



COSMO Project Construction

Industry solution based on
Microsoft Dynamics 365
Business Central



Support throughout the entire project life cycle

Every company and every industry has its own, individual IT solution requirements. This applies in particular to companies for which planning and implementation of projects is part of their core business. With **COSMO Project Construction**, COSMO CONSULT offers these companies an industry solution based on Microsoft Dynamics 365 Business Central (BC) on-premises.

COSMO Project Construction is specifically tailored to the industry-specific challenges of plant construction, special-purpose machine construction, project service providers, engineers and architects as well as the construction-related industry.

COSMO Project Construction makes a significant contribution towards secure and fast ERP implementation, efficient project planning and management as well as transparent controlling and continuously up-to-date simultaneous costing and at the same time promotes interdepartmental collaboration with the areas of design and development, purchasing and MRP, production, dispatch and controlling.

The high user acceptance and added value resulting from the optimised processes and functions improves the competitiveness and transparency of the business, leading to customer satisfaction over the long term.

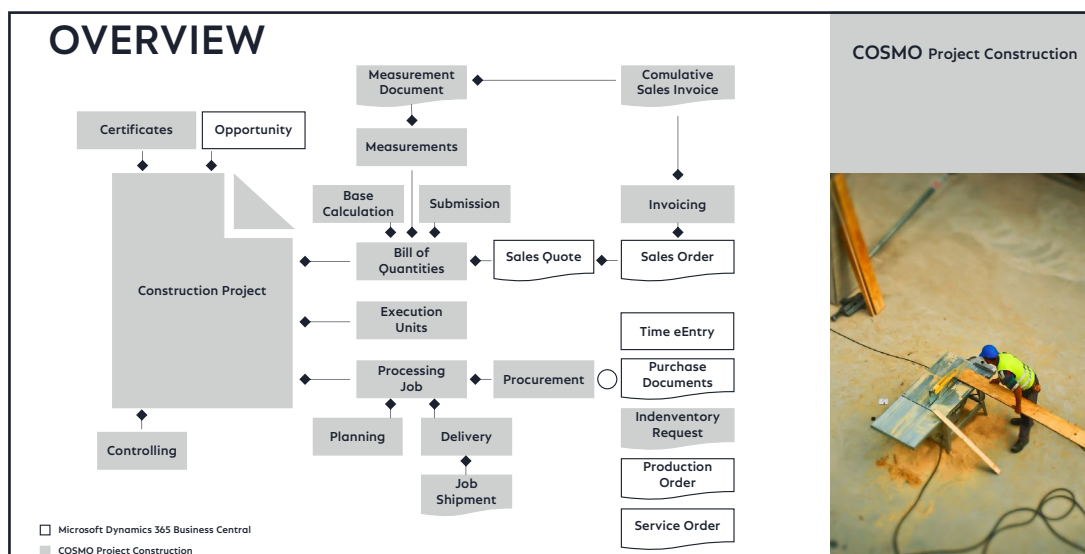
As a result, **COSMO Project Construction** offers you greater reliability, transparency and flexibility in the processing of complex projects.

Target industries

- Plant engineering and construction
- Architects
- Construction work
- Subconstruction work

COSMO Project Construction supports you throughout the entire life cycle of your projects:

- Planning phase
- Project calculation
- Quotation creation
- Order processing
 - Planning and execution of project-specific procurement processes
 - Purchasing
 - Warehousing
 - Production
- Service provision with time recording
- Dispatch planning and control
- Project invoicing
 - Billing of expense items
 - Payment plans with integrated pre-payment management
 - Milestone accounting
- Project controlling for costs, revenues and work progress
- Project evaluation
- Project completion
- Management of subsequent orders, such as additions, warranty and service



Planning of projects

COSMO Project Construction provides you with the best possible support from the early planning stages of your projects. You can create project structures quickly and easily using project templates, extensive copying functions and intuitive system operation.

In the hierarchical work breakdown structure, you can plan the services and work packages required for implementation of the project as well as the required material, travel costs and other expenses.

Specifications Manager

Specifications are processed quickly and efficiently by estimating specifications items in detail based on the required materials and services. Here, you benefit from the integration in the ERP system, as all already available price information can be referred to for the costings.

The specifications manager also helps you if you wish to outsource parts of a project: You can generate requests to sub-contractors from parts of the specifications .

