Presentation GCP Engine for Corporate Controlling

Agenda

- Display areas of conflict between Supply- and Value Chain differentiation
- Significance of local and global cost component splitting
- Components of GCP
- Integrated corporate planning with GCP
- Summary

Supply and Value Chain Trends

- Globalization
- Increased cross border sourcing
- Collaboration for parts of value chain with low-cost providers
- Shared Service Centers for logistical and administrative functions
- Increasingly global operations require increasingly global coordination and planning to achieve global optimums
- Complex of problems comprises also midsized companies to an increasing degree

Parameters of Impact for Global Location Management

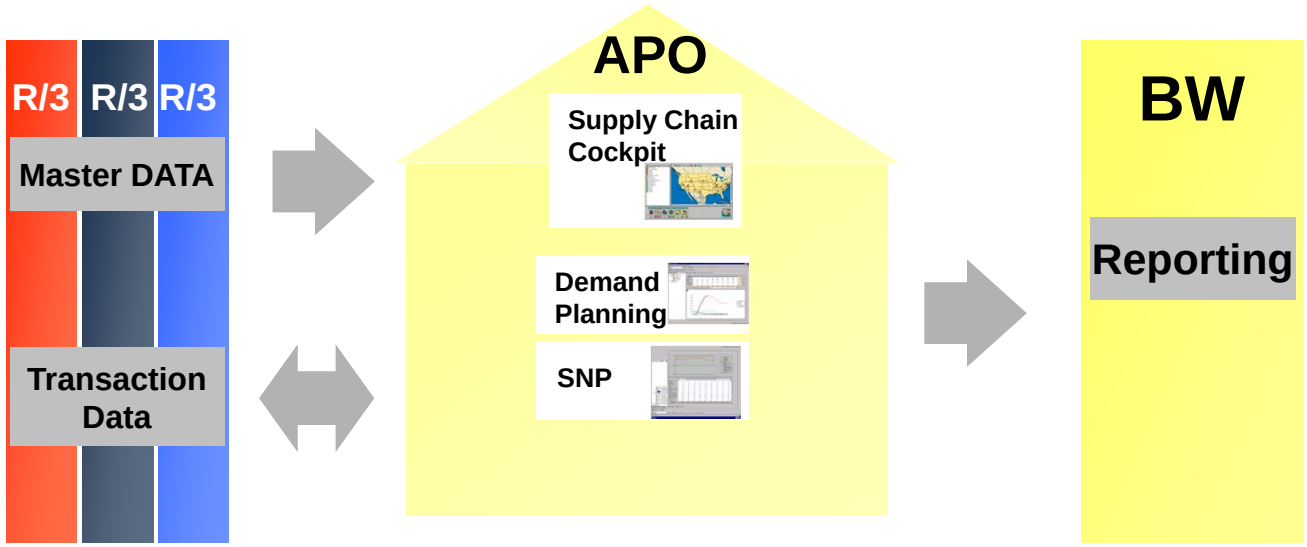
- Costs of the particular location (purchase prices, wage level etc.)
- Transport cost
- Transfer prices, sales prices
- Customs (embargo etc.)
- Tax rates

- Economic safety
- Education level, quality

State-Of-The-Art: Supply Chain Planning

- Enterprise-wide demand and supply planning in mySAP SCM
  - SAP APO Demand Planning
  - SAP APO Supply Network Planning
- Central planning platform with integration into both, SAP and non-SAP operational systems
- Total integration of supply – demand planning (quantities) with plan vs. actual controls

Typical Enterprise Supply Chain System Landscape



Enterprise Transaction System(s)	Supply Chain Decision Support	Enterprise Data Warehouse
▪ Core Business Processes ▪ Core Master Data Standards	▪ Global Planning ▪ Global / Local Logistics	▪ Universal Data Access ▪ Universal Reporting Tools

State-Of-The-Art: Value Chain Planning

- Enterprise costing for plan / actual is only usable for a very small community of totally standardized SAP users
- Very high constraints – non-functional when:
  - Several SAP clients in one SAP system
  - Several SAP systems
  - Several costing areas in one client
  - Several cost structures in one client
  - Different numbering systems for master data
- Value chain “islands” driven by system architecture

Conflict Situation

Supply chain planning

- Flexible network
- Central planning for decentralized operational systems (APS)
- Bottleneck and capacity planning
- Procurement planning
- ATP planning
- Location and distribution network planning

Enterprise costing – Value chain planning

- Highly restrictive
- Highly dependent on operational system architecture
- Inflexible for planning transport cost across plants
- No integration of opening stock
- No integration of APS results
- Excel as band-aid

No transparency into true profitability, COGS and margins by product and customer from a total enterprise perspective

The Solution: GCP Engine

*G*roup

Capture of accumulated inter-company profit(s) by sale(s) to the market (outside the enterprise / group)

*C*osting

Calculation of cross-company value chains

*P*rofitability

Capture the cost component split and contribution margin by product and by customer in local view as well as in group view

Engine

Best-of-breed component with a defined interface to any legacy systems

Basis for an integrated solution: Leverage Supply Chain Planning

- Value chain “islands” are combined in a central system into a global value chain model
- Corresponding to the quantity flow of the supply chain the value chain components are pulled from the operational systems
- Local, historic and consolidated product cost is integrated and calculated in the central value chain system
- A globally defined cost element structure will be generated with the global value chain

Limitations of Group Costing (Plan)

- All subsidiaries in one client, one R/3 system globally
- One controlling area globally
- Unique usage of one cost component split globally
- Unique material-, vendor- and customer numbers
- Cost of sales locally can not be mapped as cost of manufacture for global purpose
- Transport cost between plants of different subsidiaries
- Special procurement key must be maintained and only one may be defined by material
- Mixed costings must to be manually maintained in case of procurement alternatives

Limitations of Group Costing (Actuals)

- All restrictions of plan apply even more for actuals
- Special procurement and mixed costings are not relevant for actual scenarios
- ML (Material Ledger) has to be activated with parallel valuation
- IDOC has to be activated for sending and receiving plants
- Strange valuation of IC goods receipts with correction only at time of invoice received
- ML, parallel valuation is considered as highly complex, even from knowledgeable SAP consultants
- ML used at BASF, but only locally -> Straßburg

