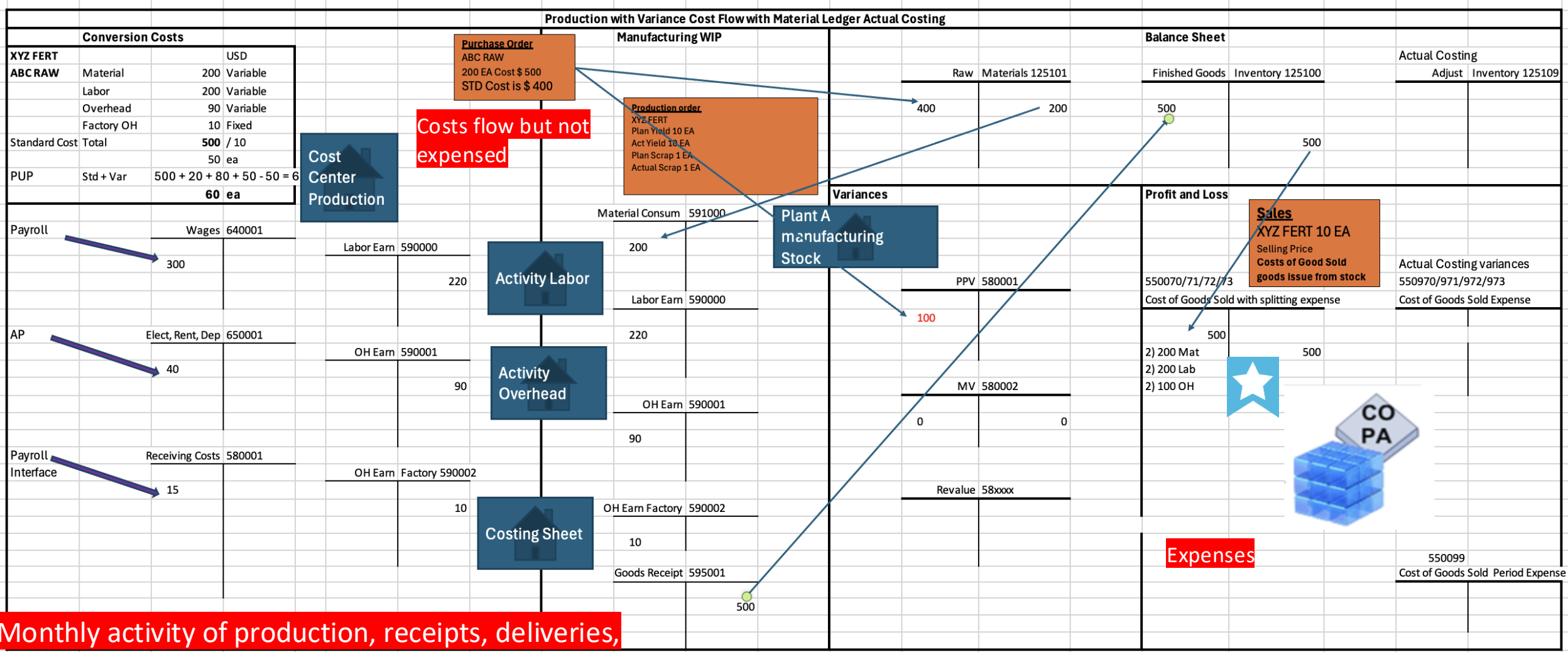
Characteristics Derivation Concept



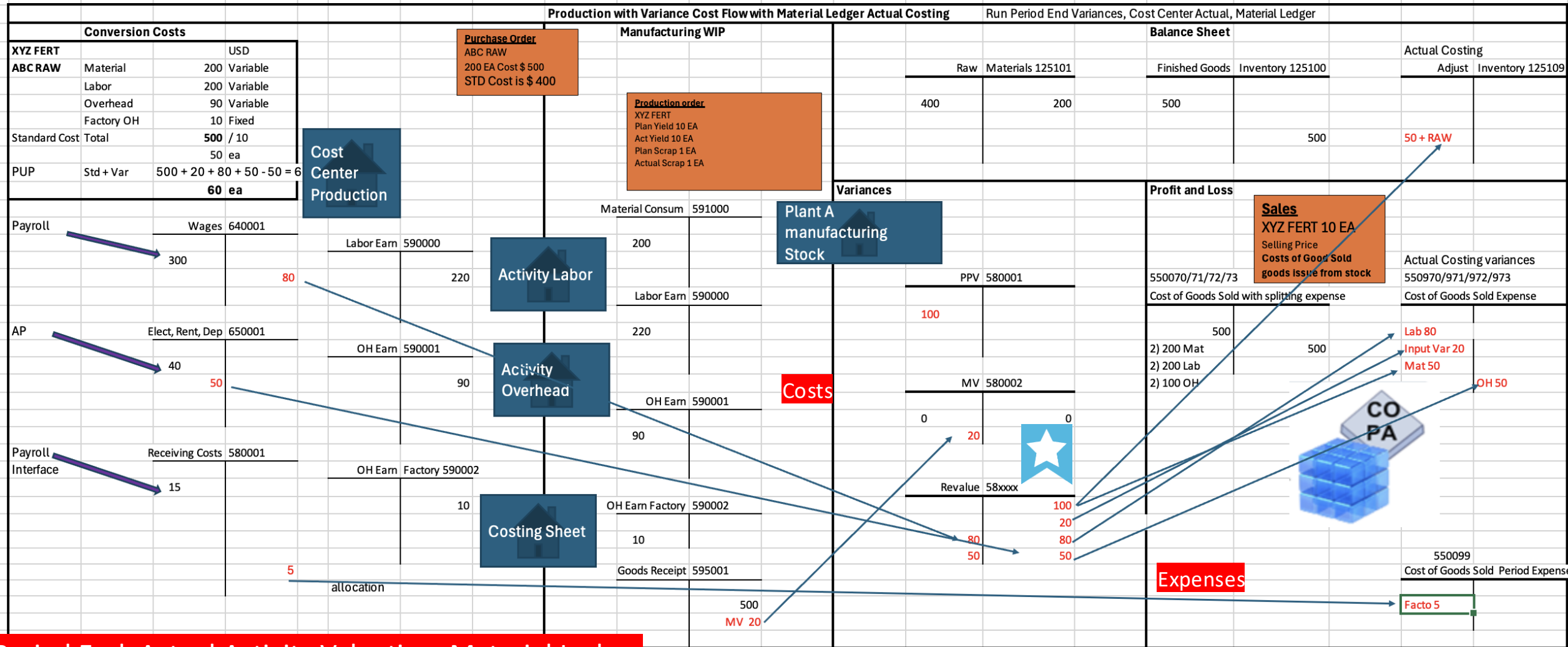
Topic #3 How does it really look in SAP

SAP standard functionality offers a lot all you have to do is set it up, but that takes a lot of understanding of your business requirements, and your accounting flow → following functions are needed

How does this look in SAP accounting for production distribution



How does this look in SAP accounting variances allocations period end



How does this look in SAP cost center & production order classic

SAP Cost Centers: Actual/Plan/Variance

Cost Center Absorption

Cost Center/Group: 10101101 Financials (DE)

Person responsible: 10101301 Manufacturing 1 (DE)