Any quotations received based on these requests are imported into COSMO Project Construction and compared with other quotations via a price comparison tool. This results in a reliable, commercial basis for later order processing (see fig. 1).

Dynamics 365 Business Central

ccproject LV000004 - BUROGEBAUDE NEUMEYERSTR. NBG. (AU) | WORK DATE: 04.03.2022

BoQ Position List

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Edit View

BOQ POS. NO.	BOQ POSITION TYPE	DESCRIPTION	LONG TEXT	QUANTITY	UNIT OF MEASURE CODE	RESPONSIBLE CALCULATION	CALCULAT. STATUS	UNIT PRICE (LCY)	TOTAL PRICE BUDGET (LCY)	SALES CODE	EXECUT. UNIT
01.	BoQ-Normal ...	Sicherheitsstromversorgung						0.00	77.409,38		No
01.01.	BoQ-Normal ...	Sicherheitsbeleuchtung						0.00	55.664,70		Yes
01.01.0002.	Normal Positi...	230 V AC Netzüberwachungseinr...	Yes	48	STÜCK	MARLIES	Calculated	1.076.80	51.686.40	AUFTRAG	Yes
01.01.0003.	Normal Positi...	Fernschalter 230 V/4polig	Yes	6	STÜCK		Fixed	591.79	3.550.74	AUFTRAG	Yes
01.01.0004.	Normal Positi...	LED-Nothinweisleuchte Seilabhä...		4	STÜCK		Fixed	106.89	427.56	AUFTRAG	Yes
01.02.	BoQ-Normal ...	Entrauchungsventilatoren TG						0.00	21.744,68		Yes
01.02.0001.	Normal Positi...	USV-Anlage	Yes	1	STÜCK		Calculated	12.611.65	12.611.65	AUFTRAG	Yes
01.01.0001.	Normal Positi...	3-Leiter Netzüberwachung mit B...	Yes	27	STÜCK		Calculated	247.80	6.690.60	AUFTRAG	Yes
01.02.0002.	Normal Positi...	Bleibatterie in Industrieführung	Yes	1	STÜCK		Fixed	918.43	918.43	AUFTRAG	Yes
01.02.0003.	Normal Positi...	Batteriegestell für 40 Stück CTL 2...	Yes	1	STÜCK		Fixed	1.524.00	1.524.00	AUFTRAG	Yes
02.	BoQ-Normal ...	Installation						0.00	304.992,00		No
02.01.	BoQ-Normal ...	Installation						0.00	304.992,00		Yes
02.01.0001.	Normal Positi...	NYM-J 3 x 1,5 mm²		9.500	M		Progress	6.00	57.000.00	AUFTRAG	Yes
02.01.0002.	Normal Positi...	NYM-J 5 x 1,5 mm²		12.000	M		Fixed	5.70	68.400.00	AUFTRAG	Yes
02.01.0003.	Normal Positi...	NYM-J 7 x 1,5 mm²		3.200	M		Fixed	10.37	33.184.00	AUFTRAG	Yes
02.01.0004.	Normal Positi...	NYM-J 12 x 1,5 mm²		400	M		Fixed	6.02	2.408.00	AUFTRAG	Yes
02.01.0005.	Normal Positi...	NYM-J 3 x 2,5 mm²		24.000	M		Fixed	6.00	144.000.00	AUFTRAG	Yes

Fig.1: BoQ Position List

Calculation and construction processing

The execution of construction projects is based on the management of construction projects. The construction cockpit provides quick and easy access to all important documents and processes. The calculation based on a specification is supported by different tools. The main cost types such as wage, material, equipment, external service and others are differentiated. In addition to a detailed display of all important calculation factors, the calculation statistics allow you to perform a so-called fine adjustment. Various calculation adjustments can be simulated without changing the actual costing.

The supply of form sheets is often required. **COSMO Project Construction** supports the automated creation of the form sheet EFB 221.

The project structure in the processing phase generally differs from the specification structure. Define work packages to break the specification into individual task packages (see fig. 2). The work breakdown structure can

be generated automatically from work packages. At the same time, the work packages form a control unit. External services may be contracted based on sub-contracting entities.

In addition, you manage certificates such as Exemption certificates according to §48b EStG or general certificates at your contacts.

For project items which have no standard prices, you can refer to estimated values or quotations from your suppliers. The purchase quote manager helps you to create supplier requests and to select the right supplier with a price comparison.