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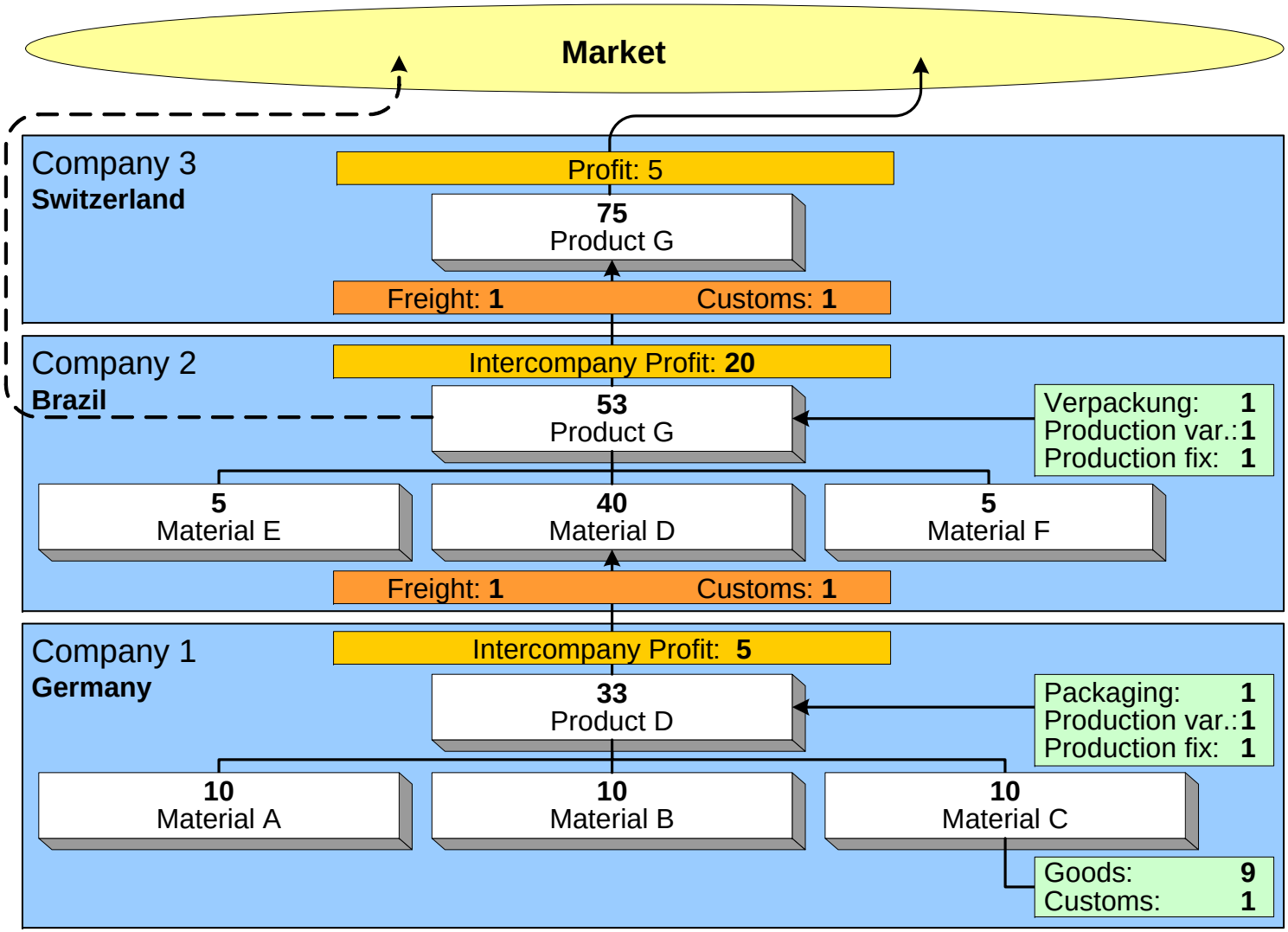
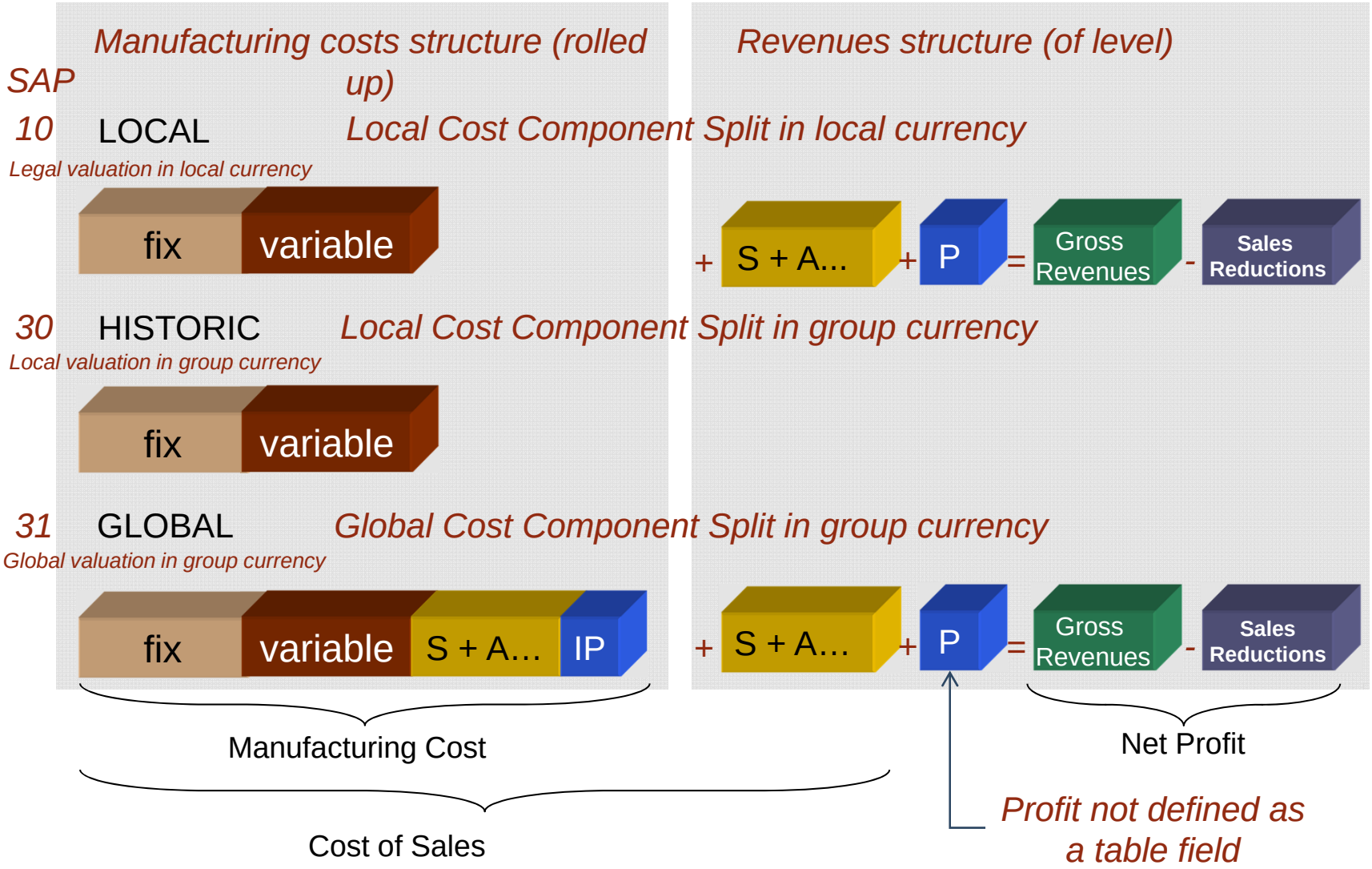
Value chain of group, receiver paid delivery costs



Value Chain of Group, Numerical Example

		Local Costs Structure in Group Currency							Group Cost Structure in Group Currency								Revenue Structure in Group Currency				
		Material	Production fix	Production variable	Packaging	Freight	Customs	Total	Material	Production fix	Production variable	Packaging	Freight uprolled	Toll uprolled	*Intercompany Profit*	Total	Freight	Toll	Profit	Gross Revenue	Deductions
Switzerland	**Product G**	**73,00**				**1,00**	**1,00**	**75,00**	**39,00**	**2,00**	**2,00**	**2,00**	**2,00**	**3,00**	**25,00**	**75,00**			**5,00**	**80,00**	
	Material G	73,00				1,00	1,00	75,00	39,00	2,00	2,00	2,00	2,00	3,00	25,00	75,00					
Brazil	**Product G**	**48,00**	**1,00**	**1,00**	**1,00**	**1,00**	**1,00**	**53,00**	**39,00**	**2,00**	**2,00**	**2,00**	**1,00**	**2,00**	**5,00**	**53,00**			**20,00**	**73,00**	
	Production		1,00	1,00	1,00			3,00		1,00	1,00	1,00				3,00					
	Material D	38,00				1,00	1,00	40,00	29,00	1,00	1,00	1,00	1,00	2,00	5,00	40,00					
	Material E	5,00						5,00	5,00							5,00					
	Material F	5,00						5,00	5,00							5,00					
Germany	**Product D**	**29,00**	**1,00**	**1,00**	**1,00**		**1,00**	**33,00**	**29,00**	**1,00**	**1,00**	**1,00**		**1,00**		**33,00**			**5,00**	**38,00**	
	Production		1,00	1,00	1,00			3,00		1,00	1,00	1,00				3,00					
	Material A	10,00						10,00	10,00							10,00					
	Material B	10,00						10,00	10,00							10,00					
	Material C	9,00					1,00	10,00	9,00					1,00		10,00					

GCP Cost Component Split



GCP Reporting – Views

	Cross	Local	Historic	Global
Total value	TOTALS	LTOTAL	HTOTAL	GTOTAL
Fix / Variable	FIX_VAR	LFIX_VAR	HFIX_VAR	GFIX_VAR
Variable	VAR	LVAR	HVAR	GVAR
CC split (all)	ALL	LCC	HCC	GCC
Variable	VALL	LVCC	HVCC	GVCC
Fix	FALL	LFCC	HFCC	GFCC

Naming Conventions

Prefix View:
L Local
G Global
H Historic

Prefix Fix/Variable:
F Fix
V Variable
T Totals

Prefix Type of Structure:
C Cost
P Profit

Prefix Type of Cost Component:
_ Manufacturing Cost (Placeholder)
I **I**ntercompanyprofit
U Roll **U**p
R **R**evenues
D **D**eductions

Additional Prefix for Formulas and Static Variables.
Formulas and static variables get an additional prefix in the 5th place:

F_ Formula
S_ Static Variable

G	V	C	_Cost
1	2	3	4

= Global Variable Manufacturing Cost

GCP Processes and Local Cost Component Split

GCP Process	TTYPE	local		Revenues	Reductions	S+A
		LFC	LVC	LVPR	LVPD	LVPU
+ Beginning Balance	1000					
+ External Purchase	3100					
+ Production	3010					
+ Transfer IC	5100					
+ Other						
= Precosting Balance	6000					
- External Sales	7200					
- Delivery IC confirmed	8100					
- Consumption for Production	8300					
- Other						
= Ending Balance	9000					

GCP Processes and Historical Cost Component Split

GCP Process	TTYPE	historic		Revenues	Reductions	S*A
		HFC	HVC	HVPR	HVPD	HVPU
+ Beginning Balance	1000					
+ External Purchase	3100					
+ Production	3010					
+ Transfer IC	5100					
+ Other						
= Precosting Balance	6000					
- External Sales	7200					
- Delivery IC confirmed	8100					
- Consumption for Production	8300					
- Other						
= Ending Balance	9000					

GCP Processes and Global Cost Component Split

GCP Process	TTYPE	global		S+A	IP
		GFC	GVC	GFCU / GVCU	GVCI
+ Beginning Balance	1000				
+ External Purchase	3100				
+ Production	3010				
+ Transfer IC	5100				
+ Other					
= Precosting Balance	6000				
- External Sales	7200				
- Delivery IC confirmed	8100				
- Consumption for Production	8300				
- Other					
= Ending Balance	9000				

