



COSMO Product Data Management based on Microsoft Dynamics 365 Business Central



A challenge for manufacturing companies

Integrating design engineering, sales, purchasing and production

Do you run a manufacturing company and rely on Microsoft Dynamics 365 Business Central as your ERP system to optimally support your business processes? Do you know the importance of having quality parts lists and article master data for your products when it comes to ensuring smooth production operation?

Then **COSMO Product Data Management** is the perfect solution for your needs!

Instead of coming from the ERP system, product and parts lists originate in the engineering department. Design engineers work with CAD or PDM systems, which are not generally integrated in the ERP system. Design data changes related to product innovations or product variants, meanwhile, are handled exclusively by Engineering. These changes then have to be transferred to the ERP system through a laborious process, all without losing change status transparency.

So, the data from the CAD systems is not available directly in your ERP system. With separate systems, your engineering department can't access the ERP system data in order to search for existing article master data or access existing quotation data from Sales, Purchasing or Production.

Given the significance of design data for production, the "isolated" state of the Engineering Department is of great consequence. Integrating the CAD system and ERP system would therefore benefit your entire company.

COSMO Product Data Management—the total digital solution for integrating your engineering department

COSMO CONSULT developed Product Data Management especially for manufacturing companies in the following sectors::

- Machinery and plant construction
- Metalworking
- Vehicle construction
- Electrical and electronics industry
- Medical engineering
- Equipment and apparatus engineering

As an intelligent add-on to the Microsoft ERP standard, this solution allows for direct integration between CAD/PDM and PLM systems and Dynamics 365 Business Central. Complete CAD models, technical drawings and parts lists produced in the course of your engineering process are automatically made available to the next departments in the ERP system. The engineering department can, in turn, access existing product data in your ERP system. The result is a comprehensive and transparent flow of information between all the divisions involved in order processing.

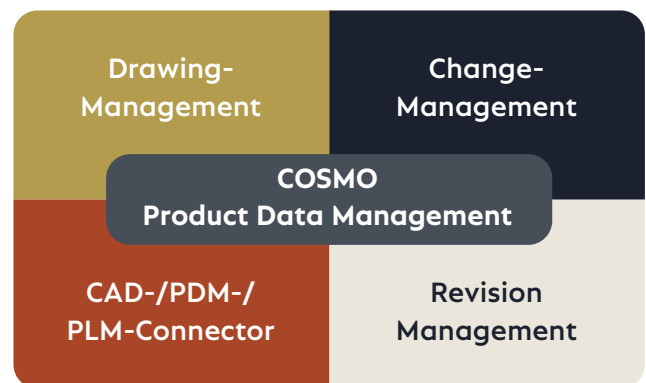


Fig. 1: Module overview
COSMO Product Data Management

Module COSMO Product Data Management-Basic

The COSMO Product Data Management-Basic offers a wide range of PDM functions within Dynamics 365 Business Central.

Technical documents related to mechanics, electrical engineering and electronics are managed together according to the same rules. Drawing revision generation is primarily automated, as is the provision of drawings and documents for Production, Purchasing and Service.

The main features of COSMO Product Data Management-Basic:

- Integrated drawing management system
- Revision management
- Continuous change management

Drawing management

Via drawing management, any number of drafts and drawing revisions can be managed. The drawings are assigned to articles, parts lists, production orders, sales orders, purchasing orders and service documents according to an individually defined logic. This provides transparency throughout the various departments. A status management feature allows engineers to choose which drawings and documents to include in the process and which ones to exclude (see fig. 2).

The screenshot displays the 'PRODUCTION BOM | WORK DATE: 1/28/2021' interface for 'PDM-1000 · Bicycle'. The top navigation bar includes 'Process', 'Prod. BOM', 'Actions', 'Navigate', and 'Fewer options'. The 'General' section contains fields for 'No.' (PDM-1000), 'Status' (Certified), 'Description' (Bicycle), 'Search Name' (BICYCLE), 'Unit of Measur...' (PCS), and 'Version Nos.'.