Through unit price determination at item level you can use special project prices or project charges. In addition, you can also set up a special overhead costing based on your own templates of calculation schedules.

NO.	PROCUR...	BOQ POS. NO.	TYPE	NO.	DESCRIPTION	QUANTITY	UNIT OF MEASURE	CALCULAT...	ALLOCATED QUANTITY FROM BOQ	ALLOCATED TOTAL COST FROM BOQ	ALLOCATED SALES LINE AMOUNT FROM BOQ	CA
03.01.0001	Normal Pos...	General	SUMME		Verkehrsschilder aufst...	8	STÜCK					
03.01.0002	Normal Pos...	General	SUMME		Verkehrsschilder anbringen	8	STÜCK					
03.01.0003	Normal Pos...	General	SUMME		Verkehrsschilder anbringen	8	STÜCK					

Fig. 2.: Structural Plan with Work Packages

Project workflow planning and scheduling

In addition to planning costs and revenues, **COSMO Project Construction** also supports the planning and scheduling of projects and their workflows. The integrated resource planning allows you to keep track of departmental and employee utilisation even across different projects. Individual process steps and the time required for these can be derived from the planning processes specified in the project work breakdown structure. The process steps can be linked together through predecessor relationships and can thus be rescheduled at any time (see fig. 3).

The checklist already offers a high benefit in the sales phase, even without the need for in-depth technical

knowledge of the diverse product characteristics. For example, the checklist system verifies the technical feasibility of a product specification while it is being compiled and highlights any necessary additional services. In addition, a dynamic BOM can be generated, which is used as the basis for quotation calculation and individualization according to customer requirements.

The dynamic BOM is also available in the subsequent process after receipt of the order as a base for design or production, for example.

PROCESS NO.	PLANNING STATUS	PROCESS ID	PREDECESSOR ID	DESCRIPTION	MIL	WORK QUANTITY	WORK FORMAT	DURATION QUANTITY	DURATION FORMAT	CONSTR. TYPE	PROCESS TYPE	START	FINISH
PPR0000011	Release	1		Sicherheitsbeleuchtung									
PPR0000008	Finished	2		Konstruktion		8,190	min	3,4	w	MFO	Work	31.01.2019	22.02.2019
PPR0000007	Planning	3	2	Montage BA1		200	h	5	w	MSO	Work	01.03.2019	04.04.2019
PPR0000009	Planning	4	3	Montage BA2		200	h	5	w	MSO	Work	01.07.2019	05.08.2019
PPR0000010	Planning	5	4	Montage BA3		230	h	115	w	MSO	Work	01.11.2019	11.12.2019
PPR0000018	Planning	6		USV-Anlage									
PPR0000015	Planning	7		Konstruktion elektrisch		60	h	1,5	w	MSO	Work	22.02.2019	05.03.2019
PPR0000016	Planning	8		Schaltschrankbau		60	h	1,5	w	MSO	Work	18.03.2019	27.03.2019
PPR0000017	Planning	9	8	Montage BA1		12	h	0,3	w	ASAP	Work	27.03.2019	28.03.2019
PPR0000024	Planning	10		Installation Schwachstrom ...									
PPR0000019	Planning	11	9	Montage BA1 R1		135,25	h	3,4	w	ASAP	Work	29.03.2019	22.04.2019
PPR0000025	Planning	12	9	Montage BA1 R2		135,25	h	3,4	w	ASAP	Work	29.03.2019	22.04.2019
PPR0000026	Planning	13	9	Montage BA1 R3		135,25	h	3,4	w	ASAP	Work	29.03.2019	22.04.2019
PPR0000027	Planning	14	13	Montage BA1 R4		135,25	h	3,4	w	ASAP	Work	23.04.2019	15.05.2019
PPR0000028	Planning	15	13	Montage BA1 R5		135,25	h	3,4	w	ASAP	Work	23.04.2019	15.05.2019
PPR0000034	Planning	21	11;12;13;14;15	Montage BA1 abgeschl...						ASAP	Work	15.05.2019	15.05.2019
PPR0000029	Planning	16	21	Montage BA2 R6		135,25	h	3,4	w	ASAP	Work	16.05.2019	07.06.2019
PPR0000030	Planning	17	21	Montage BA2 R7		135,25	h	3,4	w	ASAP	Work	16.05.2019	07.06.2019
PPR0000031	Planning	18	21	Montage BA2 R8		135,25	h	3,4	w	ASAP	Work	16.05.2019	07.06.2019
PPR0000032	Planning	19	21	Montage BA2 R9		135,25	h	3,4	w	ASAP	Work	16.05.2019	07.06.2019
PPR0000033	Planning	20	21	Montage BA2 R10		135,25	h	3,4	w	ASAP	Work	16.05.2019	07.06.2019
PPR0000035	Planning	22	16;17;18;19;20	Montage BA2 abgeschl...						ASAP	Work	07.06.2019	07.06.2019

