



## ORBIS Product Cost Calculator

**100% SAP-Integrated Calculation – flexible and simplified**



# Optimal calculation in SAP with ORBIS Product Cost Calculator (ORBIS PCC)

Only companies that accurately calculate their product and manufacturing costs and quotations, also across departments, and have a complete overview thereof - from construction, sales to controlling – will be economically successful for the long term. The more precise the cost estimate, the more sound the decision-making bases are, ensuring a forward-looking and efficient control of the company. SAP ERP must be the system that achieves these goals.

Although a large number of manufacturing companies already use SAP ERP for the planning and managing of their business processes, in most cases, production costs (material prices, hourly rates, tariffs etc.) are calculated and simulated in external solutions such as Microsoft Excel or Access. As these calculations are generated decentralized, i.e. outside of SAP, neither data flows nor calculation histories can be reproduced. A further disadvantage is the high error rate and the enormous maintenance effort in terms of time, as the calculation data constantly need to be manually copied or transferred between SAP and Ex-

cel and updated. This problem is exacerbated for complex products or products involving a large number of variants.

## Product cost calculation without redundant data storage directly in SAP with ORBIS PCC

The ORBIS Product Cost Calculator (ORBIS PCC), an SAP add-on based on ABAP, enables calculation directly in SAP, across accounting and cost accounting areas with a uniform calculation scheme. The online access to current controlling and production data as well as purchasing and sales terms, which is maintained centrally in SAP, makes it possible to accurately and quickly calculate product and manufacturing costs, from the construction to the quotation phase. Wage labor or external work processes are also considered. ORBIS PCC extends SAP Standard: With ORBIS PCC, all calculation phases are located 100% in SAP – SAP is the main system.

### Production cost calculation with ORBIS PCC directly in SAP with or without master data



# Processes supported with ORBIS PCC

The ORBIS Product Cost Calculator optimally supports the following application areas for the determination of manufacturing costs:

## 1. Construction and development cost calculation

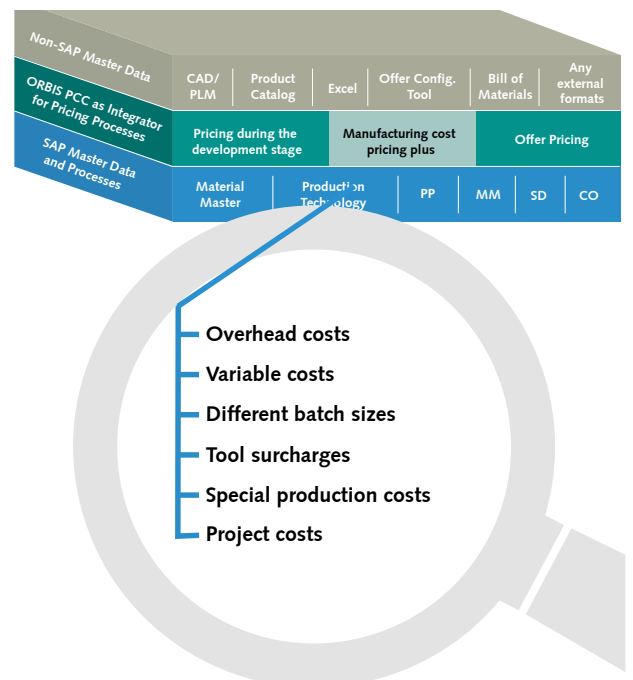
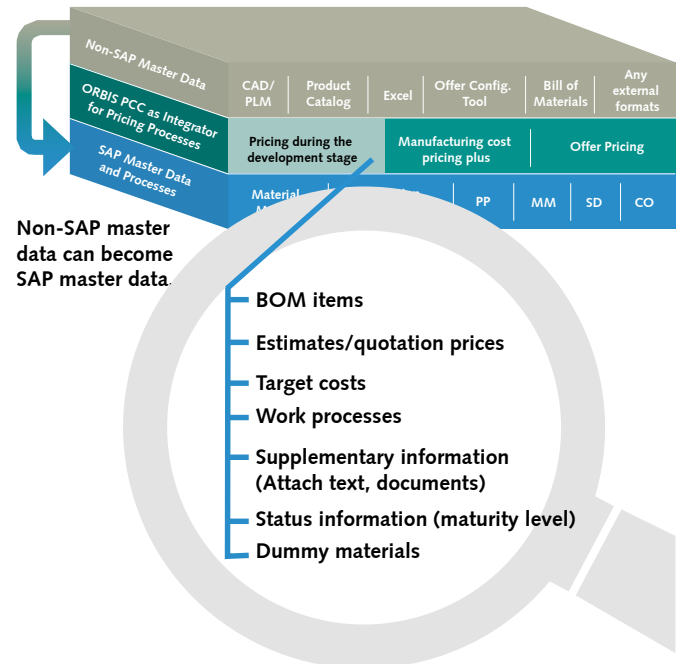
When developing new products, cost estimators often need to work with calculation items for which neither master data exist in the SAP system, nor prices are known for. With ORBIS Product Cost Calculator new materials or assemblies, for which no material numbers nor purchase prices are yet entered in the SAP systems, can be created with a price and a short text. These materials or assemblies which are not available in SAP, can be generated and created as new SAP master data via a function integrated into the add-on, when an order is placed. The ORBIS Product Cost Calculator estimates materials with pre-set calculation variants and calculation procedures. Prices can also be manually adjusted in the calculation: All changes are fully documented and thus reproducible at all times.