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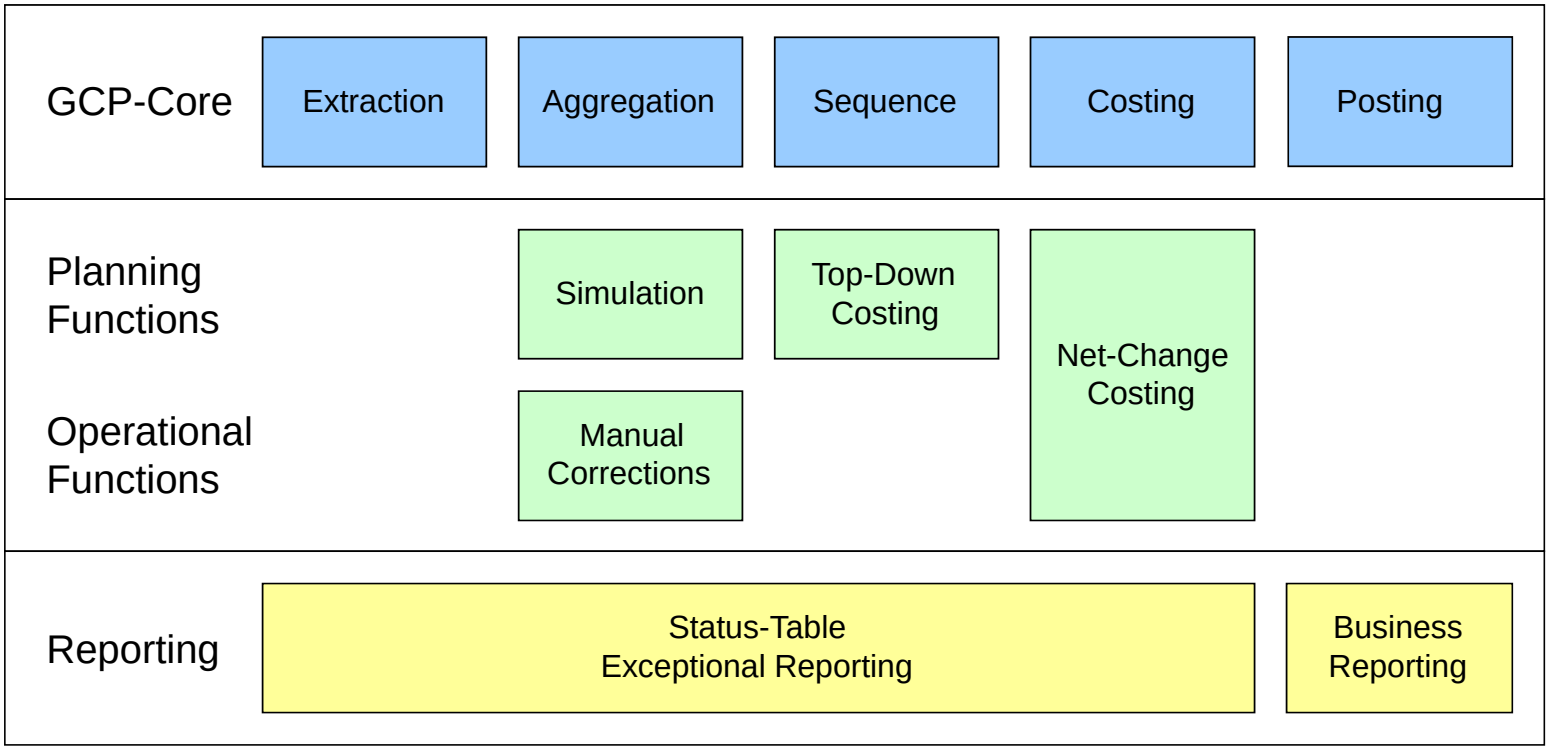
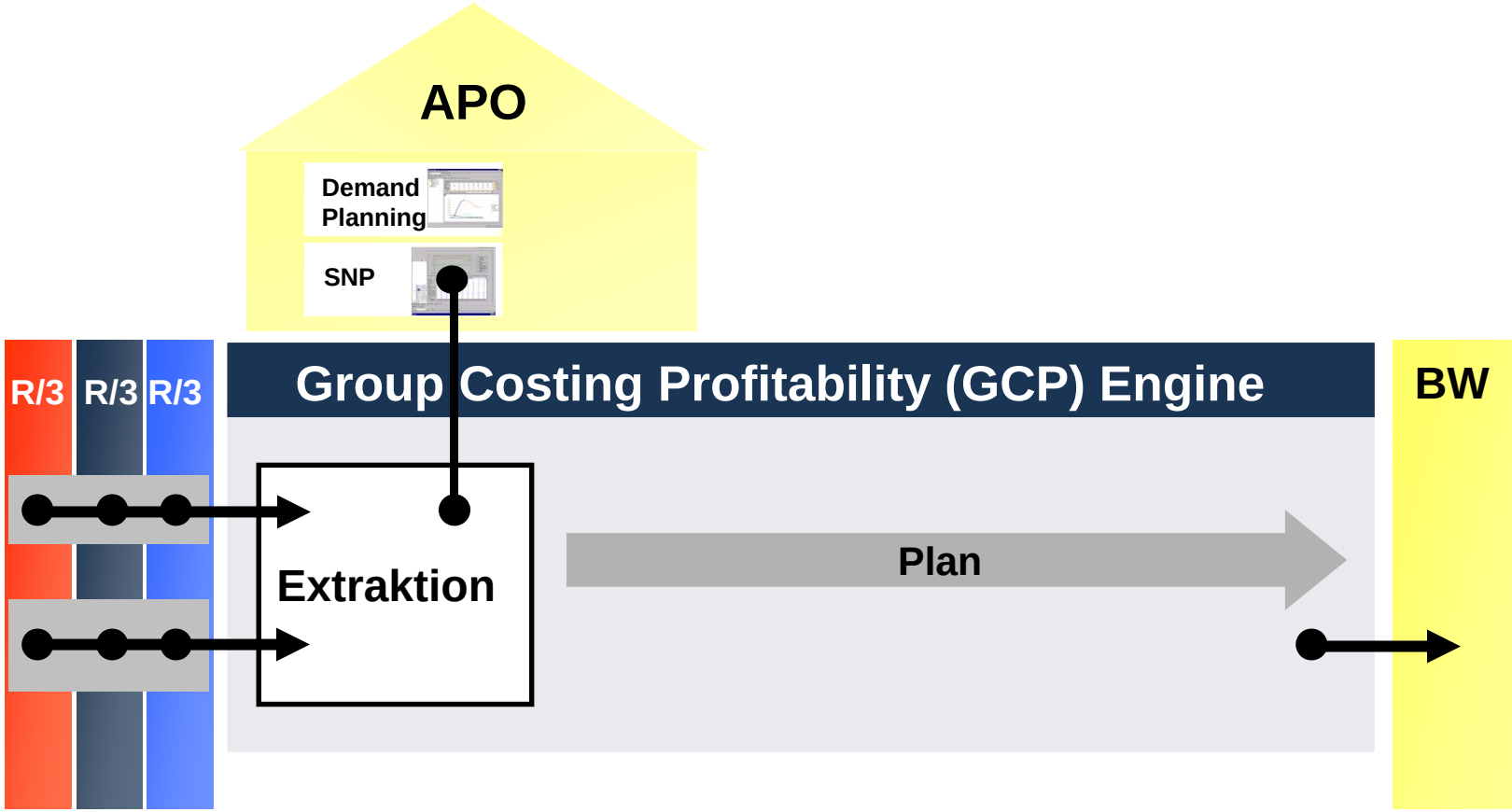
GCP-Components overview



GCP Processes and Visualization

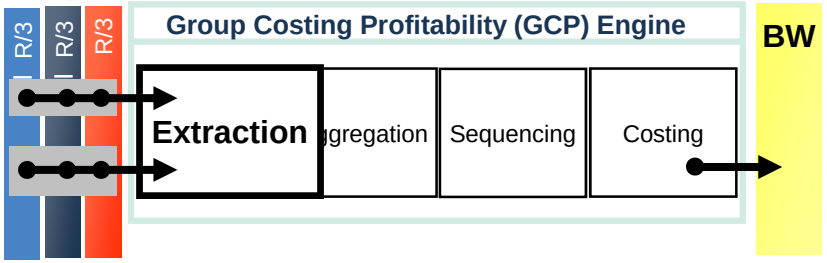
GCP Process		TTYPE	
+	Beginning Balance	1000	= Ending Balance Previous Period
+	External Purchase	3100	"forming prices"
+	Production	3010	
+	Transfer IC	5100	
+	Other	...	
=	Precosting Balance	6000	
-	External Sales	7200	"using prices"
-	Delivery IC approved	8100	
-	Consumption for Production	8310	
-	Other	...	
=	Ending Balance	9000	

Supply Chain – Value Chain Integration



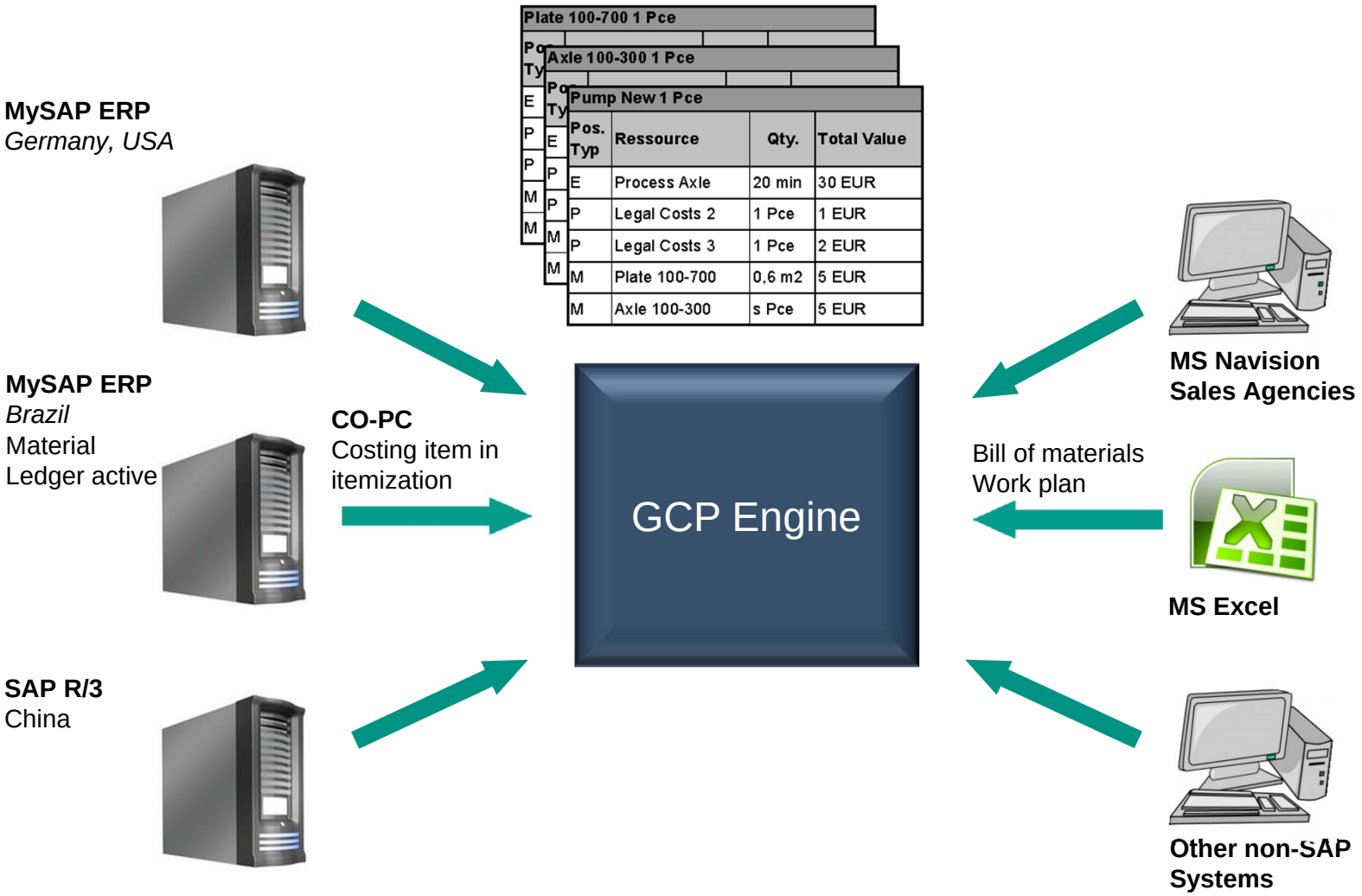
- Planning: Integration of the Supply-Network Planning result into GCP Planning

