



COSMO Factory Data Capture based on Microsoft Dynamics 365 Business Central

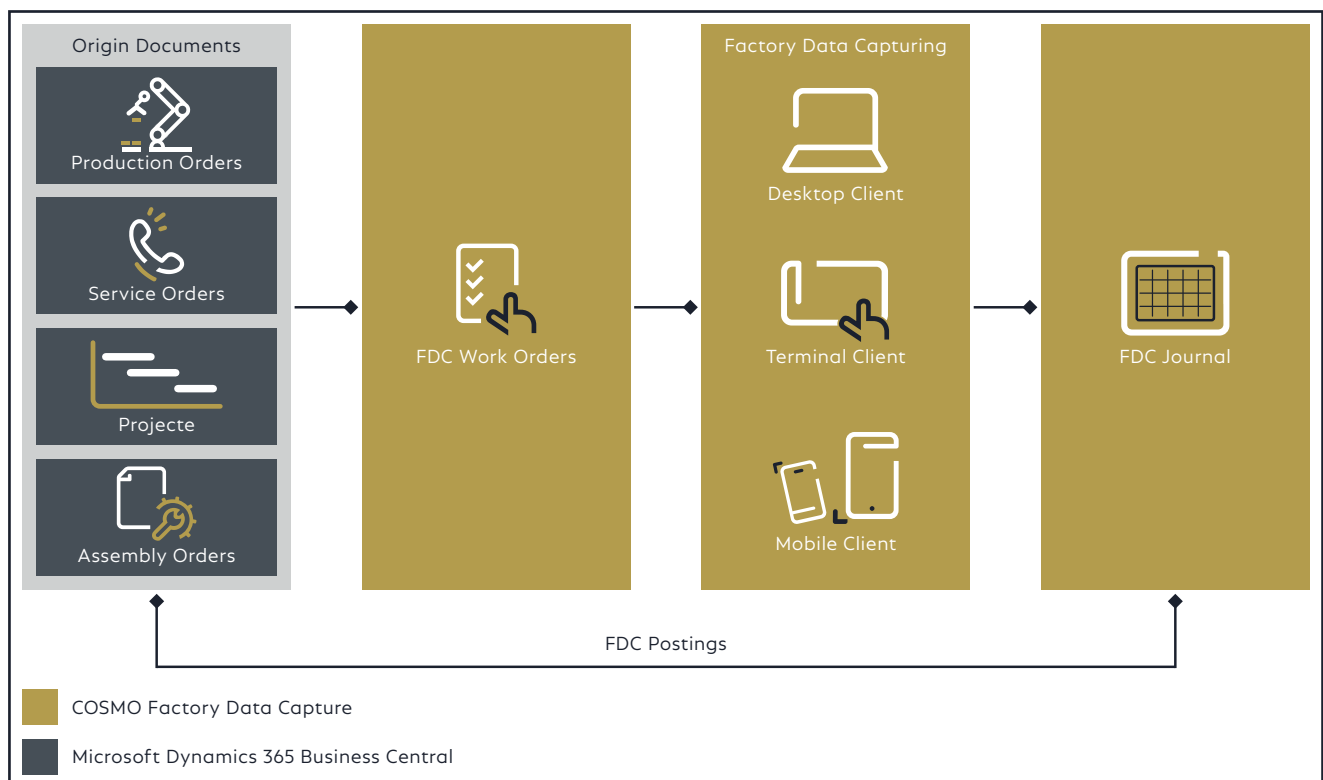


In production as well as in project, service and assembly areas, the flow of processes, materials and values should be transparent and traceable. Good factory data capturing (FDC) is able to continuously and promptly document actual values on the basis of feedback. This information then forms the basis for effective controlling, in which, for example, actual values, target values and company targets are compared.

COSMO Factory Data Capture documents the entire actual process and assigns costs and deadlines to the respective orders. This enables your company to precisely analyze quantities and times in various variance analyses or in target/actual comparisons at order and product level. In this way, **COSMO Factory Data Capture** helps you to master, control and optimize your processes.