**No master data are created yet, however, the calculation is performed in SAP. The cost type can be assigned here, in order to manage the associated overhead costs.**

## 2. Manufacturing cost calculation Plus

Compared to standard material cost calculations, additional cost elements (e.g. tool costs) can be added in the manufacturing cost calculation Plus in the form of surcharges and variable items. It is possible to both simulate and change a material calculation, as well as to compare different calculations. Also, calculations with the same contents can be performed and saved with different calculation variants.

**Separate surcharges or variable items are added.**

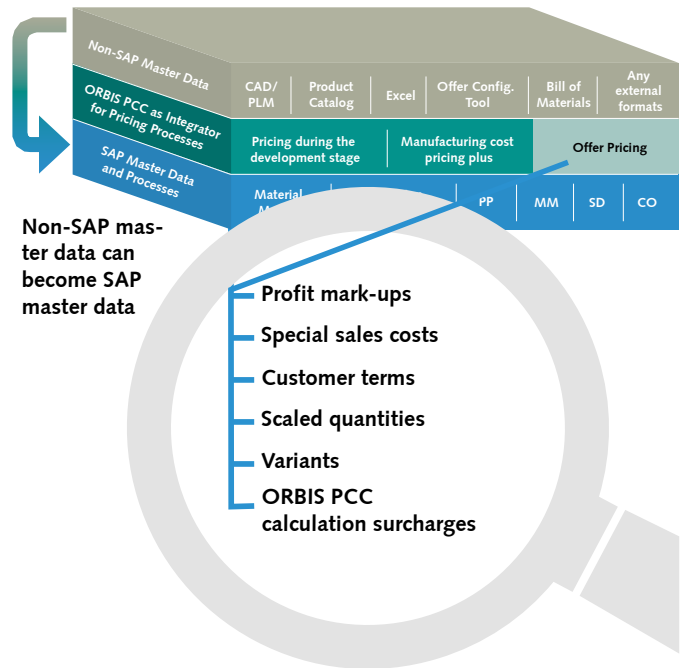


# Processes supported with ORBIS PCC

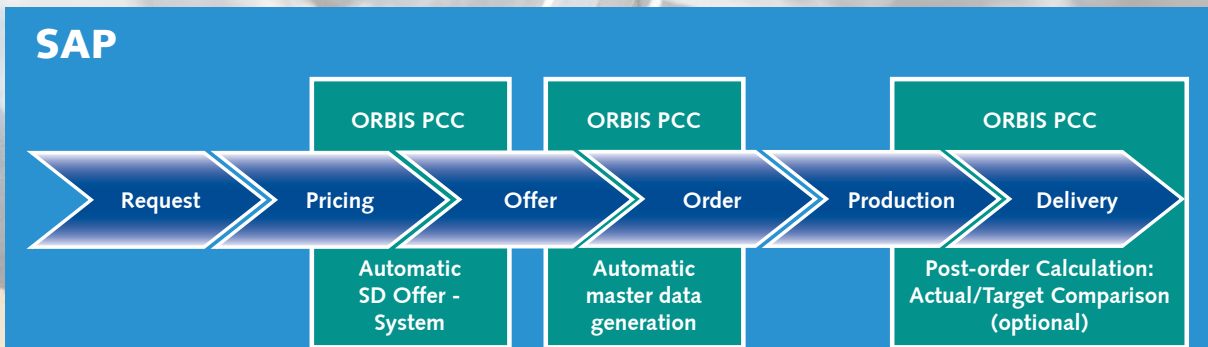
## 3. Cost calculation

Individual or special manufacturers often create extensive quotations, which need to be changed often or recalculated, before the customer places the order. However, only a small number of quotations actually results in orders. To avoid creating and maintaining unnecessary master data, ORBIS Product Cost Calculator allows calculations with dummy master data (materials, work schedules, assemblies). The cost estimate can be transferred into an SD offer without media break. All terms saved in the customer master data (e.g. discounts, commissions, freight costs etc.) can be reused.