GCP Extraction

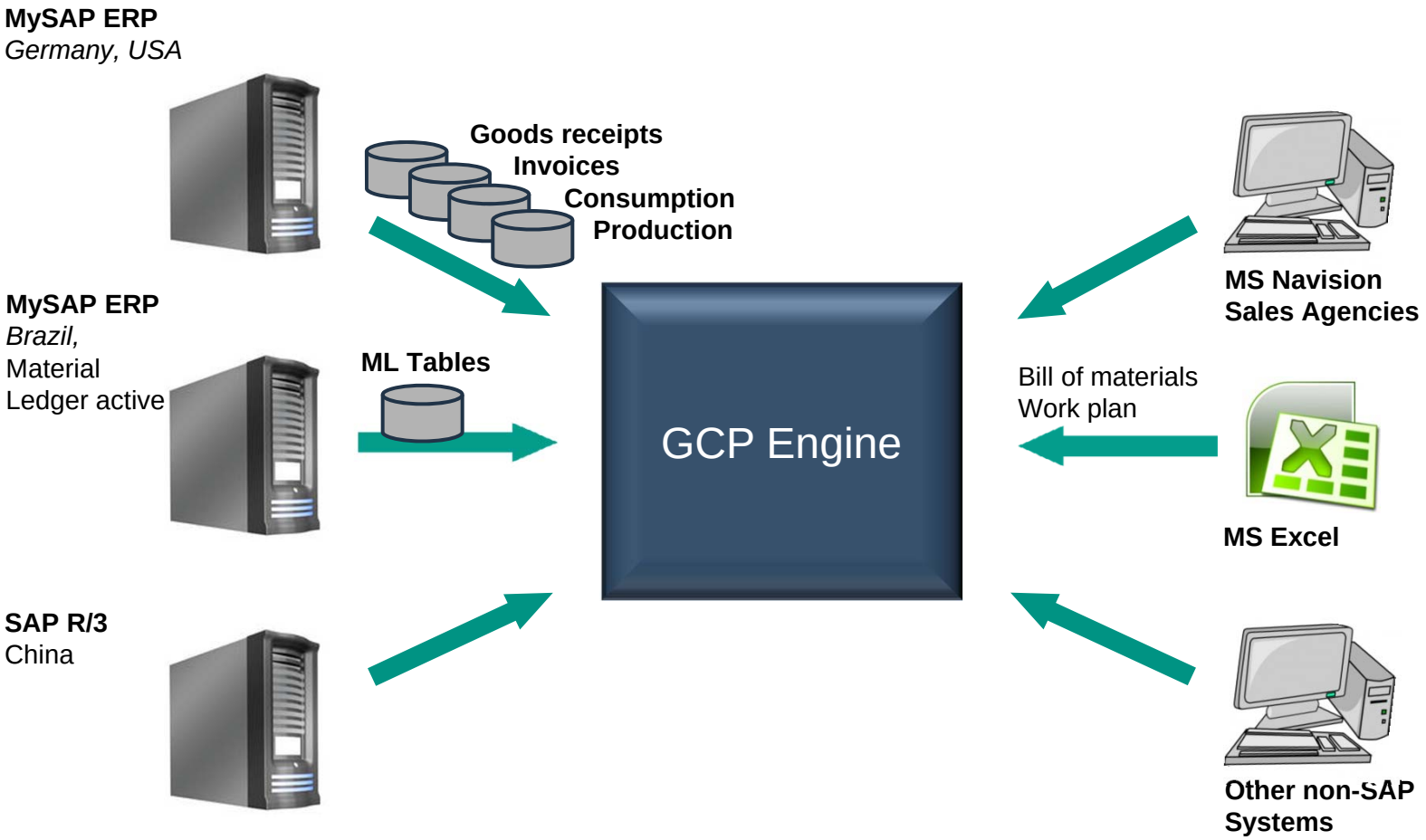


- Reading relevant data from operational SAP & non-SAP systems
  - Sales (CO-PA actual), good receipts, invoices, consumption, production
- Mapping of operational transactions to GCP transactions
- Mapping of operational cost vectors to GCP cost vectors
- Checking for completion and integrity
- Distinguishing error levels and data transfer to the exceptional reporting component (email to the responsible legacy user)
- Writing of status and statistic information

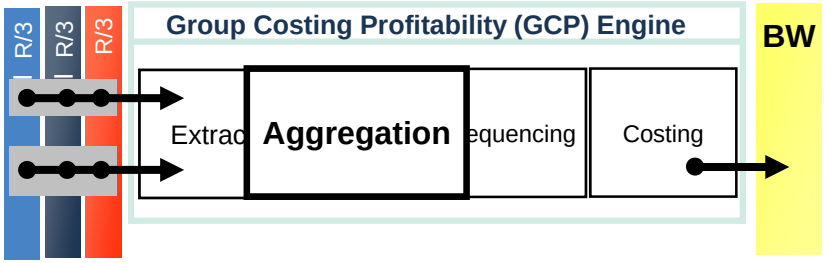
Planned Results Analysis based on itemization in R/3



Actual Results Analysis based on the posted actual data

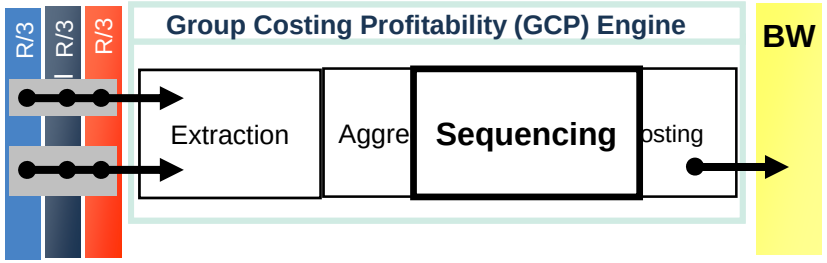


GCP Aggregation



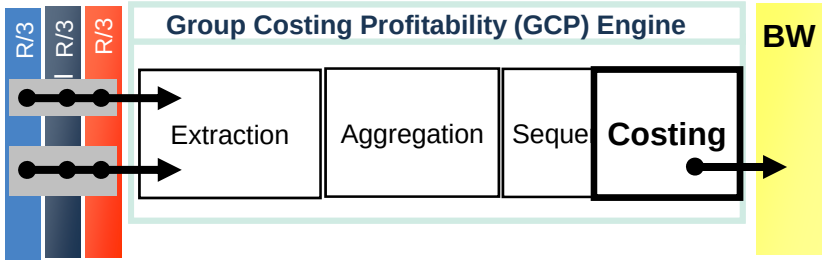
- Converting single items transaction currency → local currency and group currency
- Mapping cost components single items → local and global value vectors in the aggregated data record (Financial Item)
- Accumulation based on the costing level that is defined in customizing by period and transaction (purchase, transfer, sales, consumption etc.)
- Generate a graph with nodes and edges with costing items, the edges define the relation between the costing items. The quantities consumed, transferred or sold define the edge of the graph.
- Transfer error handling to exceptional reporting, status and statistics

GCP Sequencing



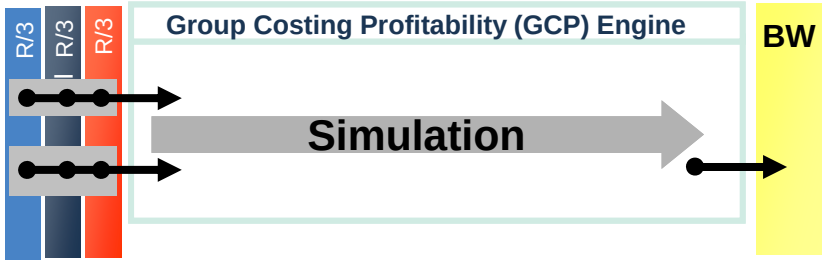
- Read edges from the graph determined before
- Determine costing items to start with and finish along with the calculation levels in between all value chains of the group
- Identifying and exploding of recursions
- Determining and updating the calculation levels for the costing items
- Transfer error handling to exceptional reporting
- Writing of status and statistic information