Reporting period: 1 to 12 2025

Elements	Act. Costs	Plan Costs	Var. (Abs.)	Var. (%)
61022100 Loss Val own prd	1.272,36		1.272,36	
61022100 Payroll Vacatn Pa		50,00	50,00	100,00
61100000 Payroll Exp Salar	5.107,00		5.107,00	
61101000 Pay Othr salary e	253,00		253,00	
61102000 Pay Other Wage ex	252,00		252,00	
61103000 Pay Exp Dir Labor	607,00		607,00	
61104000 Payroll Expense I	383,00		383,00	
63001000 Electricity&Utili	1.212,00		1.212,00	
63005000 Office/Building R	698,00		698,00	
70040000 Discount Received	2,40		2,40	
94225000 COPA assessments-	6.588,00		6.588,00	
* Debit	16.369,96	50,00	16.319,96	32,00
94112000 OH production	689,74		689,74	
94225000 COPA assessments-	6.588,00		6.588,00	
94301000 Machine hours 1	3.323,44	20,00	3.303,44	16.517,20
94302000 Machine hours 2				
94303000 Setup Production	93,83	40,00	53,83	134,58
94308000 Consulting		20.880.000,00	20.880.000,00	100,00
94311000 Personnel hours	23.481,95	21.600.030,00	21.576.548,05	99,89
* Credit	34.176,96	42.480.090,00	42.445.913,04	99,92
** Over/Underabsorption	17.807,00		42.462.233,00	99,96

Document Number: 2300000015 Company Code: 1710 Fiscal Year: 2025

Document Date: 06.02.2025 Posting Date: 06.02.2025 Period: 2

Reference: Cross-Comp.No.: Texts Exist: Ledger Group:

Currency: USD

Ledger OL

Fisc. Year: 2025 Period: 2

C...	Item	K...	L.Item	St Account	Description	Amount	Cost Center	Act.	Order	Profit Center	Quantity	Crcy
1710	1	50	000001	94301000	Machine hours 1	0,51	17101301			YB110	1-	USD
	2	40	000002	94301000	Machine hours 1	0,51			1000040	YB900	1	USD
	3	50	000003	94311000	Pers hrs	0,60	17101301			YB110	1-	USD
	4	40	000004	94311000	Pers hrs	0,60			1000040	YB900	1	USD
	5	40	000005	29500900	DocSplit Clrg Act CO	1,11						USD
	6	50	000006	29500900	DocSplit Clrg Act CO	1,11						USD

Menu Currency Time Frame Valuation View Value Base... Services for Object

Order 1000040 FG-ASY-02
Order Type YBM1 MTS Production Order
Plant 1710 Plant 1 US
Material FG-ASY-02 Final Assembly Product 02

Target Cost Version 0 Target Costs for total variance
Results Analysis Ver 0 WIP/Results Analysis

Cumulative Data
Legal Valuation
Company Code Currency/Object Currency

Production Costing

Cost Element	Cost Element (Text)	Origin	Total Target Costs	Total act.costs	Target/actual var.	T/I var(%)	Currency	Total Plan Costs	Variance	Work in Process
55100000	Adjustment Plant Activity Production Ord	1710/FG-ASY-02	0,00	51.000,00	51.000,00		USD	100.000,00	0,00	0,00
Credits (ColBy-PrPrCr)			0,00	51.000,00	51.000,00		USD	100.000,00		
54300000	Inventory Change - Semi Finished goods	1710/SFG-ASY-03	0,00	12.250,00	12.250,00		USD	25.000,00	0,00	0,00
54300000	Inventory Change - Semi Finished goods	1710/SFG-ASY-04	0,00	12.250,00	12.250,00		USD	25.000,00	0,00	0,00
Direct Material			0,00	24.500,00	24.500,00		USD	50.000,00		
94301000	Machine hours 1	17101301/1	0,00	41,31	41,31		USD	1,66	0,00	0,00
Machine time			0,00	41,31	41,31		USD	1,66		
	Personnel hours	17101301/11	0,00	48,60	48,60		USD	2,50	0,00	0,00
			0,00	48,60	48,60		USD	2,50		
94112000	Overhead production		0,00	0,00	0,00		USD	0,42	0,00	0,00
Production Overhead			0,00	0,00	0,00		USD	0,42		
			0,00	26.410,09	26.410,09		USD	49.995,42		

How does this look in SAP cost center & production order fiori

Standard

Profit Center:

Order Analysis

Costs

Production Cost Analysis

1234

Product:

Order:

Order Open

WIP + Variance + production costs = 0

Go

Clear

Adapt Filters

Cost Centers Actuals

Accessible

Ex...	Order	Product	Tgt DR/Act DR Varc	Target Cost Debit	Actl Cost Debit	Total Actl Cost	Order Status	Op...	Out...	Out...	Plant	Sal...	Tota...
①	6000060 (Coil Slitting of 45K LB Master ...		227.137,50 USD	0,00 USD	227.137,50 USD	0,00 USD	Closed	>	0,00	0,00	1710		0,00
①	6000044 (EWM test1)		225.000,00 USD	0,00 USD	225.000,00 USD	225.000,00 USD	Closed	>	0,00	0,00	1710		0,00
①	6000020 (Coil Slitting of 45K LB Master ...		26.227,78 USD	0,00 USD	26.227,78 USD	9.678,70 USD	Open	>	0,00	0,00	1710		0,00
①	1000040	FG-ASY-02 (Final Assembly Product 02)	24.589,91 USD	0,00 USD	24.589,91 USD	-26.410,09 USD	Open	>	0,00	0,00	1710		0,00
①	1000080	SFG-ASY-04 (Semi-finish Assembly Produ...	23.908,98 USD	0,00									
①	1000081	SFG-ASY-04 (Semi-finish Assembly Produ...	23.908,98 USD	0,00									
①	1000000	S-201 (SEMI201,MTS,D1,Subassembly)	7.587,16 USD	0,00									
①	1000048	SFG-ASY-04 (Semi-finish Assembly Produ...	6.374,98 USD	0,00									
①	1000200	SFG-ASY-02 (Semi-finish Assembly Produ...	5.000,00 USD	0,00									
①	1000201	SFG-ASY-02 (Semi-finish Assembly Produ...	702,27 USD	0,00									
①	1000061	SFG-ASY-04 (Semi-finish Assembly Produ...	509,96 USD	0,00									
①	1000202	SFG-ASY-02 (Semi-finish Assembly Produ...	500,00 USD	0,00									
①	1000022	SFG-ASY-02 (Semi-finish Assembly Produ...	252,49 USD	0,00									
①	1000162	F-10A (FIN10A,MTS-DDMRP,PD)	157,40 USD	0,00									
①	1000063	SFG-ASY-01 (Semi-finish Assembly Produ...	150,51 USD	0,00									
①	7000000001	502089 (30002-501 - Default)	104,00 USD	0,00									
①	1000161	S-203 (SEMI203,D1)	100,00 USD	0,00									
①	1000171	F-10A (FIN10A,MTS-DDMRP,PD)	87,50 USD	0,00									
①	1000210	F-10A (FIN10A,MTS-DDMRP,PD)	87,50 USD	0,00									
			501.281,28 USD	72.310,24									

If each section is managed then :

the trial balance is accurate
all costs are allocated
ready for reporting or s
ending to other reporting or cosolidaiton systems

Activity Type

Business Transaction...

Calendar Month

Calendar Qu...

Calendar Week

Calendar Year

Chart of Accounts

Company Code

Company Code Curr...

Controlling Debit Cr...

Cost Analysis Resou...