No master data need to be created. In this case, quantity-based purchase terms are applied. The cost estimate can be calculated based on a request and transferred into an SD offer.



## ORBIS PCC – Efficient calculating based on consistent process integration



With ORBIS PCC, all pricing phases are completed 100% in SAP. Therefore, processes for product development/production, purchasing, sales and controlling are supported optimally. SAP is the leading system.

# ORBIS PCC: A crucial added value for calculation in SAP

## Functional highlights of ORBIS PCC

- ◆ Calculation and simulation exclusively in SAP (PP, CO, MM, SD, PS)
- ◆ Calculation and simulation across cost estimate and accounting areas
- ◆ Calculation with and without SAP master data
- ◆ Calculation and simulation of a complete product cost lifecycle
- ◆ Generation of calculations without templates or based on document structures, sales receipts, sales materials, work schedules etc.
- ◆ Creation of calculation templates
- ◆ Creation of calculations and processing by means of context menus (right mouse button), graphic elements (colors, icons) and copy tools
- ◆ Define own surcharges (in percentage, as a fixed value, formula)
- ◆ Calculation versions (max. 99) and calculation comparisons
- ◆ Extensive search tools, change history and error list

- ◆ Individually adjustable status system (maturity) on calculation level
- ◆ Automatic quotation generation in SAP SD
- ◆ Integration into SAP variant configuration
- ◆ Customer-specific extensions or integration of external data sources at any time through SAP User Exits and BADIs
- ◆ Automatic creation of SAP master data
- ◆ Optionally, calculation with external data from PLM or CAD systems, material catalogs, machining times calculators, cycle time calculators

### Extended functions

- ◆ Integration for cost / benchmark databases
- ◆ Calculation of machine hourly rates, processing operations and material prices according to countries and regions (to be selected)
- ◆ Long-term project calculations
- ◆ Work flow-supported calculation processing and generation of cost estimates

## Advantages and benefits of ORBIS PCC

### Advantages for calculation processes

- ◆ Up-to-date, accurate calculation data and quick creation and simulation of calculations through "real-time" integration into the existing SAP ERP system
- ◆ Low maintenance, as existing ERP data are accessed from almost all SAP modules: integrated data models, therefore no data redundancy
- ◆ Quick retrieval of calculations (centrally stored in SAP, various search functions)
- ◆ Uniform central calculation with or without master data in SAP
- ◆ Intuitive and user-friendly operation
- ◆ Quick creation and processing of calculations with calculation templates
- ◆ Cost and process transparency across product cost life cycles, tools and country borders for quick and sound management decisions
- ◆ Efficient calculating based on consistent process integration (e.g. request - cost estimate - order) and avoidance of media breaks

- ◆ Efficient "make-or-buy" decisions through market and supplier analyses based on average, global material, machine and labor costs

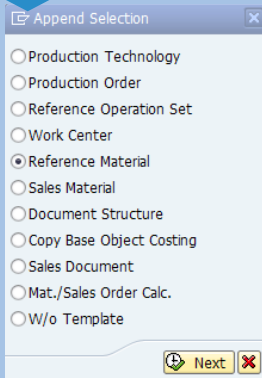
### Advantages through SAP technology or integration

- ◆ SAP basis technology: existing company SAP / IT resources can be used
- ◆ Users already work with SAP and can immediately create calculations without extensive training requirements
- ◆ No further investments into additional infrastructures (server, database) required
- ◆ Reduction of number of interfaces, systems and potential sources of error
- ◆ Investment protection: own SAP name space; ORBIS PCC can be extended through standardized SAP interfaces at any time
- ◆ Reduction of process costs through automated generation of master data

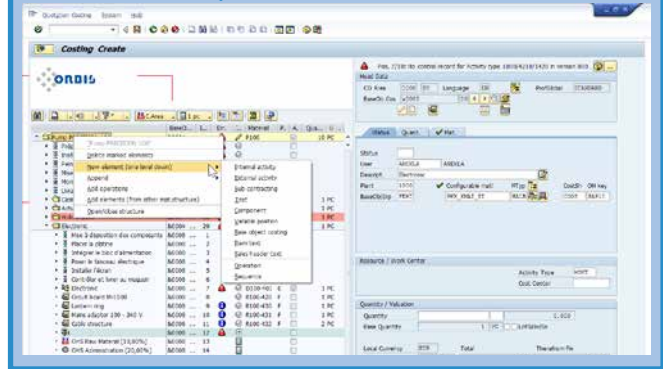
# Intuitive operation and functionalities ...