GCP Costing



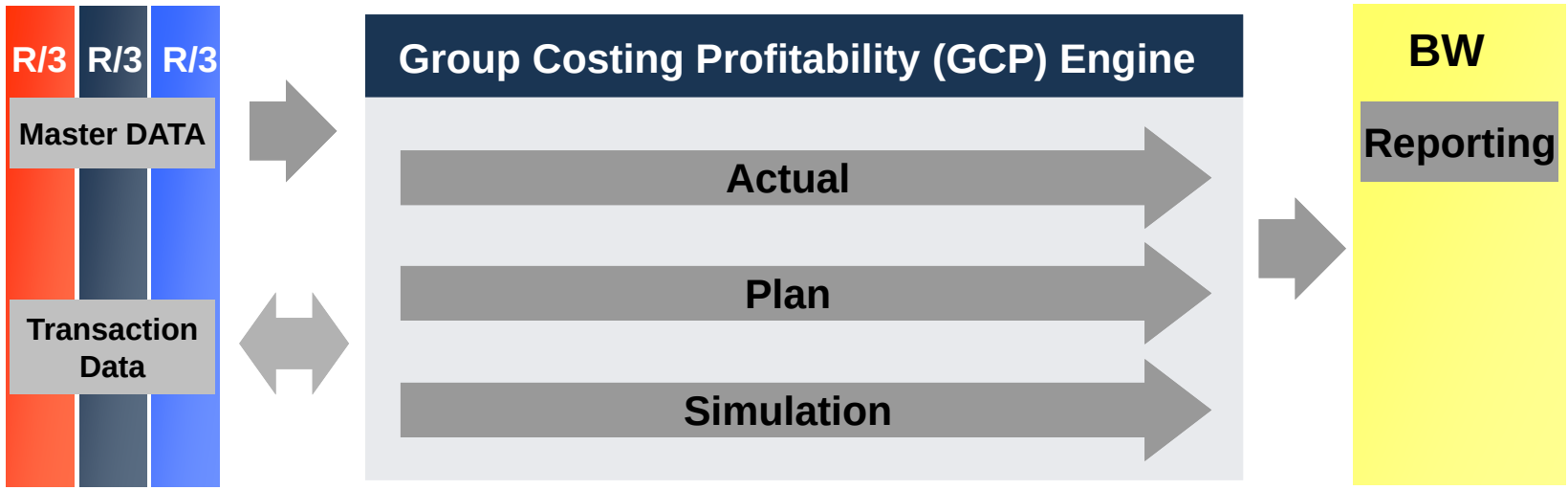
- Processing costing items in sequence according to the calculation levels determined
- Period boundary processing
- Costing of movements leaving inventory (consumption, sales) using the average price of the pre-costing balance
- Exploding material costs according to the cost production vector of the delivering plant in case of deliveries from the group and adjusting inter-company profits
- Mapping cost of sales, that need to be rolled up into manufacturing cost for the group into appropriate cost component split of the group
- Calculate ending balance as: pre-costing balance – movements leaving inventory
- Updating the calculated financial items

GCP Simulation



- Simulation of
  - Purchase Price Changes
  - Sales Price Changes
  - Exchange Rate Changes
- Versioning
- Re-aggregation using new prices / exchange rates
- Plan / Actual mix over reporting periods

Enterprise Controlling System Landscape with GCP



- Consistent data & program basis for Actual / Plan / Simulation

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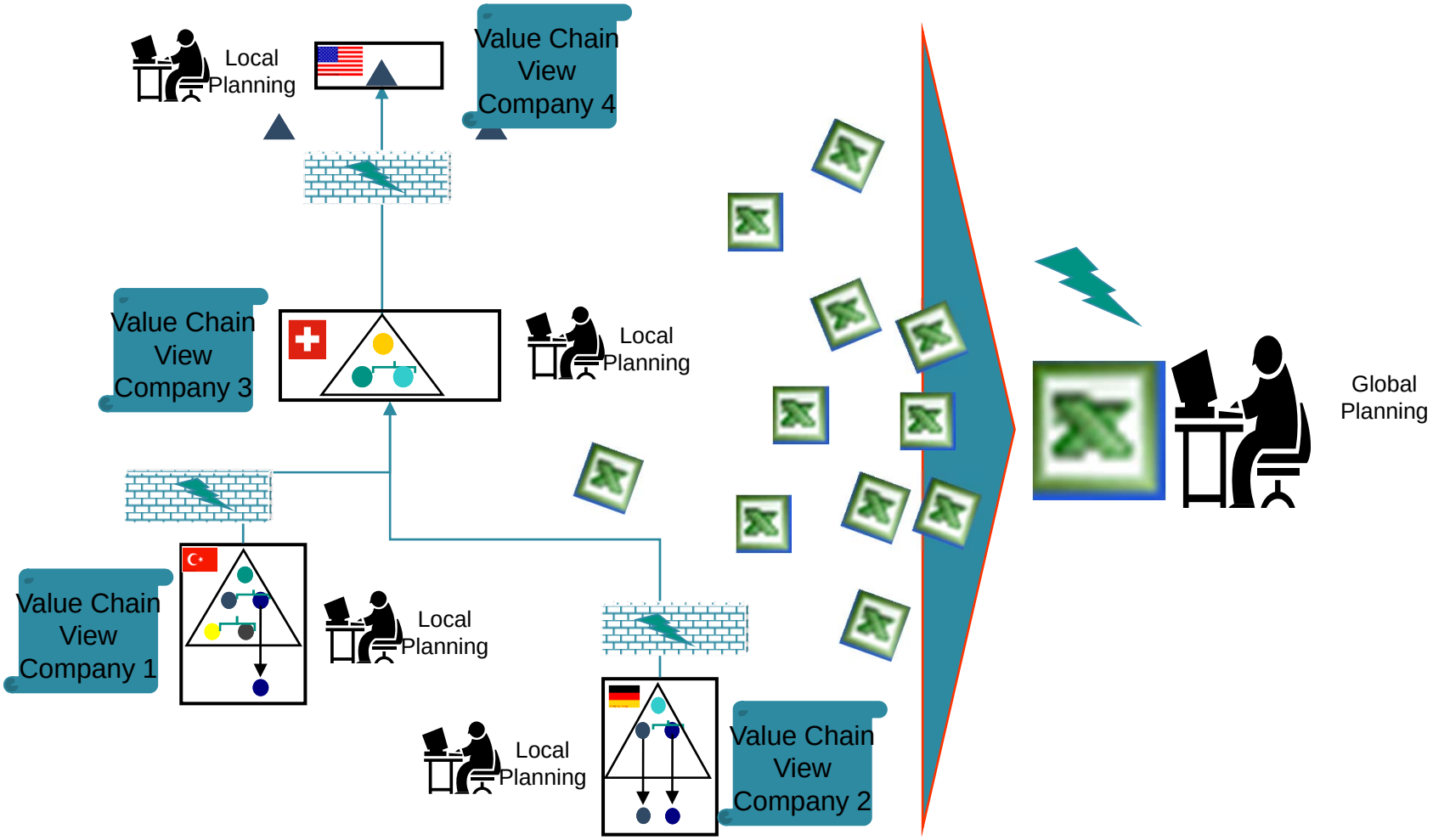
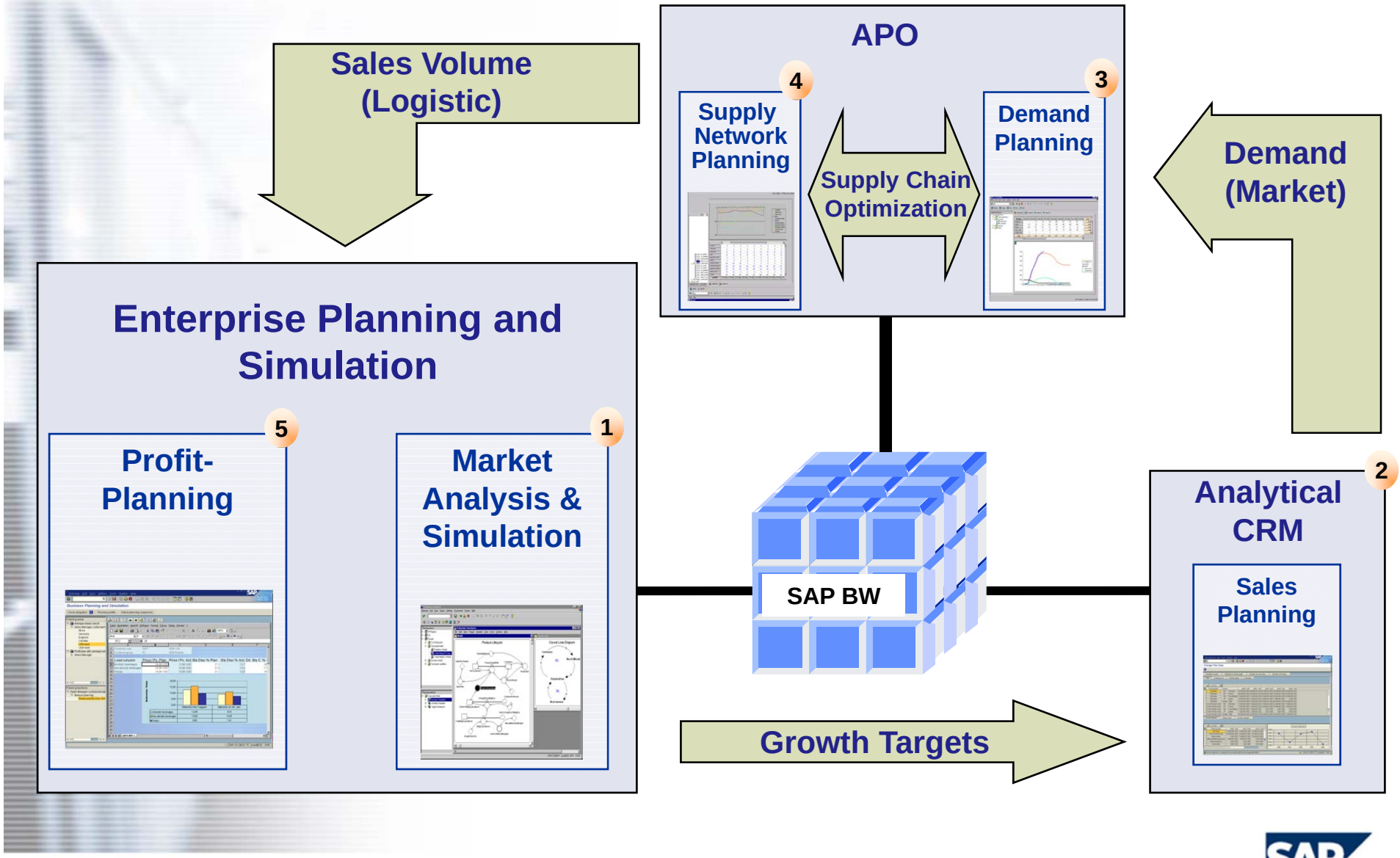
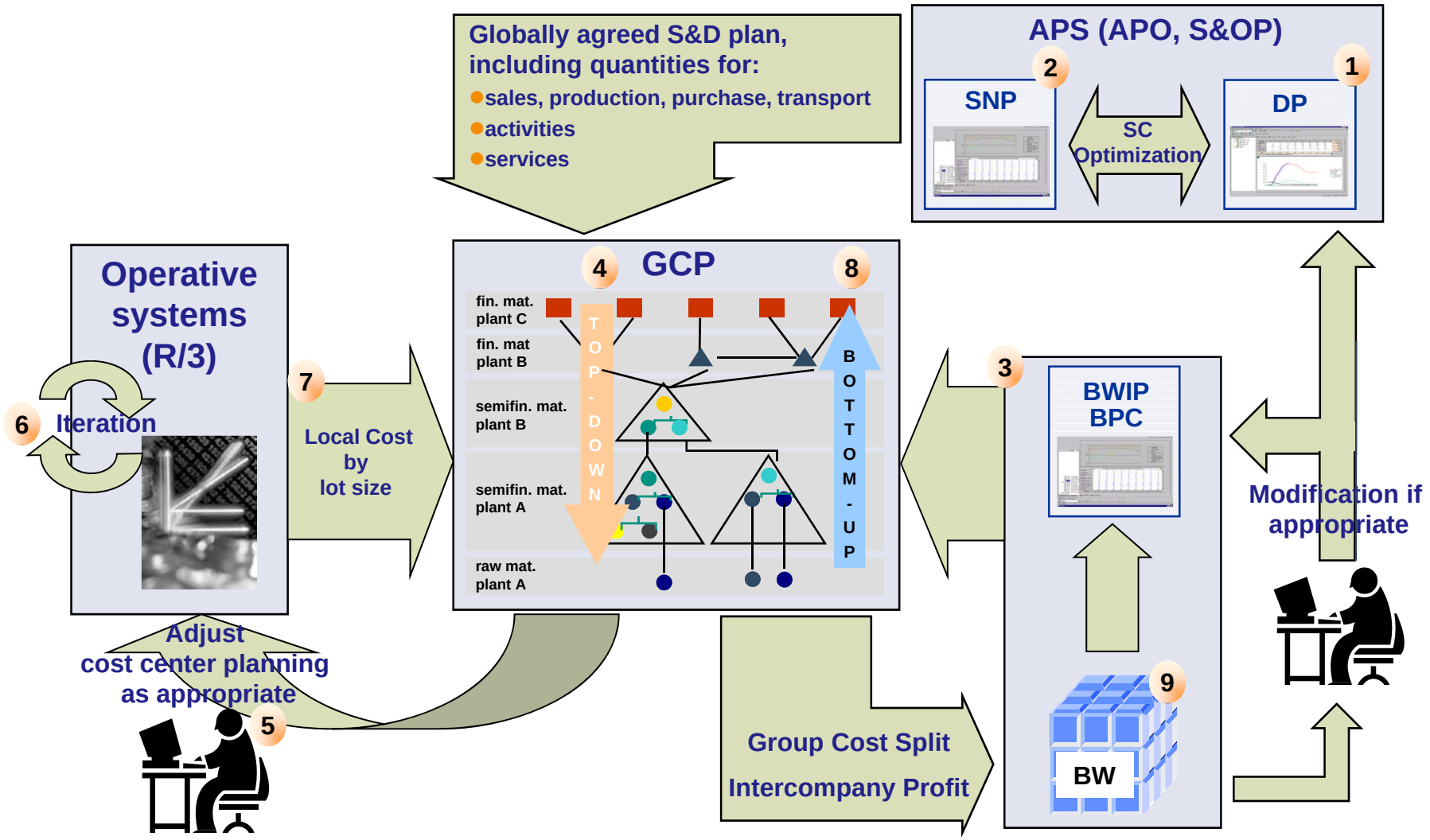
Typical Global Planning Environment