Cost Source Unit

Customer

Customer Group

Customer or Supplie...

Distribution Channel

Division

Fiscal Period

Fiscal Quarter

Fiscal Week

Fiscal Year Period

Fiscal Year Quarter

Fiscal Year Variant

Data Analysis

Graphical Display

Query Information

Cost Flow *

Filter

Sort

Hierarchy

Drilldown

Display

Measures

Cost Center	G/L Account	Actual Amount in Trans Crncy	Actual
17101101	Financials (US)	70040000 Discount Received	\$ -2,40
	Total		\$ -2,40
17101201	Purch & Stores 1 (US)	52001000 Loss Inv Var-Raw/Tr	\$ 30.000,00
	52033000 Loss Val own prd		\$ 1.772,36
	52501000 Gain Inv Var-Raw/Tr		\$ -42.000,00
	Total		\$ -10.227,64
17101301	Manufacturing 1 (US)	61022100 Payroll Vacatn Pay W	\$ 300,00
	61100000 Payroll Exp Salaries		\$ 7,00
	61101000 Pay Othr salary exp		\$ 3,00
	61102000 Pay Other Wage exp		\$ 2,00
	61103000 Pay Exp Dir Labor co		\$ 2,00
	61104000 Payroll Expense Indi		\$ 0,00
	94112000 OH production		\$ -689,74
	94225000 COPA assessments-S		\$ 6.588,00
	Total		\$ 6.212,26
	52011000 Loss Inv Trsf-Raw/Tr		\$ 4.122,93
	61104000 Payroll Expense Indi		\$ 333,00

How does this look in SAP GL and COPA baseline

Standard GL based report with GL hierarchy (FSV)

Standard * ▾

Ledger:* OL (Ledger OL) x
Fiscal Year of Ledger:* 2026 x
Key Date:* 08.09.2026 x
Fiscal Period:
Company Code: 1710 (Company Co... x
Function:
Profit Center:
Segment:
Project:
G/L Account Hierarchy: 1799 (Demo Financ... x
G/L Account (Node):

Data Analysis Graphical Display Query Information

<No Bookmark Loaded> ▾ Filter ▾ Sort ▾ Hierarchy ▾ Drilldown ▾

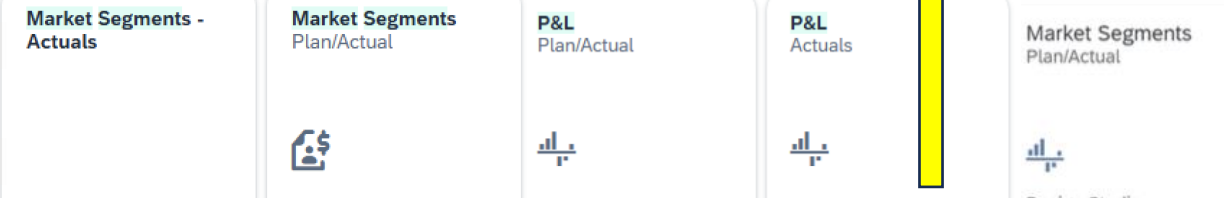
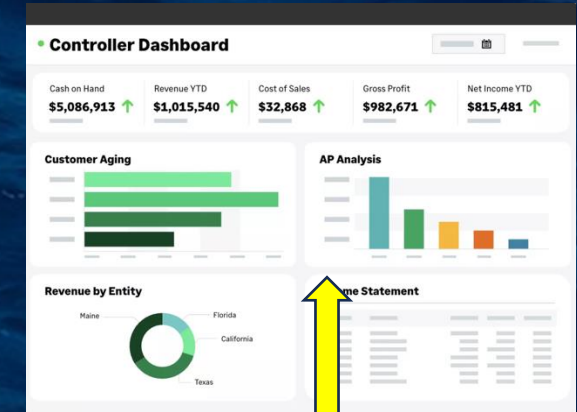
G/L Account	Amount in Transaction Currency
— 1799/01799 Demo Financial State	
+ 1799/00AS... ASSETS	\$ 132..
+ 1799/00LIA... Liabilities and Equi	\$ -142..
— 1799/00NO... Not Assigned	
44001000 Sales Rebates	
+ 1799/00BS... Statement Notes	\$ 10..

COPA (now market segment)report customer margins

Data Analysis Graphical Display Query Information

Product Margin * ▾ Filter ▾ Sort ▾ Hierarchy ▾ Drilldown ▾ Display ▾ Measures ▾ Totals ▾ Navigate To

Customer	Customer Group	Product Sold Group	Actual Amount in Trans Cr	Actual Amount in Company Co.
Domestic US Cus... 17100001	Not assigned	L004 Finished Goo	\$ 1.119,00	\$ 1.119,0
			\$ 19.648,83	\$ 19.648,8
		YBM... Non-Sto Mat.	\$ 15,00	\$ 15,0
			\$ 15,00	\$ 15,0
		# Not assigned	\$ 418.276,34	\$ 418.276,3
			\$ -2.065,75	\$ -2.065,7
		Total	\$ 447,60	\$ 447,6
		Total	\$ 416.658,19	\$ 416.658,1
		Total	\$ 436.322,02	\$ 436.322,0
		Total	\$ 19.840,88	\$ 19.840,8
		Total	\$ 1.000,00	\$ 1.000,0



Standard COPA (now market segment)report sourced all from accdoca

Standard * ▾

To show filters here, add them to the filter bar in Filters

DIMENSIONS	COLUMNS	Measures	Customer Group	Customer Group	Material Group	Material Group	G/L Account	Actual Amount	Plan Amount	Difference	%-Difference	Actual Quantity	Plan Qu
CycCountAdj: APW								\$ 0,00	\$ 0,00	\$ 0,00	-2 EA		
PC COS - Manual								\$ 0,00	\$ 0,00	\$ 0,00	0		
Intercompany COS								\$ 0,00	\$ 0,00	\$ 0,00	799 EA		
Intercompany Revenue								\$ -30.545,58	\$ -30.545,58	\$ 0,00	-799 EA		
PPV Std. Cost								\$ 9.848,19	\$ 9.848,19	\$ 0,00	0 EA		
Scrap								\$ 0,00	\$ 0,00	\$ 0,00	0 EA		
Std. Reval. Equip								\$ 0,00	\$ 0,00	\$ 0,00	0 EA		
Std. Reval. Appl/Oth								\$ 0,00	\$ 0,00	\$ 0,00	0 EA		
Total								\$ -20.696,39	\$ -20.696,39	\$ 0,00	-2 EA		
CycCountAdj: APW								\$ 0,00	\$ 0,00	\$ 0,00	33 EA		
PC COS - Manual								\$ 0,00	\$ 0,00	\$ 0,00	0		
Intercompany COS								\$ 0,00	\$ 0,00	\$ 0,00	22.820 EA		
Intercompany Revenue								\$ -247.692,57	\$ -247.692,57	\$ 0,00	-22.820 EA		
PPV Std. Cost								\$ 118.903,02	\$ 118.903,02	\$ 0,00	0 EA		
Scrap								\$ 0,00	\$ 0,00	\$ 0,00	0 EA		
Std. Reval. Equip								\$ 0,00	\$ 0,00	\$ 0,00	0 EA		
Std. Reval. Appl/Oth								\$ 0,00	\$ 0,00	\$ 0,00	0 EA		
Total								\$ -128.789,55	\$ -128.789,55	\$ 0,00	18 EA		
COS - TTR - Manual								\$ -39,35	\$ -39,35	\$ 0,00	1 EA		
Intercompany Revenue								\$ -39,35	\$ -39,35	\$ 0,00	-1 EA		
Scrap								\$ 0,00	\$ 0,00	\$ 0,00	0 EA		
Total								\$ -78,70	\$ -78,70	\$ 0,00	0 EA		
CycCountAdj: APW								\$ 0,00	\$ 0,00	\$ 0,00	-1 EA		
PC COS - Manual								\$ 0,00	\$ 0,00	\$ 0,00	0		
Intercompany COS								\$ 0,00	\$ 0,00	\$ 0,00	144 EA		
Intercompany Revenue								\$ -2.697,85	\$ -2.697,85	\$ 0,00	-144 EA		
Scrap								\$ 0,00	\$ 0,00	\$ 0,00	0 EA		
Total								\$ -2.697,85	\$ -2.697,85	\$ 0,00	-1 EA		