New calculations can be accessed via different channels (e.g. via master data or sales receipts). A new calculation can be started or a completed calculation can be used as the basis for a modified calculation.



The following actions can be initiated via a context menu (right mouse button): Change, delete or insert items.



Parts from a multi-level specified BOM list (material or calculation) can be copied and inserted into other calculations.



Easy copying or moving of individual items with drag & drop function. Items/elements can be copied and inserted at a different location.

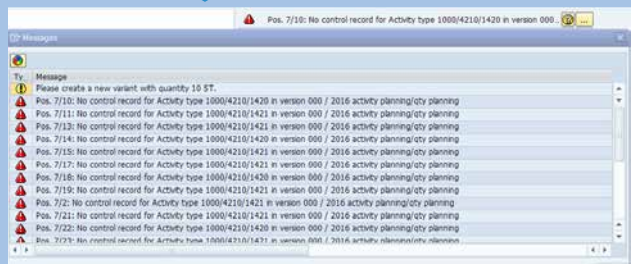


Intuitive operation through visual support (graphic symbols and colors).

Item Name	Material	Quantity	Status	Activity	Unit	Cost
Pump PRECISION 100	80004	...	⚠	P100	✓	10 PC
Préparation selon liste à servir	80004	...	⚠			
Insérer la roue dans le corps	80004	...	⚠			
Peindre le couvercle	80004	...	⚠			
Mise en place de l'arbre sur le corps	80004	...	⚠			
Montage final de la pompe	80004	...	⚠			
Livraison au magasin	80004	...	⚠			
Casings	80004	...	⚠	B100-100	E	1 PC
Actuation	80004	...	⚠	B100-200	E	1 PC
Hollow shaft	80004	...	⚠	B100-300	E	1 PC
Electronic	80004	...	⚠	B100-400	X	1 PC
Mise à disposition des composants	80008	...	⚠			
Placer la platine	80008	...	⚠			
Intégrer le bloc d'alimentation	80008	...	⚠			
Poser le faisceau électrique	80008	...	⚠			
Installer l'écran	80008	...	⚠			
Contrôler et livrer au magasin	80008	...	⚠			
Electronic	80008	...	⚠	D100-401	E	1 PC
Circuit board M-1000	80008	...	⚠	R100-420	F	1 PC
Lantern ring	80008	...	⚠	R100-430	F	1 PC
Mains adaptor 100 - 240 V	80008	...	⚠	R100-431	F	1 PC
Cable structure	80008	...	⚠	R100-432	F	2 PC
OHS Raw Material (10,00%)	80008	...	⚠			
SVC Administration (20,00%)	80008	...	⚠			



An error list is displayed and explained.



Complete access to all information in all SAP tables possible.



Calculation across accounting and cost accounting areas.

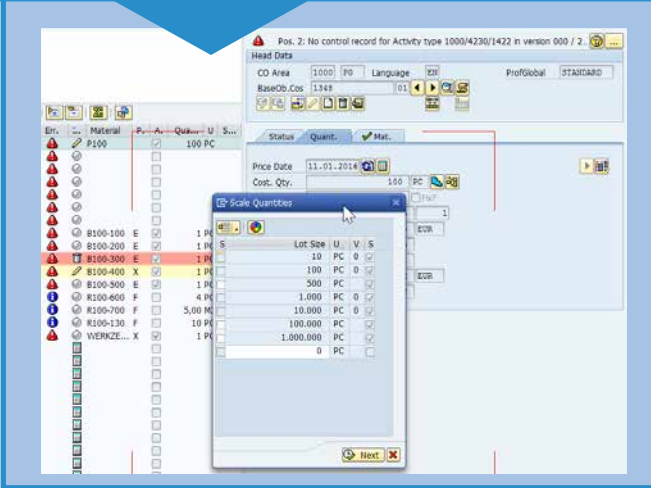


Construction data / CAD data can be read into ORBIS PCC.

# ... simply the calculation in SAP

1 ... 99

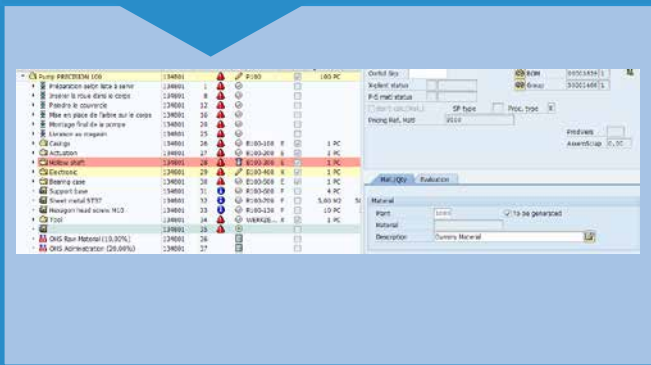
**99 different calculation versions possible.** Depending on the desired scaled quantities, a quantity-based calculation version is created for each calculation batch size.