Example: CRM / APO / BPS Integration

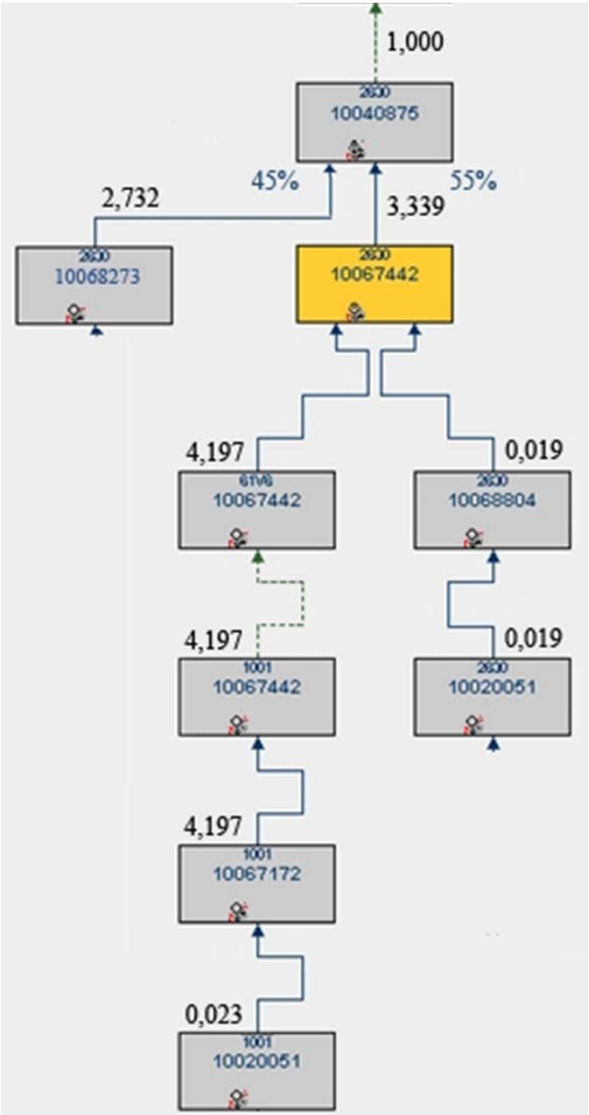


APS/BI Integration of GCP



x Please refer to the GCP-Flyer for a description of each step

JNET Visualization and Navigation



GCP FI Display

Planning Version	PM1	Prototype Example 1
Posting period	006.2009	
Organization unit	2630	
Product Unit	10067442	
Valuation type		