Fig. 3: Planning Processes

Microsoft project interface

A bi-directional interface is used for exchanging data with Microsoft Project. Therefore, the workflow plan for a project can be displayed graphically and modified in

MS Project. Changes are transferred back to **COSMO Project Construction** if desired, and are then available to all members of the project team.

Capacity and resource planning

Available capacities for each employee can be assigned using an integrated calendar and the usage of work time templates. Therefore, a capacity overload or free capacities of a single employee is visible.

The utilisation of individual company departments can be illustrated via resource groups. Thus, you can detect bottlenecks at an early stage and take the relevant action (see fig. 4).

WBS	TYPE	NO.	DESCRIPTION	QUANTITY	UNIT OF MEASURE	REALIZED %	SIGNAL %	SIGNAL MONITOR	QUANTITY USAGE	QUANTITY SHIPPED	SHIPMENT CHANNEL	SHIPMENT CONTAINER NO.
1.			Arbeitspakete					+				
1.1.			Ausführung Kompensation ...					+				
1.1.1.			Lohn					+				
1.1.1.1.	Service	AV50002	Schutzwand-facharbeite...	624	STUNDE	20	26	+	125			
1.1.1.2.	Service	AV50001	VS-Facharbeiter/h	16	STUNDE	12.5	31	+	2			
1.1.1.3.	Service	AV50003	techn. Zeichner/h	24	STUNDE	58.3	-13	+	14			
1.1.2.			Material					+				
1.1.2.1.			Ohne Komponentengru...					+				
1.1.2.1.1.	Item	70062	Schutzwand	624	STÜCK	16	-3	+	100		Posted Item	
1.1.2.1.2.	Item	70063	VZ-Tafel bis 2.5m2	6	STÜCK	50	180	+	3		Posted Item	
1.1.2.1.3.	Item	70064	Gelbe Folienmarkierun...	2,000	M	100	24	+	2,000		Posted Item	
1.1.3.			Fremdleistung					+				
1.1.3.1.	General	FREMD	Fremdleistung	624	PAUSCH			+				
1.1.4.			Geräte					+				

Fig. 4: Planning and Processing with Signal Monitor

Complete project management support through integration into the ERP system

Project management also includes service provision, procurement, project delivery and invoicing to the customer. Because COSMO Project Construction is fully integrated with the Microsoft ERP system, you are able to plan your project quick and easy and control the resulting processes.

Project processing made easy

For all processing steps, there is a planning and release functionality. This means you can control which work packages and which procurement processes from the project structure should be performed. Release automatically forwards demands to purchase, generates warehouse requirements or production orders and releases work packages for booking. This ensures that the supporting company units are fully integrated project management process. This is the basis for creating project-based purchase orders in good time, optimize warehouse stocks in the project transaction and supply a solid planning basis for work preparation and production.

Through status notifications on the processing processes, which can be viewed directly in the project structure, you can track the project execution transparently. This means the project team always has an overview of the distributed actions which are required for successful project management.

Measurement management

If the billing of services is based on measurements, measurements can be managed within COSMO Project Construction in Measurement Documents. The recording of measurements for billings is processed based on specification positions, measurement sheet numbers and measurement locations in measurement sheets. The measurement sheets, which are checked and signed on the construction site, then form the basis for

billing the provided services (see fig. 5).

In the measurement list you always keep the recorded, signed and invoiced measurements in mind.

The entry of measured quantities is compatible with the regulations for electronic construction accounting according to procedure specification 23.003.