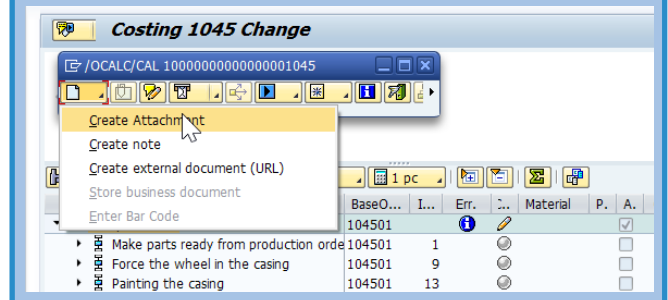
**Comparison of multiple calculations possible** (e.g. for the visualization of different manufacturing alternatives).



**Calculation with or without master data with dummy materials** (insertion of fictitious materials).



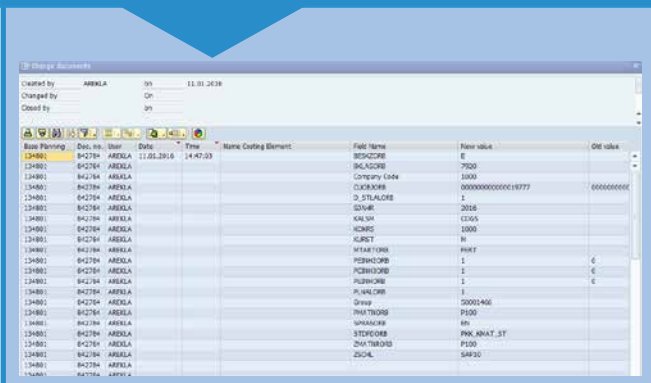
**Documents can be integrated** (e.g. external quotations or own notes on certain items).



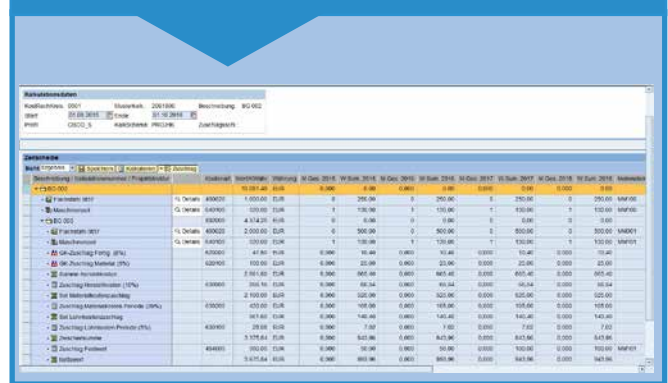
**Data maintenance only centrally in SAP.** SAP is the main system.



**Change history automatically logged:** Changes per calculation item can be displayed individually.



**Additional module allows for calculation over several years.**



# Example: Calculations and simulations ...

**1 Pre-assembly I:** A new process is added to the calculation via the workplace selection.

**Change calculation 304**

Item	Quantity	Material	Other
Pump, demo, new	1		
Provision according to picking list	1		
Pressing of impeller into housing	2		
Paint shop	3		
<b>1 Pre-assembly I</b>	<b>5</b>		
Installation of shaft into housing	8		
Final assembly of pump	9		
Delivery to warehouse	10		
<b>2 Housing</b>	<b>12</b>		
Turning housing according to drawing	1		
Drilling openings	2		
Assembly III	3		
Wage hours	14		
Machine hours	15		
Wage hours	16		
Inspection and delivery to warehouse	4		
Blank for spiral housing	5	R100-110	F ROH
Flat seal	6	R100-120	F ROH
Hexagon screw	7	R100-130	F ROH
<b>3 Additional costs</b>	<b>20</b>		
<b>4 New test material</b>	<b>21</b>		
Overhead costs, raw material (10.00%)	22		
Overhead costs, administration (20.00%)	23		
Overhead costs, sales (15.00%)	24		
Drive	13		
Shaft	14		
Electronics	15		
Warehouse	16		
Aluminum lid	17	AS-200	X
Sheet metal	18	R100-700	F HALF
M10 hexagon screw	19	R100-130	F ROH
Tool	20		ROH
Overhead costs, raw material (10.00%)	39		
Overhead costs, administration (20.00%)	40		
Overhead costs, sales (15.00%)	41		

**2 Housing:** A new component is added via the context menu.

**3 Additional costs:** Unforeseen additional costs can be specified directly in the calculation.



# ... easy with ORBIS PCC in SAP

Header data

Cost accounting area 1000 PG Language Germ

Sample calculation 304

Status **5** Quantities Mat.