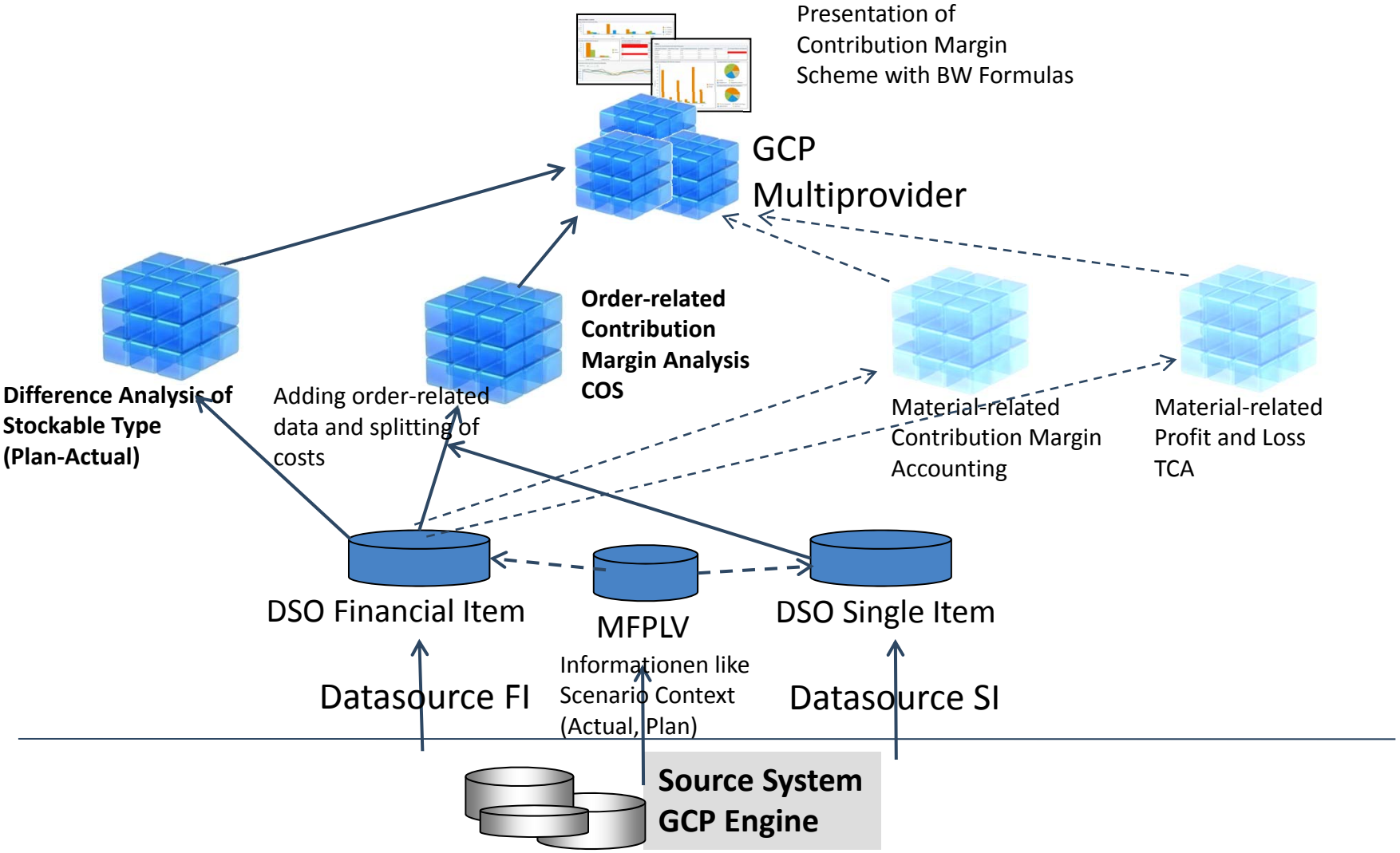
1 2 3 4 5 | Optimize | Views

Hierarchy	TType	GCP Qty	SQty	Unit	LC	HC	GC	GTC_S_FC	GTCI_F_SUM
= Beginning Balance					EUR	CHF	CHF		
	1000			EA	EUR	CHF	CHF		
+ Produktion		3,339			EUR	CHF	CHF	9,74	1,51-
+ P/97/10000398		3,339			EUR	CHF	CHF	9,74	1,51-
+ E|000100001220		3,339			EUR	CHF	CHF	9,74	1,51-
+ Production		3,339	3,339		EUR	CHF	CHF	0,60	
P/97/10000398	3200	3,339	3,339	EA	EUR	CHF	CHF	0,60	
+ Production Material costs					EUR	CHF	CHF	9,14	1,51-
P/97/10000398 M/2630/10068804/	3400		0,019	MIU	EUR	CHF	CHF	1,46	0,83
P/97/10000398 M/61V6/10067442/	3400		4,197	EA	EUR	CHF	CHF	7,68	2,34-
= Precosting Balance		3,339	3,339		EUR	CHF	CHF	9,74	1,51-
	6000	3,339	3,339	EA	EUR	CHF	CHF	9,74	1,51-
- Production		3,339			EUR	CHF	CHF	9,74	1,51-
- P/08/10000102		3,339			EUR	CHF	CHF	9,74	1,51-
- E|000100018131		3,339			EUR	CHF	CHF	9,74	1,51-
- Consumption for Production		3,339	3,339		EUR	CHF	CHF	9,74	1,51-
P/08/10000102 M/2630/10040875/	8300	3,339	3,339	EA	EUR	CHF	CHF	9,74	1,51-
= Ending Balance					EUR	CHF	CHF		
	9000			EA	EUR	CHF	CHF		

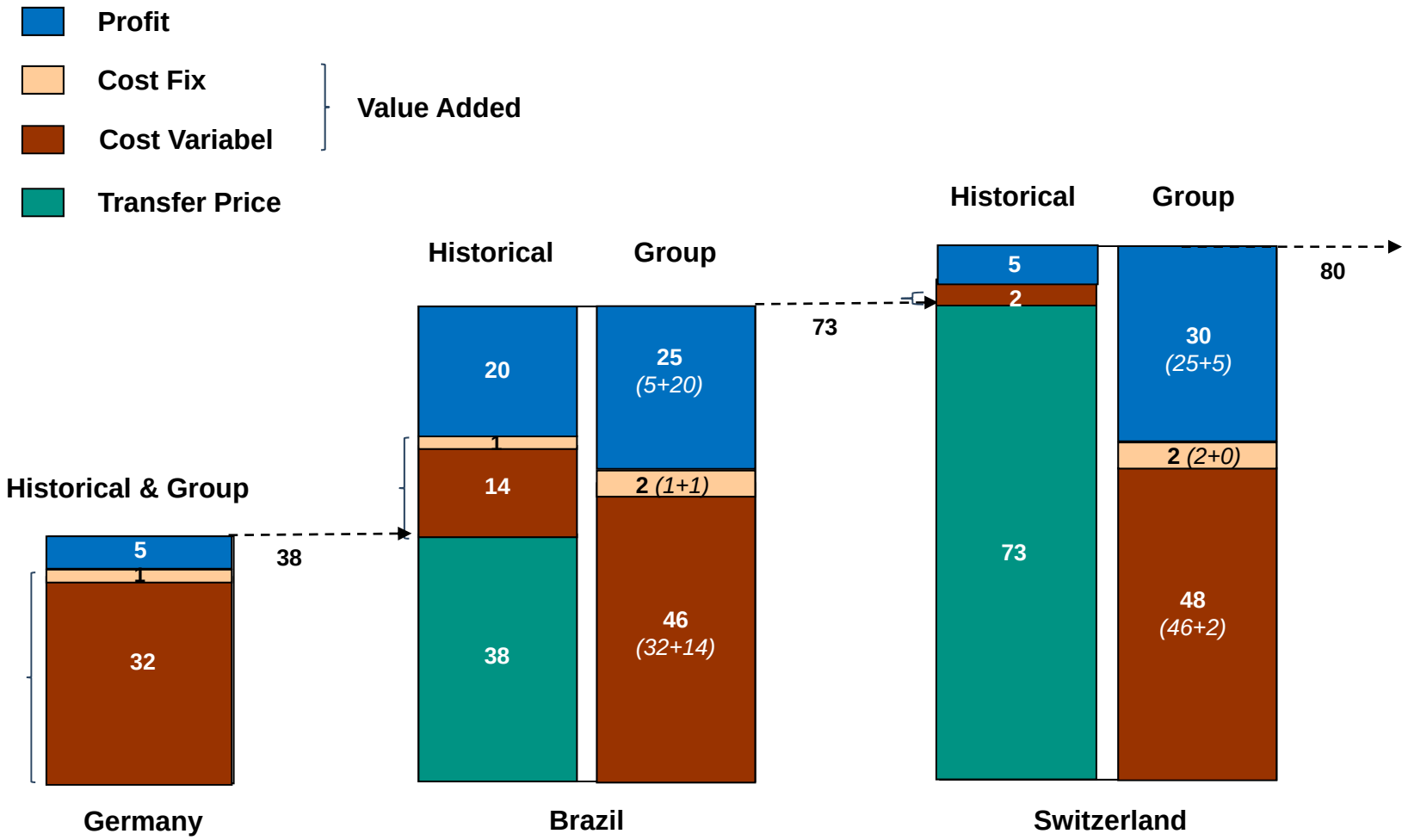
GCP ALV Browser

PlanVer	Year	Period	seq. lvl	OrgUnit	ProdUnit	ValT	TType	Partner Item	GCP Qty
PM1	2009	6	998	12V1	10040875		8100	T/2601/10040875/	1
PM1	2009	6	997	2630			8100	T/12V1/10040875/	1
PM1	2009	6	996		10068273		8300	M/2630/10040875/	2,732
PM1	2009	6	996		10067442		8300	M/2630/10040875/	3,339
PM1	2009	6	995	61V6			8300	M/2630/10067442/	4,197
PM1	2009	6	995	2630	10068804		8300	M/2630/10067442/	0,019
PM1	2009	6	994		10020051		8300	M/2630/10068273/	0,014
PM1	2009	6	994				8300	M/2630/10068804/	0,019
PM1	2009	6	994	1001	10067442		8100	T/61V6/10067442/	4,197
PM1	2009	6	993		10067172		8300	M/1001/10067442/	4,197
PM1	2009	6	992		10020051		8300	M/1001/10067172/	0,023