BOQ POS. NO.	BOQ POS. TYPE	DESCRIPTION	QUANTITY	UNIT OF MEASURE CODE	MEASUREMENT QTY. RECORDED	MEASUREMENT QTY. REGISTERED	MEASUREMENT QTY. INVOICED	SALES LINE AMOUNT (LCY)	REGISTERED AMOUNT MEASURED (€ PV)	INVOICED AMOUNT MEASURED (€ PV)	CALCULATIVE TIME SCALE MEASUREM. (h)
01.	BoQ-Norma...	Sicherheitsstromversorgung	-	-	-	-	-	-	-	-	-
01.01.	BoQ-Norma...	Sicherheitsbeleuchtung	-	-	-	-	-	-	-	-	-
01.01.0002.	Normal Posi...	230 V AC Netzüberwachungsein...	48	STÜCK	-	7	7	51.686,40	2.853,76	2.853,76	140
01.01.0003.	Normal Posi...	Fernschalter 230 V/4polig	6	STÜCK	-1	1	1	3.550,74	591,97	591,97	-
01.01.0004.	Normal Posi...	LED-Notinweisleuchte Seilabha...	4	STÜCK	-4	-	-	427,56	-	-	-6
01.02.	BoQ-Norma...	Entrauchungsventilatoren TG	-	-	-	-	-	-	-	-	-
01.02.0001.	Normal Posi...	USV-Anlage	1	STÜCK	-	-	-	12.611,65	-	-	-
01.01.0001.	Normal Posi...	3-Leiter Netzüberwachung mit ...	27	STÜCK	6	-	-	6.690,60	-	-	9
01.02.0002.	Normal Posi...	Bleibatterie in Industrieausföhru...	1	STÜCK	-	-	-	918,43	-	-	-
01.02.0003.	Normal Posi...	Batteriegestell für 40 Stück CTL ...	1	STÜCK	-	7	7	1.524,00	2.577,12	2.577,12	140
02.	BoQ-Norma...	Installation	-	-	-	-	-	-	-	-	-
02.01.	BoQ-Norma...	Installation	-	-	-	-	-	-	-	-	-
02.01.0001.	Normal Posi...	NYM-J 3 x 1,5 mm²	9.500	M	-	1.500	1.500	57.000,00	9.000,00	9.000,00	75
02.01.0002.	Normal Posi...	NYM-J 5 x 1,5 mm²	12.000	M	-	2.000	2.000	68.400,00	11.380,00	11.380,00	133,33333
02.01.0003.	Normal Posi...	NYM-J 7 x 1,5 mm²	3.200	M	-	600	600	33.184,00	6.216,00	6.216,00	40
02.01.0004.	Normal Posi...	NYM-J 12 x 1,5 mm²	400	M	-	100	100	2.408,00	604,00	604,00	4,16667
02.01.0005.	Normal Posi...	NYM-J 3 x 2,5 mm²	24.000	M	-	6.000	6.000	144.000,00	36.000,00	36.000,00	300

Fig. 5: Measurement List

Dispatch management

With COSMO Project Construction you always have component planning and controlling under control. The decoupling of invoicing and dispatch through project-based delivery notes is available as standard, which is important in many projects.

Project accounting

COSMO Project Construction supports the current accounting methods within projects:

- Billing at fixed price
- Billing on a costs and materials basis
- Billing on degree of completion
- Milestone-based accounting

Invoices can also be created in different currencies.

Create the payment plan for your customers

The optionally available integrated pre-payment management tool takes all tax conditions into account and illustrates a further significant integration advantage for the sales employee and for the subsequent departments. Thanks to the data agreed in the payment plan, you receive on time suggestions for invoicing of the respective pre-payments or final invoice. As an option, the information from the payment plan can be incorporated in your company's liquidity forecast.

Construction accounting

In addition to the standard project accounting methods, the add-on COSMO Project Construction also supports the cumulative progress invoicing / final invoice according to measurements as it is usual in the construction industry. Security and guarantee retention is supported in the same way as construction charges like construction site power, construction site insurance etc. (see fig. 6).