Status  Order ORBIS webinar

User AREKLA AREKLA Request

Valid from Valid until Quotation 20000074 10

Customer 300619 HSA Netsolution VertrBer. 1000 10 00

Description Pump, demo, new Sale office 1000

Plant 1000  Config. Material Material type SM calc. Surcharge

MKalkGrp FERT PKK\_KMAT\_ST FERT COGS SAP10

Quan...	E	Total Quantity	Total Value
1,500	PC	1,500	1,197,688.18
			16,875.00
			18,517.56
			14,068.46
			3,555.13
			15,192.93
			7,405.18
			3,500.00
1	PC	1,500	373,569.06
			91,065.69
			30,354.94
			5,613.89
0	H	0	
0	H	0	
0.083	H	125	5,613.98
			11,227.95
1	PC	1,500	7,665.00
1	PC	1,500	34,500.00
8	PC	12,000	
		1,500.000	1,425.00
5	PC	7,500	187,500.00
			4,216.00
1	PC	1,500	85,016.06
1	PC	1,500	361,744.33
1	PC	1,500	17,696.25
1	PC	1,500	15,189.24
6	PC	9,000	69,030.00
5.00	M2	7,500.00	
10	PC	15,000	7,500.00
1	PC	1,500	16,665.00
			150.00

Sum. Menge 5.500 Sum. Wert 4.364.214,80

New total value of the calculation

**5** Quantity change in calculation: The price date and calculation quantity can be changed at any time.

Pos. 15/7: Bitte legen Sie eine neue Variante mit Menge 5.500 ST an.

Kopfdaten

KoRechKrs 1000 PG Sprache DE

Musterkalk 304 01

Status Mengen Mat.

Preisdat 31.07.2014  Fix?

Kalk.Menge 5.500 ST

Preis 793,49 1

Preis(FW) 793,49

Preis+Kond 793,49

Mat.Kosten 110,05

GesWert 4.364.214,80 EUR 4.364.214,80 EUR

GesWert+K 4.364.214,80

**4** New test material: A new material component, without SAP master data set, was created.

Mat./Menge Bewertung

Material/Beschreibung

Werk 1000  zu generieren

Material

Beschreibung Neuer Test Werkstoff

Menge

RohtPos.

Menge 5 ST 5

Basismenge 1 ST  FxKennz

KompAusschuß VorgAusschuß 0,00  Netto-Kz.

Bewertung

Kostenart

Hauswährung EUR Gesamt Herkunftsguppe

Original Preis 0,00 0,00

Preis pro 100 ST 2.500,00

Wert 187.500,00 0,00

Preisstrategie  Preis manuel  Preis manuell

# Outlook: ORBIS PCC functionality

## Long-term project calculation

- ◆ The special feature of the project calculation is the spreading of project costs over several years, taking into account both inflation and cost increase factors (e.g. labor costs, material prices, raw material prices etc.) as well as cost savings potentials demanded by customers. This is made possible through the definition and creation of milestones, own surcharges etc. in ORBIS PCC.
- ◆ Wage rates and purchase prices can be escalated over the total term. Any time-dependent surcharge factors can be mapped. Milestones can be defined and evaluated on an individual basis.
- ◆ Special feature for orders/tenders by industrial companies for the public sector: ORBIS PCC allows for the creation of auditable tender documents taking into account the statutory guidelines for pricing review and pricing law.