How does this look in SAP Material ledger functions

**Material ledger track variances, and re allocates them
It is complicated but removes manual work for accounting
Understand the transactions flowing into and out of material ledger including**

Purchase variances

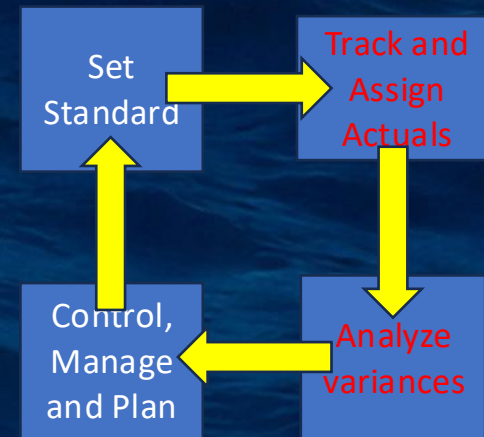
Production variances

Costing of materials

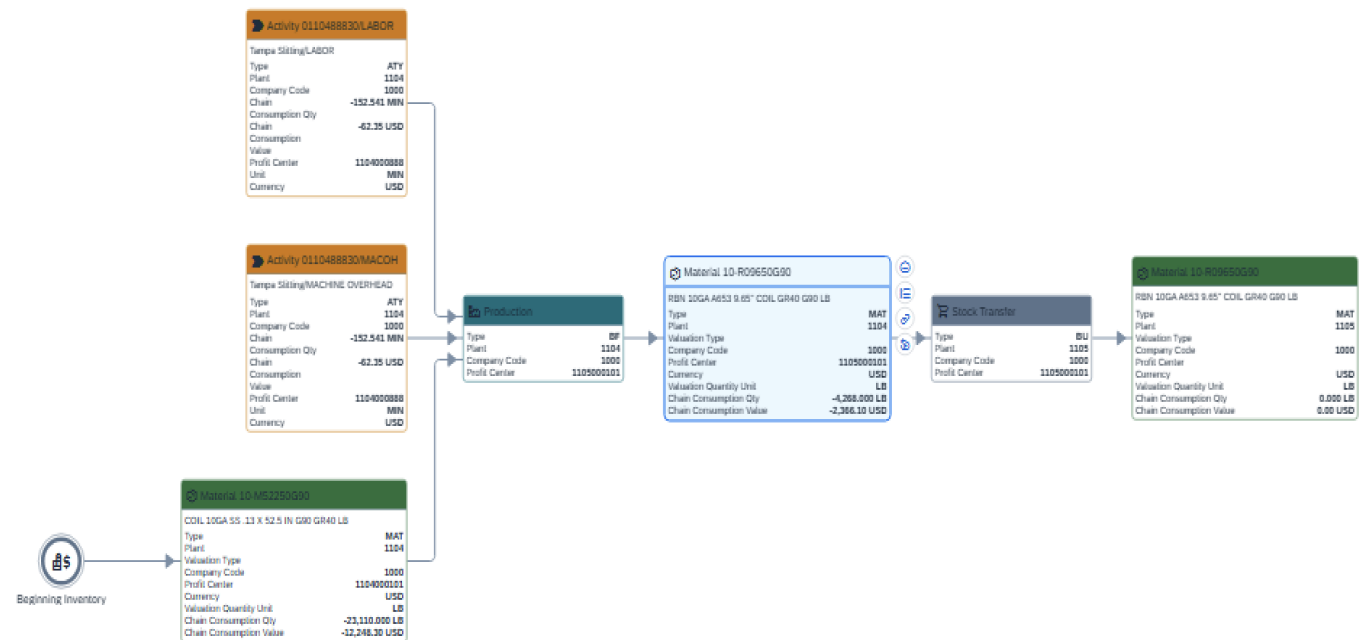
Stock transport orders

Cost Center actual costing (activity rates with actual)

Postings from variance into COGS, or inventory or another material



Actual Costing		Run Period End Variances, Cost Center Actual, Material Le		Manage and Plan		Variances	
		Balance Sheet					
Raw	Materials 125101	Finished Goods	Inventory 125100	Actual Costing			
				Adjust	Invento		
400	200	500					
			500			Material	
						50 + RAW	
Profits and Loss		Profit and Loss					
		Sales XYZ FERT 10 EA Selling Price Costs of Good Sold goods issue from stock					
PPV 580001		550070/71/72/73		Actual Costing varian		550970/971/972/973	
100		Cost of Goods Sold with splitting expense		Cost of Goods Sold Exp			
		500	500			Lab 80	
		2) 200 Mat				Input Var 20	
		2) 200 Lab				Mat 50	
		2) 100 OH				OH 50	
MV 580002							
0	20						
Revalue 58xxxx							
	100						
	20						
	80						
	50						
		Expenses					
				550099			
				Cost of Goods Sold Peri			
				Facto 5			



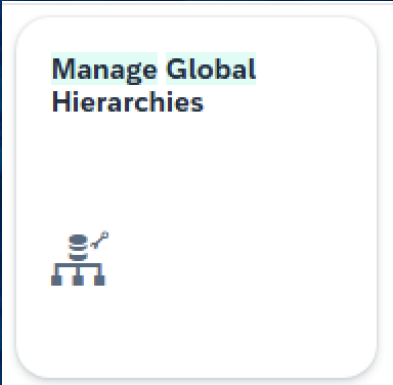
How does this look in SAP GL accounts cost elements hierarchies

Chart of accounts so numbers support cost flow and make it easier to understand/ report

- Include allocations or ignore
- Account ranges for management legal and consolidation e.g. Production/ Conversion/ WIP and COGS +SGA
- Other attributes to consider in reports

Confirm costing flow via cost element types e.g. activity types, costing sheets, assessments

Fixed	Short Description
21	Internal settlement
31	Order/project results analysis
41	Overhead Rates
42	Assessment
43	Internal activity allocation
50	Project-related incoming orders: Sales revenue
51	Project-related incoming orders: Other revenues
52	Project-related incoming orders: Costs
61	Earned value
66	Reporting Cost Element CO-PA