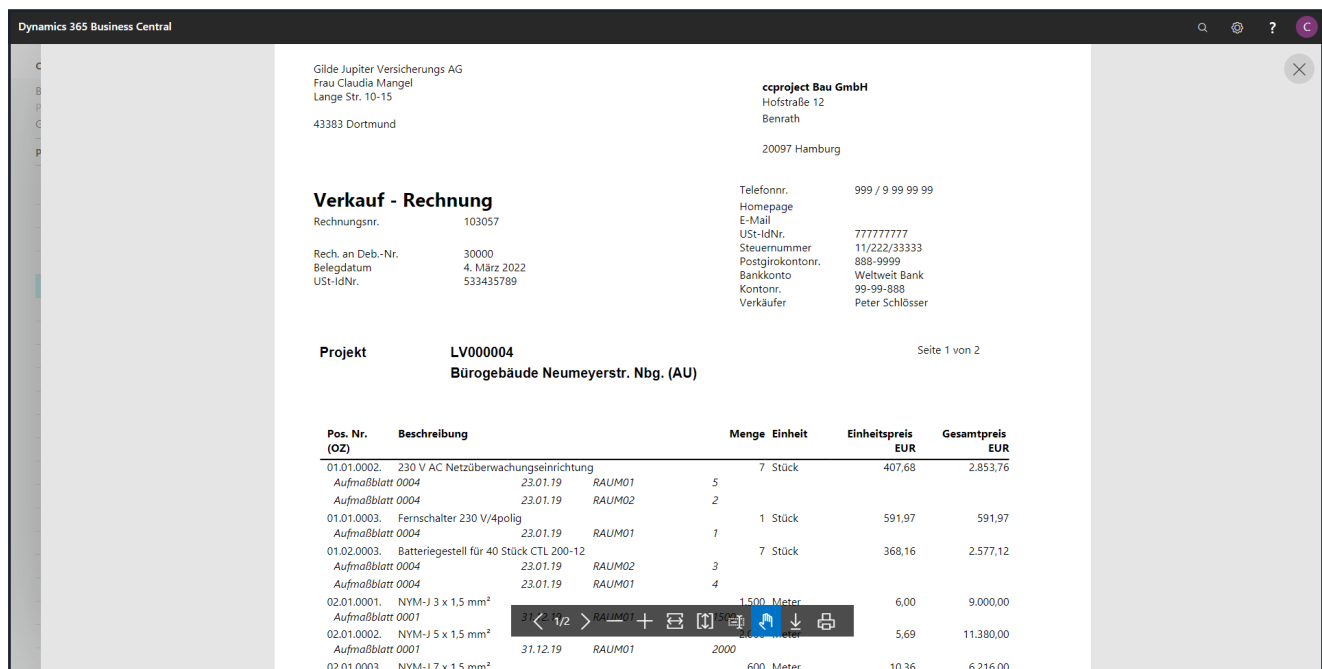
Project Evaluation

With COSMO Project Construction, the often very time-consuming accounting evaluation of projects can be performed automatically. Thus, you can always see at what value and on what basis projects were

capitalised on a due date or recognised as liabilities through accruals for future costs or impending losses. At project completion the consumption or resolution of activations and passivation's occurs at last due date.

Project Navigate

During the project processing an increasing number of documents, which are associated with the project, are created in individual company areas such as Sales, Purchasing, Warehousing and Production. In order to maintain transparency these documents are illustrated in a structured manner in the project documents. By mouse click you can directly access the relevant document in Microsoft Dynamics 365 Business Central quick and easy.



Pos. Nr. (OZ)	Beschreibung	Menge	Einheit	Einheitspreis EUR	Gesamtpreis EUR
01.01.0002.	230 V AC Netzüberwachungseinrichtung	7	Stück	407,68	2.853,76
Aufmaßblatt 0004	23.01.19 RAUM01	5			
Aufmaßblatt 0004	23.01.19 RAUM02	2			
01.01.0003.	Fernschalter 230 V/4polig	1	Stück	591,97	591,97
Aufmaßblatt 0004	23.01.19 RAUM01	1			
01.02.0003.	Batteriegestell für 40 Stück CTL 200-12	7	Stück	368,16	2.577,12
Aufmaßblatt 0004	23.01.19 RAUM02	3			
Aufmaßblatt 0004	23.01.19 RAUM01	4			
02.01.0001.	NYM-J 3 x 1,5 mm²	1.500	Meter	6,00	9.000,00
Aufmaßblatt 0001	31.12.19 RAUM01	2000			
02.01.0002.	NYM-J 5 x 1,5 mm²	2.000	Meter	5,69	11.380,00
Aufmaßblatt 0001					
02.01.0003.	NYM-J 7 x 1,5 mm²	600	Meter	10,36	6.216,00

Fig. 6: Invoice Planning/Sales View

Project Controlling

In addition to the status information provided online the system also calculates further indicators that can be used for monitoring your projects. Projects can also be grouped into project groups for analysis and reporting.