Kalkulationsdaten														
KostRechKreis: 0001		Musterkalk.: 2061800		Beschreibung: BG 002										
Start: 01.08.2015		Ende: 31.10.2018												
Profil: OSCO_6		KalkSchema: PROJHK		Zuschlagsschl.:										
Zeitscheibe														
Sicht Ergebnis   Speichern   Kalkulieren   Zuschlag														
Beschreibung / Kalkulationsnummer / Projektstruktur	Kostenart	Wert/KWahr	Währung	M.Ges. 2015	W.Sum. 2015	M.Ges. 2016	W.Sum. 2016	M.Ges. 2017	W.Sum. 2017	M.Ges. 2018	W.Sum. 2018	Meilenstein		
▼ BG 002		10.081,49	EUR	0,000	0,00	0,000	0,00	0,000	0,00	0,000	0,00			
• Flachstahl St37	400020	1.000,00	EUR	0	250,00	0	250,00	0	250,00	0	250,00		250,00	MM100
• Maschinenzeit	640100	520,00	EUR	1	130,00	1	130,00	1	130,00	1	130,00		130,00	MM100
▼ BG 003	892000	4.374,25	EUR	0	0,00	0	0,00	0	0,00	0	0,00		0,00	
• Flachstahl St37	400020	2.000,00	EUR	0	500,00	0	500,00	0	500,00	0	500,00		500,00	MM001
• Maschinenzeit	640100	520,00	EUR	1	130,00	1	130,00	1	130,00	1	130,00		130,00	MM101
• GK-Zuschlag Fertig. (8%)	620200	41,60	EUR	0,000	10,40	0,000	10,40	0,000	10,40	0,000	10,40		10,40	
• GK-Zuschlag Material (5%)	620100	100,00	EUR	0,000	25,00	0,000	25,00	0,000	25,00	0,000	25,00		25,00	
• Summe Herstellkosten		2.661,60	EUR	0,000	665,40	0,000	665,40	0,000	665,40	0,000	665,40		665,40	
• Zuschlag Herstellkosten (10%)	630900	266,16	EUR	0,000	66,54	0,000	66,54	0,000	66,54	0,000	66,54		66,54	
• Set Materialkostenzuschlag		2.100,00	EUR	0,000	525,00	0,000	525,00	0,000	525,00	0,000	525,00		525,00	
• Zuschlag Materialkosten Periode (20%)	630200	420,00	EUR	0,000	105,00	0,000	105,00	0,000	105,00	0,000	105,00		105,00	
• Set Lohnkostenzuschlag		561,60	EUR	0,000	140,40	0,000	140,40	0,000	140,40	0,000	140,40		140,40	
• Zuschlag Lohnkosten Periode (5%)	630100	28,08	EUR	0,000	7,02	0,000	7,02	0,000	7,02	0,000	7,02		7,02	
• Zwischensumme		3.375,84	EUR	0,000	843,96	0,000	843,96	0,000	843,96	0,000	843,96		843,96	
• Zuschlag Festwert	484000	300,00	EUR	0,000	50,00	0,000	50,00	0,000	100,00	0,000	100,00		100,00	MM101
• Nettowert		3.675,84	EUR	0,000	893,96	0,000	893,96	0,000	943,96	0,000	943,96		943,96	

## Use of benchmark data

- ◆ Within a manufacturing cost calculation, a comparison of global location factors via an external cost comparison data base – integrated into ORBIS PCC – is possible.
- ◆ This allows companies to better analyze and compare supplier offers, enabling them to specify sound cost specifications for future supplier relationships, already from the start.
- ◆ Instead of accessing existing SAP master data, calculations can be simulated with external comparative data: average costs of materials, machines (run-times), wages and energy cost from over 60 countries can be imported into the ORBIS calculation.
- ◆ This comparison database contains about 240,000 data entries, 30,000 different process and benchmark costs for parts and systems as well as more than 60 country-specific data. The data base is updated every 3 months. Own entries can be added individually to the tables from the benchmark database.

## Analyses with Crystal Reports

- ◆ In field of Business Intelligence (BI), SAP offers market-leading solutions. Crystal Reports is a flexible SAP reporting tool with excellent layout functions for professional reporting, which can be used flexibly with different types of data sources.
- ◆ ORBIS AG develops customer-specific Crystal Report reports which contain the customer data from an ORBIS PCC interface. These reports are directly displayed on the SAP GUI (Graphical User Interface) and can be called up directly from a calculation.
- ◆ The individual reports are stored on the SAP ECC Netweaver server. The customer's corporate design/layout can be fully mapped.

# Conveniently calculate in SAP in just a few days

The introduction of ORBIS PCC is quick and easy and only takes 3 steps:

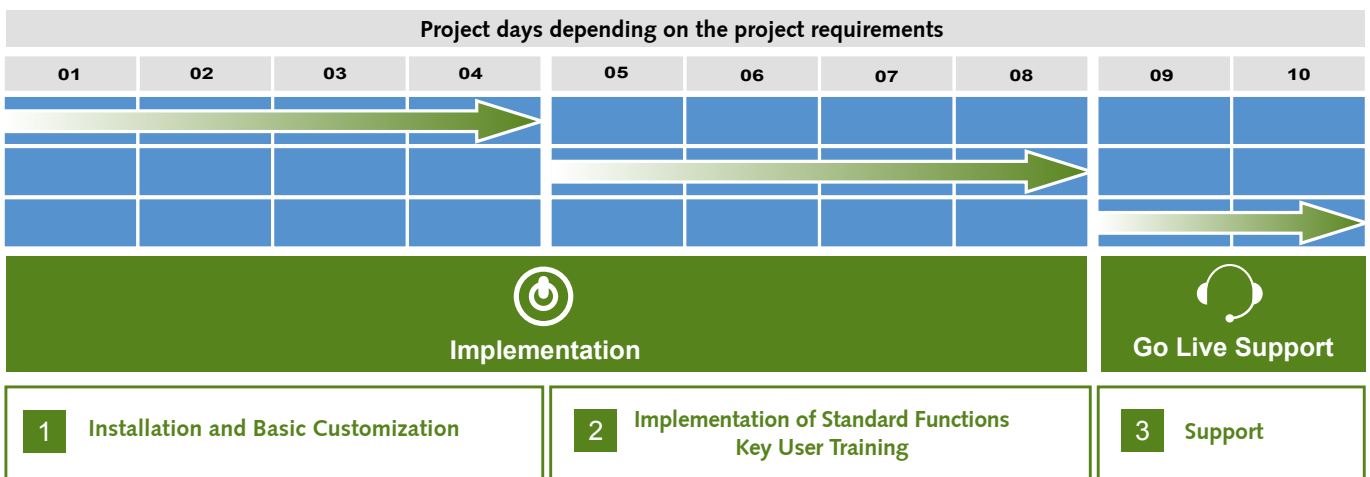
- 1 ORBIS supplies the ORBIS PCC transaction as a transport order, which is exported from the customer's IT into an SAP test or quality system.
- 2 In coordination with the customer, customizing / parameterization settings are configured in SAP Standard (CO, SD) and In ORBIS PCC, and the standard functions and processes are implemented and tested.
- 3 This is followed by the initial training of the key users. If no additional customer-specific additional develop-

ment is now required, the ORBIS PCC application can now be taken over into the production system.

This means, a project can be realized in one to three months.

## Technical information:

- No additional infrastructure required
- 100% integrated into SAP as an SAP add-on (exclusively developed in ABAP)
- Own globally protected namespace avoids conflicts with SAP ERP Standard
- SAP release ECC 6.0 and higher



**Test installation:** ORBIS offers potential customers the option of testing ORBIS PCC on their own SAP test or Sandbox system. One requirement for this is a copy of the SAP productive systems, which his max. 6 to 12 months old. Another requirement is the participation in a two-day intensive test workshop, where pre-defined calculation processes are run through and tested. Before the start of the workshop, the necessary parameter settings are performed in ORBIS PCC, necessary master data are created and the SAP test system is adjusted accordingly. Following the workshop, ORBIS PCC is available for an extensive 4-week trial phase, which is guided by ORBIS on all levels.

## EXCERPT OF OUR REFERENCES



# About us



ORBIS is a business consulting company with international operations. ORBIS supports and provides consulting services for international Group companies and small and mid-sized businesses—from IT strategies, system selection, and optimization of business processes to system implementation and system integration. ORBIS uses solutions from the market leaders SAP and Microsoft, companies that ORBIS shares a close partnership with.

Our core competencies cover classic Enterprise Resource Planning (ERP), Supply Chain Management (SCM), Logistics Execution (EWM/LES), Manufacturing Execution Systems (MES), Variant Management, Customer Relationship Management (CRM), On-Premise and Cloud, Business Analytics (BI, EPM and data warehousing) and Product Lifecycle Management (PLM). ORBIS supports worldwide rollouts of ERP solutions and processes as a reliable partner. Own solutions for Industry 4.0, BI, MES, product costing and variant management as well as add-ons based on SAP complete our service portfolio. On the Microsoft Dynamics CRM platform, ORBIS offers numerous sector solutions and best practices that it has developed itself, such as SAP-integration.

Over 1500 successfully completed client projects are testimony to our many years of experience in the automotive supplier industry, construction supplier industry, electrical and electronics industry, machinery and plant manufacture, logistics, metal industry, consumer goods industry, trade, financial service providers, and the pharmaceutical industry.

ORBIS' long-standing customer base includes among others, Bosch, Eberspächer, Edscha, Hager Group, Heineken Switzerland, Hörmann, hülsta, HYDAC INTERNATIONAL, Jungheinrich, KSB, KUKA Roboter, Magna, Melitta Haushaltsprodukte, Modine, Paul Hartmann, Pilz, Rittal, Schott, SCHUNK, Villeroy & Boch, WAGO Kontakttechnik and the ZF Group.



**Microsoft Partner**  
Gold Customer Relationship Management



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◆ Austria

◆ USA

◆ China