Manage G/L Account Master Data

G/L Acct External ID	Short Text	Chart of Accounts	Controlling Area	Cost Element Category
482000	Estim. depreciation	INT	0001 (Kostenrechnungskreis 0001)	4 (Accrual/deferral per debit = actual)
483000	Estimated interest	INT	0001 (Kostenrechnungskreis 0001)	4 (Accrual/deferral per debit = actual)
484000	Estimated risk	INT	0001 (Kostenrechnungskreis 0001)	4 (Accrual/deferral per debit = actual)
489000	Other estim. costs	INT	0001 (Kostenrechnungskreis 0001)	4 (Accrual/deferral per debit = actual)
600100	Int.sttlmnt mat.csts	INT	0001 (Kostenrechnungskreis 0001)	21 (Internal settlement)
600200	Int.sttlmnt per.csts	INT	0001 (Kostenrechnungskreis 0001)	21 (Internal settlement)
600300	Int.sttlmnt oth.csts	INT	0001 (Kostenrechnungskreis 0001)	21 (Internal settlement)
600400	Int.settl.profit.seg.	INT	0001 (Kostenrechnungskreis 0001)	21 (Internal settlement)
610000	WIP/results analysis	INT	0001 (Kostenrechnungskreis 0001)	31 (Order/project results analysis)
610100	Results analy.: Rev.	INT	0001 (Kostenrechnungskreis 0001)	31 (Order/project results analysis)
610200	WIP: Primary inv.	INT	0001 (Kostenrechnungskreis 0001)	31 (Order/project results analysis)
610300	WIP/RA: Prim.remain	INT	0001 (Kostenrechnungskreis 0001)	31 (Order/project results analysis)
610400	WIP/RA:PrimSalesCsts	INT	0001 (Kostenrechnungskreis 0001)	31 (Order/project results analysis)

Manage Global Hierarchies

M_MGT - G/L Account Hierarchy

Nodes	Source	Semantic Tag
M_MGT		
MI_GROSS (Gross Margin)		
MI_REV (Revenue)		Gross Revenue
MIREVRD (3rd party revenue)		
40000000 (Product Sales) - 40099999		
MIICREV (inter company revenue)		
MI_COGS (COGS)		
MI_CONSGA (Conversion and Operating Costs)		Other Operating Exp, Operating E
MI_MAT (Material Conversion)		
MI_LAB (Labor Conversion)		
MI_SGAALL (SGA type conversion)		

How does this look in SAP allocations

S4 Universal Allocations

For example: allocate the costs that are considered part of conversion costs to be absorbed in activity rate

Can include supply chain management, production managers from corp, electricity etc:

Can allocate from cost centers to:

cost center that is absorbed by a costing sheet, or by activity types → part of cost flow

any objects on the COPA segment e.g. customer, or product, or sales order item → period expense direct to COGS

Allocation base to be determined e.g. revenue \$

Account to be mapped into reporting--> type 41 depending on the type of allocation

Postings are in ACDOCA

< MiTek QS4 UAT Manage Allocations ▾

Standard* ▾ Where-Used

Allocation Context:
Search Margin Analy... X ▾

Allocation Cycle:

Company Code:

Editing Status: All ▾ Allocation Type: ▾

Ledger: Actual/Plan: ▾

Plan Category: Allocation Tags:

ABOVUN10
Absorption Over Under 10

Ledger: 0L (Ledger 0L)
Allocation Type: Overhead Allocation
Actual/Plan: Actual

General Information Field Groups

Cycle Description:*
Absorption Over Under 10

Valid To:*
12/26/9999

Cycle Run Group:

CCtrs: Act./Tgt/Var.		Date:	07/26/2010	Page:	2 / 3
Cost center/group:		1001	P100 Utilities	Column:	1 / 6
Person responsible:		John Doe			
Reporting period:		7	to	7	2010

Cost Elements	Act. Costs	Tgt Costs	Var. (Abs.)	Var. (%)
550000 Electricity	24,000.00	22,500.00	1,500.00	6.67
550100 Natural Gas	4,250.00	3,750.00	450.00	12.00
* Debit	28,250.00	26,250.00	1,950.00	7.43
943001 Electricity Alloc	22,500.00	22,500.00		
943002 Natural Gas Alloc	3,750.00	3,750.01	0.01	0.00
* Credit	26,250.00	26,250.01	0.01	
** Over/Underabsorption	1,950.00	0.01	1,950.01	*00100.00

CCtrs: Act./Tgt/Var.		Date:	07/26/2010	Page:	3 / 3
Cost center/group:		1001	P100 Utilities	Column:	1 / 6
Person responsible:		John Doe			
Reporting period:		7	to	7	2010

Activity Types	Act. Acty	Plan Acty	Var. (Abs.)
ELECT Electricity Allocation	300,000 KWH	566,667 KWH	266,667 KWH
GAS Natural Gas Allocation	750,000 FT3	1,500,000 FT3	750,000 FT3

<https://sapinsider.org/use-the-indirect-activity-allocation-cycle-to-calculate-and-post-sender-activity-quantities>

How does this look in SAP account assignment types functional area

Ensure costs and revenues post to expected objects at the right time using natural SAP flows

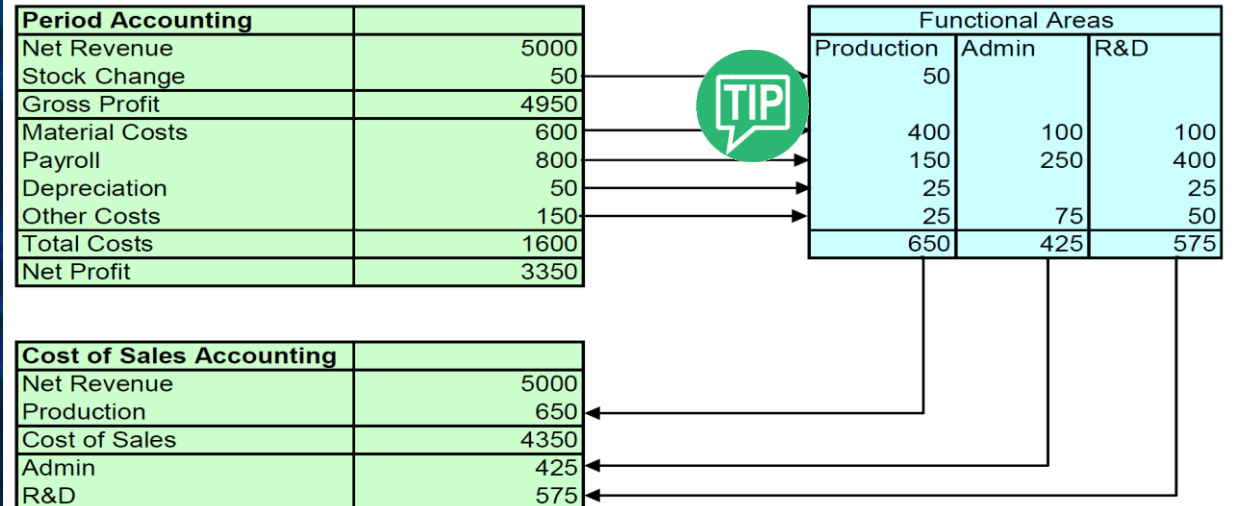
Awareness of cost objects (account assignment types) and posting rules, via field status, validations OKB9

Functional Areas by cost object, GL, derivations

EO object will show you the full gross margin, if the KS, OR, OP, PR production objects are fully allocated → remaining costs have to be SGA, and non operating costs.

G/L Accounts Mapped to Functional Areas

SAPinsider



Data Analysis				Graphical Display		Query Information											
Month End Cost Flow				Filter		Sort		Hierarchy									
Account Assignment Type		G/L Account															
EO	Profitability Segm...	44001000	Sales Rebates														
		Total															
KS	Cost Center	52011000	Loss Inv Trsf-Raw/Tr														
		Total															
OR	Order	51100000	Consptn Raw Mat														
		54300000	Inv Chg SF Goods														
		55100000	Adj Plnt act prd.ord														
		Total															
		13100000	Inventory Raw Mat.														