The 'Lines' section shows a table of components:

Type	No.	Description	Quantity per	Unit of Measure Code	S
→ Item	PDM-1100	Front Wheel	1	PCS	
Item	PDM-1200	Back Wheel	1	PCS	
Item	PDM-1300	Chain Assy	1	PCS	
Item	PDM-1400	Mudguard front	1	PCS	
Item	PDM-1450	Mudguard back	1	PCS	
Item	PDM-1500	Lamp	1	PCS	
Item	PDM-1600	Bell	1	PCS	
Item	PDM-1700	Brake	1	PCS	
Item	PDM-1800	Handlebars	1	PCS	

The right sidebar shows 'Details' and 'Attachments (0)'. The 'Drawing Set' section lists drawings:

No. ↑	Type Code ↑	Revision Code
PDM-1000	ASSEMBLY	A
PDM-1000	MECHANI...	A

The 'Line Drawing Set' section lists line drawings:

No. ↑	Type Code ↑	Revision Code
PDM-1100	MECHANI...	A

Abb. 2: Drawing management—BOM with linked drawings

Revision management

In case of drawing changes, revision management ensures that data remains consistent in the entire system. A usage check provides information on where a given drawing is used. This information can be used to

decide, for example, whether an entire product structure needs to be revised or only an individual portion or individual assembly (see fig. 3).

<

DRAWING NAVIGATE | WORK DATE: 1/28/2021

✓ SAVED

OPTIONS

Incl. Finished Documents

DRAWING

Drawing No. PDM-1000 ▾

Revision Code A ...

Drawing Type Code ASSEMBLY ▾

REPLACE WITH:

Drawing No. PDM-1000 ▾

Revision Code A ...

Process

Find By

More options

Related Documents		No. of Documents
→	Item :	1
	Sales Line	1
	Prod. Order Line	2
	Production BOM Header	1

Fig. 3: Revision management—easily replace drawings and revisions

Change management

Change management is used to control specific cross-departmental processes. Change requests are transferred directly to Engineering. Detailed information is provided on the type of change and the components affected. Based on this information, the designer can then review the process and make decisions about a product modification.

Product modifications are integrated into the company organization by means of change orders. A flexible task plan defines specific tasks for all the relevant departments. This gives the design engineer an overview of the current processing status of the changes (see Fig. 4).

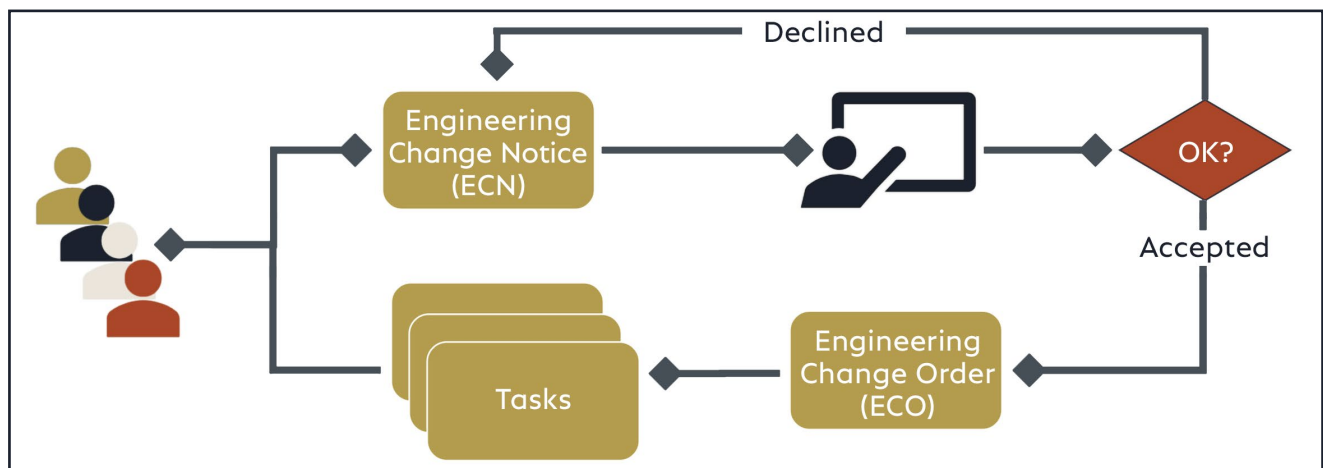


Fig. 4: Change management—control of cross-departmental processes

Module COSMO Product Data Management-CAD Connector

COSMO Product Data Management-CAD Connector is an extension to the COSMO Product Data Management-Basic and allows for the seamless integration of all commonly used CAD, PDM and PLM systems in Dynamics 365 Business Central.

A flexible CAD Connector set-up ensures that the data in the ERP system is always up-to-date. In addition to

creating drawings, items and parts lists, the tool also harmonizes the processes of CAD and ERP systems.