The „Signal Monitor“ processes cost and progress information and visually illustrates the actual expenses for the relative cost budget („Traffic Light“).

In the concurrent calculation the main information for all project phases are displayed in one window. This information can also be prepared and transferred to Microsoft Excel (see fig. 7).

COSMO Project Construction is an industry solution which helps you to optimize the implementation of business processes in project planning and controlling.

Dynamics 365 Business Central

ccproject AUC0007 - A1 - A 44 VERKEHRSSCHILDER UND TRANSP. S | WORK DATE: 04.03.2022

Job Rolling Calculation

Search Edit List Process Calculation Processing Show Attached Open in Excel More options

Home

	WBS	DESCRIPTION	TOTAL COST BY MEASUREME...	SALES LINE AMOUNT BY MEASUREME...	TOTAL COST BUDGET (LCY)	SALES LINE AMOUNT BUDGET (LCY)	PROFIT AMOUNT BUDGET (LCY)	TOTAL COST USAGE (LCY)	REALIZED % FINALIZED	SIGNAL %	SIGNAL MONITOR	TOTAL PRIC RELEASE (LCY)
		-	-	-							+	
	1.	Arbeitspakete	-	-							+	
	1.1.	Ausführung Kompensation ...	-	-							+	
	1.1.1.	Lohn	-	-							+	
	1.1.1.1.	Schutzwand-Facharbeite...	40.202,00	55.277,75	24.960,00	31.699,20	6.739,20	6.625,00	20	26		
	1.1.1.2.	VS-Facharbeiter/h	-	-	640,00	812,80	172,80	110,00	12,5	31		
	1.1.1.3.	techn. Zeichner/h	-	-	1.440,00	1.828,80	388,80	770,00	58,3	-13		
		-	-	-	27.040,00	34.340,80	7.300,80	7.505,00			+	
	1.1.2.	Material	-	-							+	
	1.1.2.1.	Ohne Komponentengru...	-	-							+	
	1.1.2.1.1.	Schutzwand	90.454,50	125.631,25	62.400,00	87.360,00	24.960,00	10.200,00	16	-3		
	1.1.2.1.2.	VZ-Tafel bis 2,5m2	-	-	300,00	420,00	120,00	840,00	50	180		
	1.1.2.1.3.	Gelbe Folienmarkierung...	-	-	11.600,00	16.240,00	4.640,00	14.400,00	100	24		
		-	-	-	74.300,00	104.020,00	29.720,00	25.440,00			+	
		-	-	-	74.300,00	104.020,00	29.720,00	25.440,00			+	
	1.1.3.	Fremdleistung	-	-							+	
	1.1.3.1.	Fremdleistung	3.015,15	5.025,25	1.872,00	2.564,64	692,64				+	
		-	-	-	1.872,00	2.564,64	692,64				+	
	1.1.4.	Geräte	-	-							+	
	1.1.5.	Sonstige	-	-							+	
	1.1.6.	Sonstige 2	-	-							+	

Path

Fig. 7: Concurrent Calculation with Signal Monitor

Add-on modules

- Task-based Planning
- Factory Data Capture
- Time Date Capture
- Mobile Solution
- Quality Management
- Prepayment Management
- Workflow Management
- Document Management System
- and much more

Dynamics 365 Business Central

ccproject Bau GmbH Master Data Journals Posted Documents

Construction Projects GAEB List Sales Quotes Contact Certificates Purchase Orders Purchase Credit Memos Job Shipments Sales Credit Memos Registered Measurements Time Sheets Projektgruppen

Jobs Opportunities Sales Orders Purchase Quotes Purchase Invoices Planning Sales Invoices Measurements Measurement Summaries Manager Time Sheets

ACTIONS

> Planning > Processing > Periodic Activities > History

Activities

Activities

Name

Construction Project No.

Construction Project Description

PROJETS AND JOBS

START

SALES

PURCHASE

PLANNING

SHIPMENT AND MEASUREMENT

Insights

My Construction Projects

Self-Service TIME SHEETS

PENDING TIME SHEETS

Fig. 8: Role center COSMO Project Konstruktion

Austria • Chile • China • Columbia • Ecuador • France • Germany • Hungary
Mexico • Panama • Peru • Romania • Spain • Sweden • Switzerland

www.cosmoconsult.com