Account Assignment Type (Value)	Account Assignment Type (Description)
☐ EO	Profitability Segment
☐ KL	Cost Center/Activity Type
☐ KS	Cost Center
☐ OP	Order Item
☐ OR	Order
☐ PR	WBS element

Functional Area	Name
☐ YB10	Sales Revenue
☐ YB15	Sales discounts and allow
☐ YB18	Cost of Goods Sold
☐ YB20	Production
☐ YB25	Consulting/Services
☐ YB30	Sales and Distribution
☐ YB35	Marketing
☐ YB40	Administration
☐ YB50	Research & Development
☐ YB70	Other gains
☐ YB75	Other expenses
☐ YB77	Gain from investments
☐ YB79	Gain from shares & loans

How does this look in SAP objects attributes reporting

Understanding SAP Cost flow and cost objects													
S4 One Source of truth	Company Code	GL account		Cost Object	Amount	Amount	Amount	Material #	Work Center	Profit Center	Functional Area	Segment	Plant
		Cost Element			Debit	Credit	Total						
Conversion Cost Costs	A101	590000	Labor absorption	COST CENTER		\$ (220.00)		none	A100	Product A	PRODUCTION	Std Products	Manu A
		640001	Wages/ Fringe	COST CENTER	\$ 300.00			none	A100				
		59xxxx	Labor Variance	COST CENTER		\$ (80.00)		none	A100				
		650001	Rent Elect	COST CENTER	\$ 40.00			none					
		590001	OH Earns	COST CENTER		\$ (90.00)		none					
		59xxxx	OH Variance	COST CENTER	\$ 50.00		\$ -	none	A100				
		591000	Raw Materials	ORDER	\$ 200.00			ABC RAW	A100				
		595001	Production Receipts	ORDER		\$ (500.00)		XYZ FERT	A100				
		59xxxx	Manu Variannce	ORDER		\$ (20.00)		XYZ FERT	A100				
		590000	Labor absorption	ORDER	\$ 220.00			XYZ FERT	A100				
		590001	OH Earns	ORDER	\$ 90.00			XYZ FERT	A100				
		590000	Fact OH	ORDER	\$ 10.00		\$ -	XYZ FERT	A100			\$0.00	
		COGS WIP		59ML01	Labor Variance	COPA	\$ 80.00	\$ (80.00)		XYZ FERT	-		COGS WIP
59ML01	OH Variance			COPA	\$ 50.00	\$ (50.00)		XYZ FERT					
580002	Man Variance			COPA	\$ 20.00			XYZ FERT	A100				
580001	PPV			COPA	\$ 100.00			ABC RAW	-				
59ML02	Revaluation Mateial			COPA		\$ (100.00)		ABC RAW					
59ML02	Revalua Material			COPA		\$ (20.00)	\$ -	XYZ FERT					
COGS GROSS MARGIN		550070	COGS Standard	COPA	\$ 500.00	\$ (500.00)		XYZ FERT	-		COGS		
		550071	COGS Material	COPA	\$ 200.00			XYZ FERT	-				
		550072	COGS Labor	COPA	\$ 200.00			XYZ FERT	-				
		550073	COGS Overhead	COPA	\$ 90.00			XYZ FERT	-				
		550074	COGS Factory OH	COPA	\$ 10.00			XYZ FERT	-				
		550970	COGS Material Var	COPA	\$ 70.00			XYZ FERT					
		550971	COGS Labor Var	COPA	\$ 80.00			XYZ FERT					
		550972	COGS Overhead Var	COPA		\$ (50.00)		XYZ FERT					
		550973	COGS Period Expense	COPA	\$ 10.00								
		510350	Cycle Count	COPA	\$ 50.00			XYZ FERT					
		410000	3rd Party Revenue	COPA		\$ (2,000.00)	#####	FG 1000	-	\$ (1,340.00)	\$ (1,340.00)		
SGA		650100	Salaries Wages	COST CENTER	\$ 400.00		none	-	Corp	SGA			
		659999	Depreciation	COST CENTER	\$ 200.00			none	-	\$ 650.00	\$ 650.00		
		625000	Car Rental	COST CENTER	\$ 50.00		\$ 650.00	none	-	\$ 650.00	\$ 650.00		
OPEX/ EBIT									\$ -	\$ (690.00)			

Division

Distr. Channel

Plant

Billing Type

Grp:Cost Element

MGT_

Prod. Hierarchy

Displayed in

946.14-

8,422.98-

1,081.27-

60,655.90-

13,392.93-

COPA REPORT or GL REPORT		Dr	Cr
Margin by Material XYZ FERT		Standard + Variances	
COGS Material	200 + 20 + 50	\$270.00	
COGS Labor	200 + 80	\$280.00	
COGS Overhead	90 + - 50	\$40.00	
COGS Manufacturing OH	10	\$10.00	
COGS Period Cost OH	10	\$10.00	
Cycle Count		\$50.00	
		\$660.00	
3rd Party Revenue			-\$2,000.00
XYZ FERT Margin			-\$1,340.00
Product Hierarchy	Widgets		
Profit Center	ProductA		
Material Group	Manu		
Customer Group	Big Box		

Topic #4 Possible outcomes bad

SAP costing implementations don't plan to be bad, or do they? Examples of what I lived through

Possible bad outcome the Frankenstein solutions

Project/ Costing/ Accounting did not do the design work: **Frankenstein**

Solution →

We know its hard to follow, implement, its easier to just get it running so we do that. MR21 is our friend.

Have a trial balance of primary costs without product and customer links

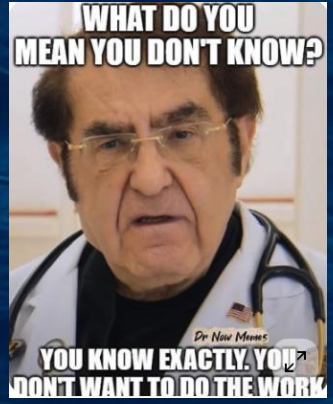
Don't understand SAP cost flow and don't have natural linkages

Don't have SAP baseline data model, or SST →

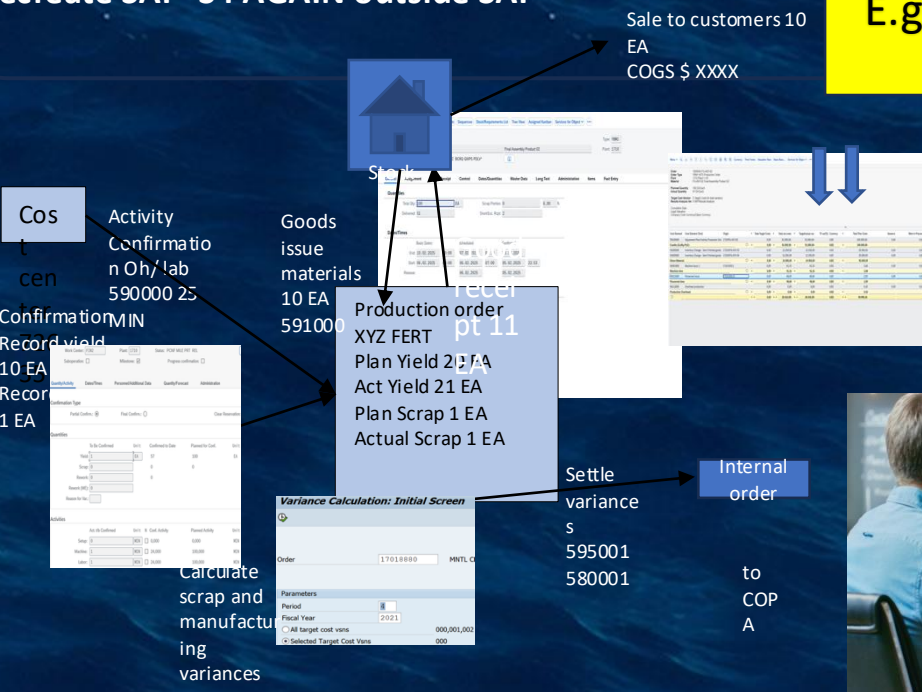
Download it all and try to piece it together elsewhere →