Transferring a drawing version directly actuates processes in the ERP system. If necessary, the ERP user can also add components to the parts lists, and these components will not be deleted in case of drawing changes (see Fig. 5).

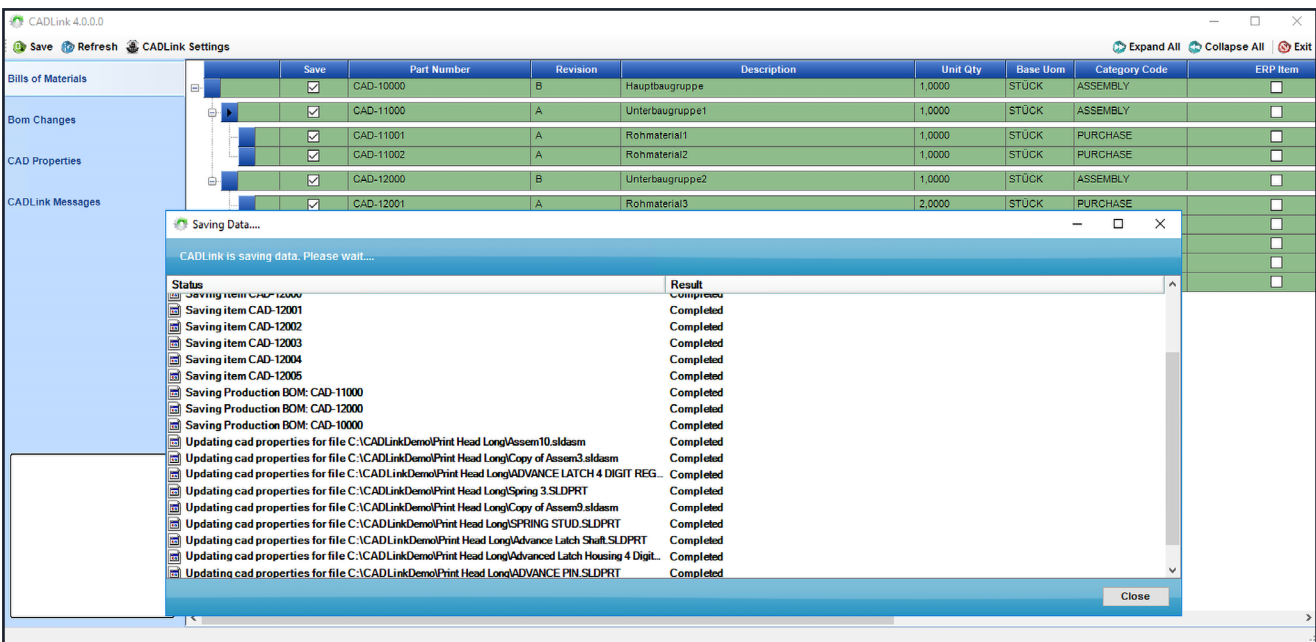


Fig. 5: CADLink—transferring CAD data to the ERP system

How you'll benefit

The COSMO Product Data Management solution optimizes your cross-departmental processes by directly integrating CAD, PDM and PLM systems in Dynamics 365 Business Central.

Bidirectional data synchronization in real time renders the product data in both systems more transparent and allows all the departments to work hand in hand. For example, using CADLink in the CAD system, your Engineering Department can directly access master data in Dynamics 365 Business Central; here, they can create and modify article master data and production parts lists. And Production, Sales and Purchasing can also access

important product information from the CAD system.

COSMO Product Data Management does not require any additional hardware or additional SQL server database. This means that you'll be working in a central, uniform database without any redundancy.

You'll benefit from improved information flows, reduced error risks and shorter leads times in all departments, as well as more efficient order processing.

A capable partner

COSMO CONSULT is a leading Microsoft Dynamics partner. The combination of COSMO CONSULT's in-depth product knowledge, solid industrial know-how and extensive project experience with innovative, user-friendly and reliable Microsoft products offers you sustainable solutions and guarantees that your projects are completed on time and within budget.

Interested in more than just our single application solution? Want to see it integrated in a broader context?

COSMO CONSULT offers you complete digital concepts. Using trusted Microsoft products as a basis, we develop complete end-to-end scenarios for everything from ERP and CRM all the way to BI, including cloud connection.

Together, we're sure to find the best possible way to meet your individual needs. Contact us today!

You can
find more
information
here:



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