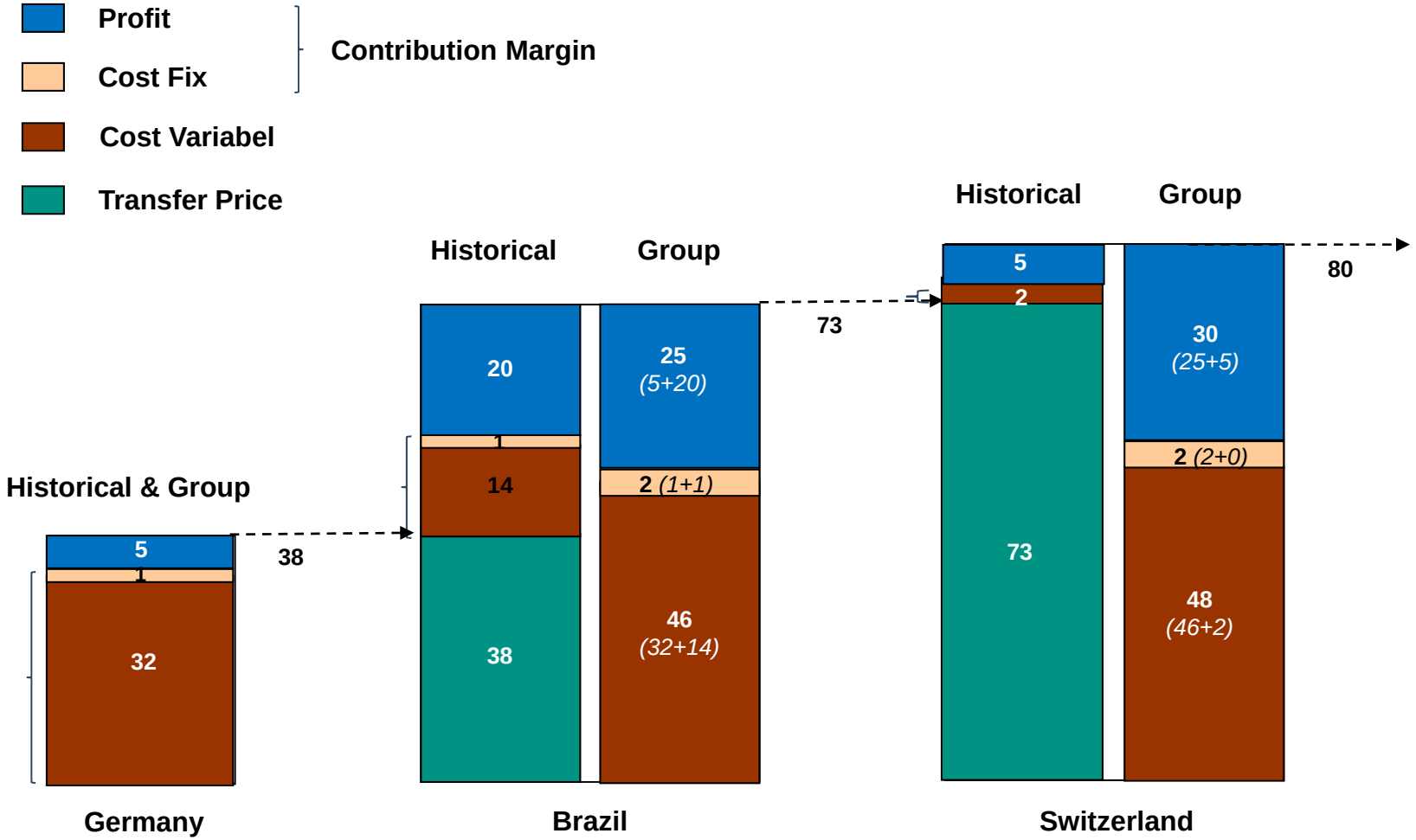
GCP Analytics Prototyp – Data Modell



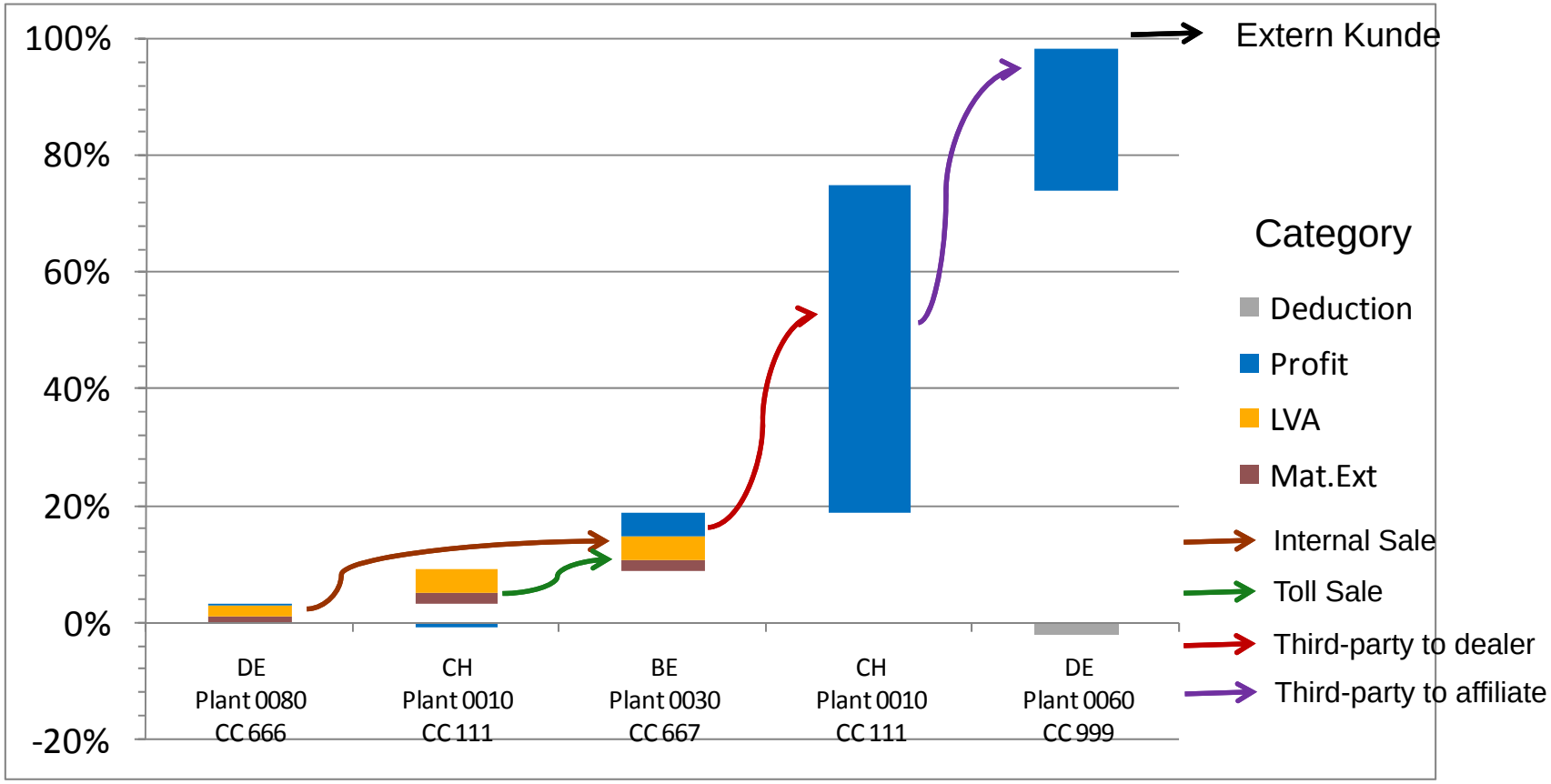
Visualization of Cost Buckets in Gross Margin View



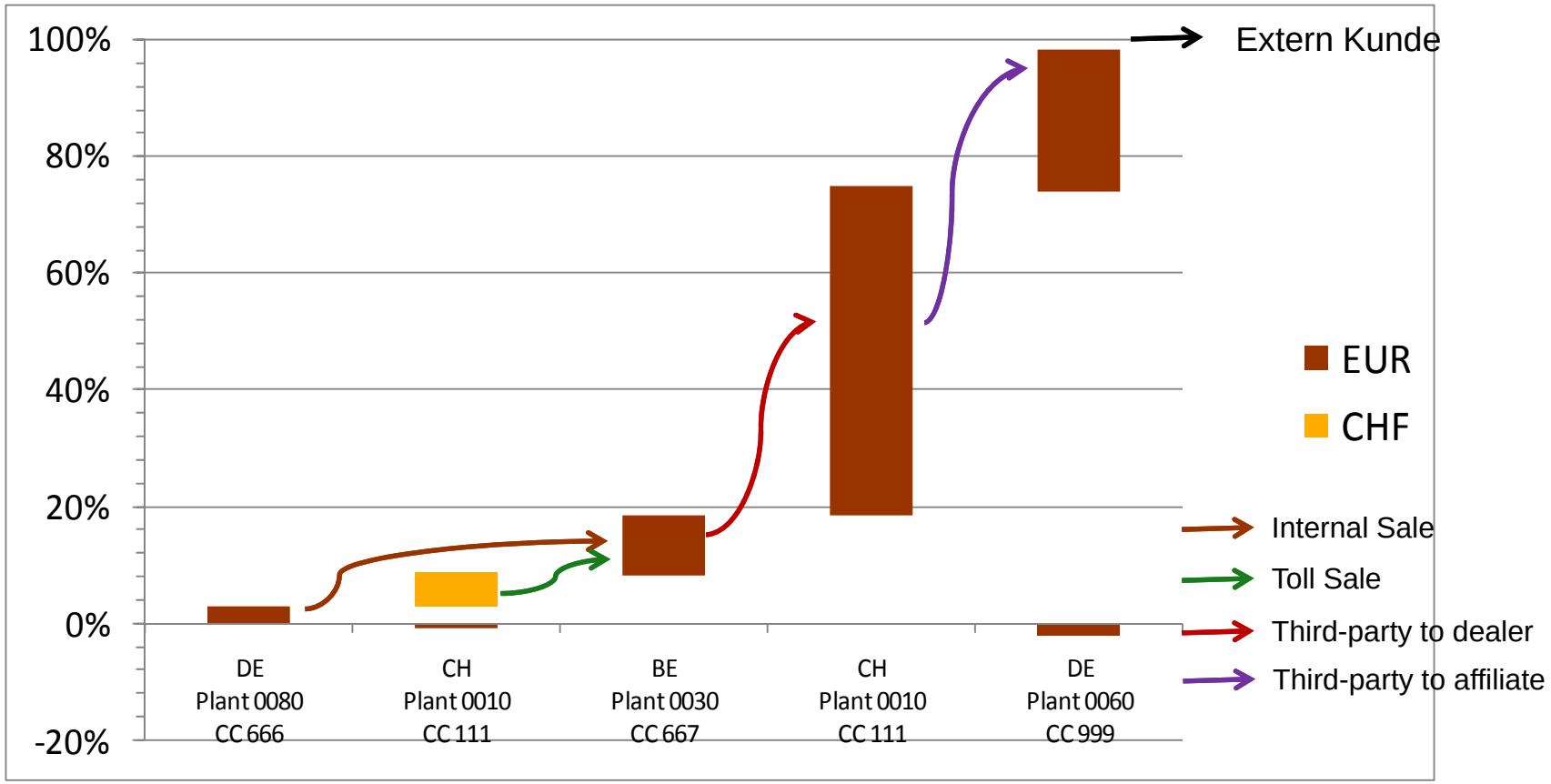
Visualization of Cost Buckets in Gross Contribution Margin View



Visualization of Cost / Revenue Buckets by Plant



Value Contribution Buckets by Currency and Plant



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Business Benefit

- Leverage of Supply Chain planning investments directly for operational Value Chain planning
- Faster cycle times → more planning cycles with more accurate data
- No change to underlying operational systems
- Incremental value chain planning work process building blocks leveraging SAP components and tools (SEM, BW, BPS)

Further Information about GCP

- Presentation at Supply Chain World 2006
  “From global SCM to Group Cost and Profitability”
- Article, published in the magazine CONTROLLING
  “IT based profitability planning and control for enterprises”, edition 6/2005
- Presentation at DSAG, April 2005
  “Possibilities and Limitations of Group Costing”
- Presentation at SAP Finance Best Practice Workshop in Barcelona, September 2005,
  “How to combine Profit Center and Group Profitability”
- Presentation at SAP Finance Best Practice Workshop in Hamburg, Juni 2008
  „Profitability Management in Global Value Chains”

Presentation GCP Engine for Corporate Controlling