big data database or data lake or SAP SAC

Recreate SAP S4 AGAIN outside SAP



E.g. Download trial balance, sales and material movements



Possible bad outcome the easy button

Project was lead by logistics **Pick Pack Ship solution aka the EASY BUTTON PINBALL solution**→

Logistics bias in IT, no /minimal costing accounting presense and not integrated to FPA, we only need PP can cover costing
Goal is to Build it, store it, ship it, sell it

Plug in some cost up front→

Download the GL and CC balances and do costing apre. Post journals to get costs, build allocations to get costs absorbed.

Easy short term, way more \$\$\$ **long term**

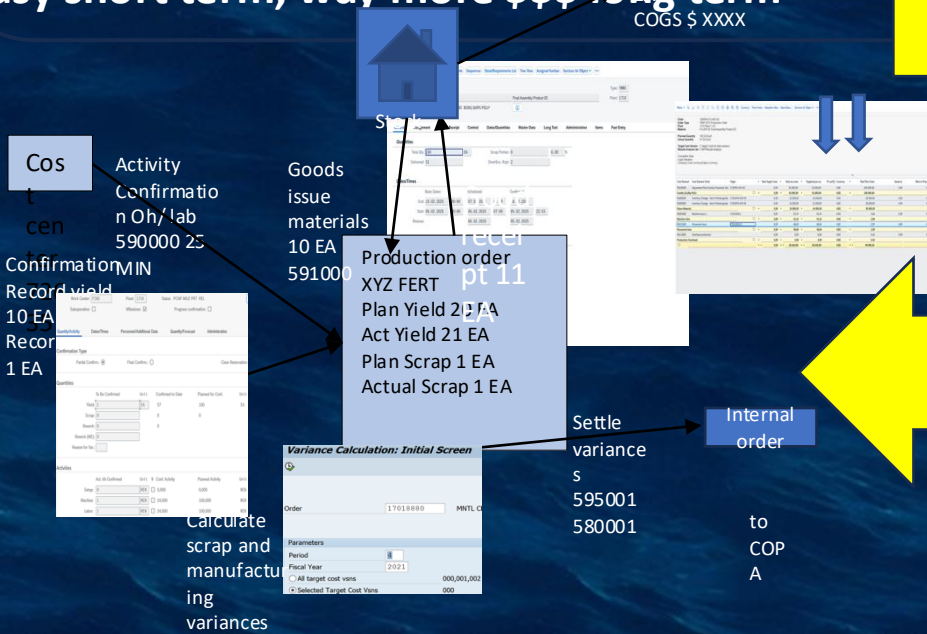


e.g. Download quantities, prices,



Upload journals

Run allocations to establish connections that were lost



ROLLING
FINANCIALS

Topic #5 Possible outcomes good

SAP costing implementations can launch something unmatched by any software

Good outcomes of alignment SAP flows addresses business requirements

SSTACDOCA



Via PL
to
stock

- Wages
- Material issues
- Receipts
- WIP credit here
- Variance = 0
- Allocate pro



Via PL

- COGS
- Variances
- Revenue
- SGA

EO COPA records

MOOG Inc. Consolidated Balance Sheets			
(dollars in thousands, except per share data)			
	September 30, 2023	October 1, 2022	
ASSETS			
Current assets			
Cash and cash equivalents	\$ 68,959	\$ 101,990	
Restricted cash	185	15,338	
Receivables, net	434,723	375,502	
Unbilled receivables	706,601		
Inventories, net	724,002		
Prepaid expenses and other current assets	50,862		
Total current assets	1,985,332		
Property, plant and equipment, net	814,696		
Operating lease right-of-use assets	56,067		
Goodwill	821,301		
Intangible assets, net	11,637		
Deferred income taxes	149		
Other assets			
Total assets			
Contract advances and progress billings			
Accrued liabilities and other			
Total current liabilities			
Long-term debt, excluding current installments			
Long-term pension and retirement obligations			
Deferred income taxes			
Other long-term liabilities			
Total liabilities			
Shareholders' equity			
Common stock - par value \$1.00			
Class A - Authorized 100,000,000 shares	43,822		
Issued 43,822,344 and outstanding 28,739,299 shares at September 30, 2023			
Issued 43,806,835 and outstanding 28,767,243 shares at October 1, 2022			
Class B - Authorized 20,000,000 shares. Convertible to Class A on a one-for-one basis	7,458		
Issued 7,457,369 and outstanding 3,142,226 shares at September 30, 2023			
Issued 7,472,878 and outstanding 3,014,475 shares at October 1, 2022			
Additional paid-in capital	608,270		
Retained earnings	2,496,979		
Treasury shares	(1,057,938)		
Stock Employee Compensation Trust	(114,769)		
Supplemental Retirement Plan Trust	(93,126)		
Accumulated other comprehensive loss	(254,609)		
Total shareholders' equity	1,636,087		
Total liabilities and shareholders' equity	\$ 3,621,419	\$ 375,502	



	Fiscal Years Ended		
	September 30, 2023	October 1, 2022	October 2, 2021
(dollars in thousands, except share and per share data)			
Net sales	\$ 3,319,122	\$ 3,035,783	\$ 2,851,993
Cost of sales	2,423,245	2,211,384	2,076,270
Inventory write-down	4,345	3,598	—
Gross profit	891,532	820,801	775,723
Research and development	106,551	109,527	125,528
Selling, general and administrative	469,836	448,531	412,028
Interest	63,578	36,757	33,892
Asset impairment	14,628	18,053	1,500
Restructuring	7,997	9,509	—
Loss on sale of businesses	900	3,346	1,536
Gain on sale of buildings	(10,030)	(9,075)	—
Pension settlement	12,542	—	—
Other	9,478	1,174	(2,535)
Earnings before income taxes	216,052	202,979	203,774
Income taxes	45,054	47,802	46,554
Net earnings	\$ 170,998	\$ 155,177	\$ 157,220
Net earnings per share			
Basic	\$ 5.37	\$ 4.85	\$ 4.90
Diluted	\$ 5.34	\$ 4.83	\$ 4.87
Average common shares outstanding			
Basic	31,831,687	31,977,482	32,112,589
Diluted	32,044,226	32,117,028	32,297,956

See accompanying Notes to Consolidated Financial Statements.



Goods outcomes of native SAP costing design

Outcome is a real SST:

SST is the baseline for other all other tools e.g. AI, SAC, HADOOD, Snowflake, One Stream, etc
SAP fully allocated product PL statements from native reports

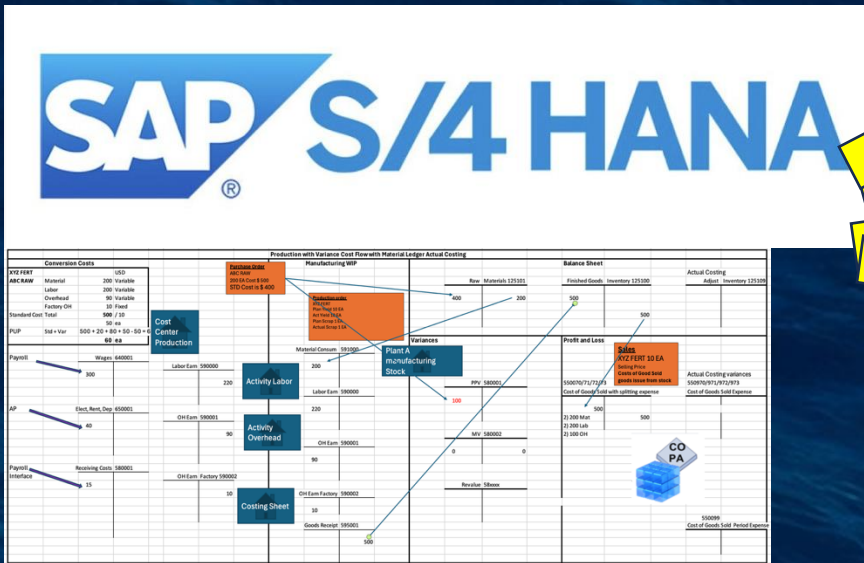
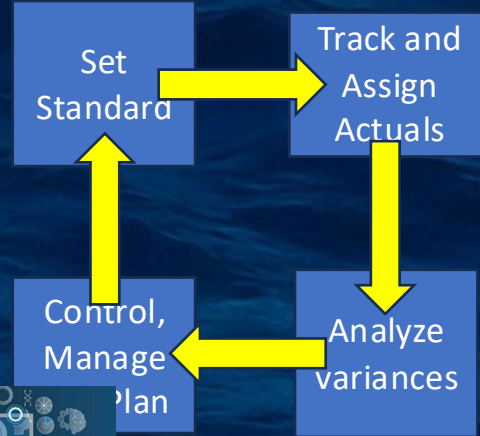
Costs clear out of conversion all absorbed and loaded to products→

easy to see margins by attributes

easy to check

accurate truth of winners, losers, causes, reasons, trends in profitability

realise cost and profitability life cycle loop



Topic #6 Conclusion

SAP costing implementations are complex covering a lot of functionality but its worth it to build it

Conclusions build it

Do the WORK BUILD IT:

Understand SAP costing and build it “properly”

This will automatically give the foundation for this-----→

To do this you will have to:

Understand variances, splitting, material ledger treatment of variances

Understand material ledger accounting and options

Include period expenses e.g.. Cycle counting, or scrapping

GL account design groupings to check cost flow

OKB9 and cost objects

COPA design build out characteristisc and derivations

OBYC→ OWN THIS drive this

Procurement, Inventory, Sales, Production integration obviously as well

SAP could ALWAYS do this but it's a lot easier in S4 Cloud

S4 and Business alignment assuming all companies want -----→

All companies do this somewhere

FPA, Costing, SAP team on same page

Business aligned S4 strategic role vs other systems no pet projects

ERP is the baseline for all functions e.g. plant maintenance and project systems for IT management (eat your own dogfood many IT use SAP time sheets?)

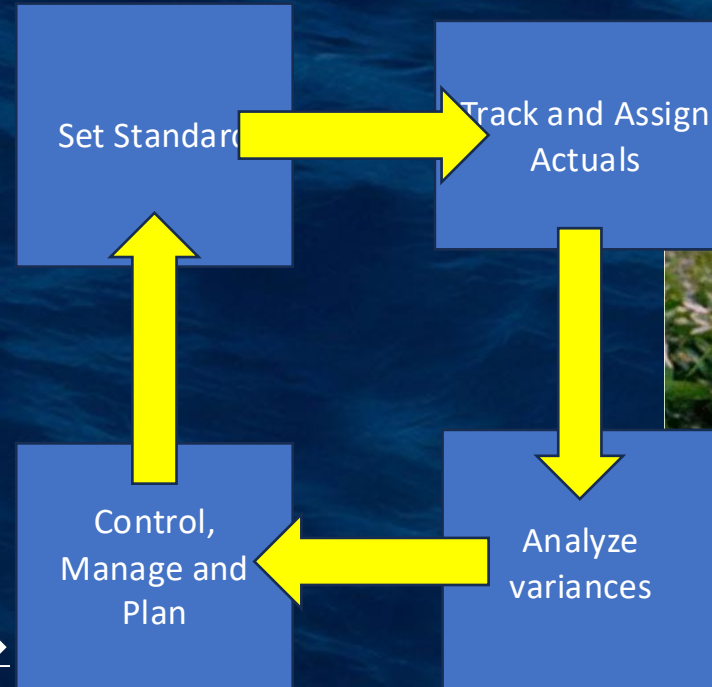
S4 and IT design:

IT understand HADOOP/ data lake / SAC make sure its accurate data before it leaves

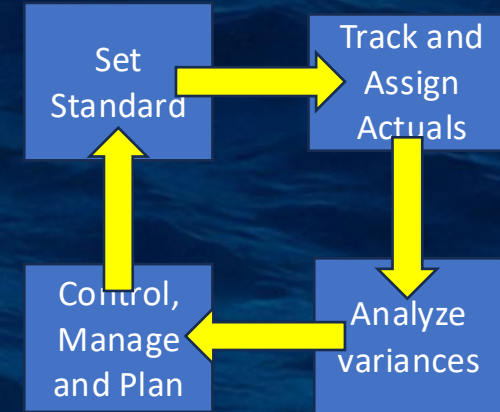
Function by design e..g S4 actual, SAC budgeting, powerBI

Build reconciliations

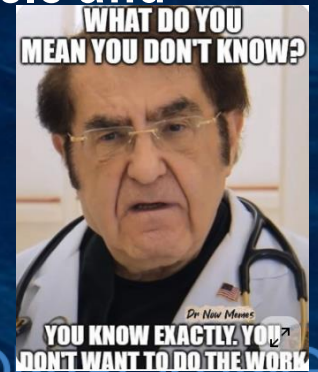
S4 the master data and transaction data SST SOURCE for all



Five Takeaways



- Takeaway 1 SAP cost flow accounting is complicated, but it handles anything → embrace it bring it out: short term pain bring long term gain so do the work
- Takeaway 2 Alignment to corporate and IT goals is more important than ever
- Takeaway 3 Your project team should include the right business resources e.g. Production Costing, FPA, Revenue accounting leadership and a **COSTING SKILLED SAP RESOURCE**
- Takeaway 4 S4 cloud costing functionality wants to deliver cost and profitability life cycle and closed loop to continuously improve and meet objectives. It ALWAYS has.
- Takeaway 5 COPA is fully embedded into GL and COA



Resources

- SAP Insider
- Google
- 30 years of work in the trenches
- <https://www.youtube.com/watch?v=6EGmW8df9LA>
- <https://www.investopedia.com/ask/answers/>

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Questions & Answers

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Thanks for attending this session!

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