The deep integration of factory data capture with all relevant Microsoft Dynamics 365 Business Central apps ensures that you can access all standard functions and benefit from a high level of ease of use:

- Thanks to detailed plausibility checks, the recorded time, quantity and status data are posted conflict-free and completely in Dynamics 365 Business Central.
- Since values can be summarized, the number of ledger tries can be reduced via a cumulative export of times and quantities.
- Reversal postings are processed optimally.
- Information for item tracking, such as series or batch numbers, is transferred in full for production and consumption items.
- The configurable transfer of standard dimension data from Dynamics 365 Business Central ensures maximum flexibility.



Overview COSMO Factory Data Capture

Seamless Integration in Dynamics 365 Business Central

COSMO Factory Data Capture is seamlessly integrated into Dynamics 365 Business Central. This allows you to benefit from the high functional scope of the software even in the area of standard modules. Some examples:

- **Production orders (production)**

In the area of production orders, you can enter, post and analyze confirmations of required time and materials such as

- the quantities of manufactured items,
- the times spent on individual operations,
- the status information of the operations and
- the consumption of components and materials

- **Projects**

Project-oriented manufacturing companies and project service providers can enter, post and analyze their

- project times,
- project quantities and
- project consumption

- **Service orders**

In the service orders area, service times and consumption can be entered, posted and analyzed more easily.

- **Assembly Orders**

Production companies, wholesalers and retailers that produce in their own warehouse and whose manufacturing process involves only a few operations can use **COSMO Factory Data Capture** in the assembly orders area to enter, post and analyze their sets more easily.

- **Resources journal**

Resource journal supports you in

- entering, posting and analyzing resource times,
- determining the effective operating costs based on internal allocations and cost accounting apportionments,
- analyzing costs per cost center and cost object and thus creating the basis for reliable costing.

- **Human resource management**

In interaction with Human Resources, existing employee data can be transferred directly. In doing so, you avoid double entries.



Dedicated Orders Module for FDC Work Orders

FDC work orders represent the origin documents of the supported Dynamics 365 Business Central standard apps, such as the production orders of the Production module. They can be created manually using the pull principle or automatically using the push principle:

- Either relevant origin documents for shop floor data capturing are transferred to FDC work orders or
- When a new origin document is created, the FDC work order is created automatically.

In addition, it is possible to represent overhead cost orders with FDC work orders.

The required barcodes can be printed directly on the work ticket of the origin document or the PDC work order ticket.

Origin documents that exist as FDC work orders are protected against changes. The change log does not

have to be activated for the tables relevant for this, so that it is available without restriction for other purposes.

As long as an employee works on only one order or operates only one machine, the measured times can always be clearly assigned. If multiple machines are operated or order bundles are processed, COSMO Factory Data Capture allocates the times spent on the basis of configurable order packages. Employees can use them to clock in or clock out several orders at the same time. The program allocates the effective times and/or quantities to the individual orders based on certain factors, such as the target times. The available allocation options meet almost all practical requirements. Special specifications can be realized individually or by factor calculation.

Dynamics 365 Business Central

FDC WORK ORDER | WORK DATE: 1/27/2022

WO-00001

Process | Source | Work Order Bundle | Navigate | Fewer options

Release | Reopen | Finish | FDC Entries | FDC Input Entries

General

No. WO-00001 Total Actual Gross Time (h) 0.00

Art. With Source Total Actual Net Time (h) 0.00

Description Production Order 1011002 FDC Work Order Lines Finished No

Status Released Export Blocked

Lines | Manage | More options

Description	FDC Resource No.	Due Date	Expected Time (h)	Actual Net Time (h)	Expected Output Qty. (Base)	Actual Output Qty. (Base)	Actual Consumption Qty. (Base)
→ Prod. Order Routing Line Released,1011002,1...	100	1/26/2022	7.23	0.00	27.00	0	0
Prod. Order Routing Line Released,1011002,1...	120	1/27/2022	7.00	0.00	27.00	0	0
Prod. Order Routing Line Released,1011002,1...	130	1/28/2022	9.17	0.00	27.00	0	0
Prod. Order Routing Line Released,1011002,1...	110	1/28/2022	3.77	0.00	27.00	0	0

Order Bundle

DISTRIBUTION VISIBILITY

Order Bundle Time Distribution Expected Time Order Bundle FDC Res. Filter

Order Bundle Qty. Distribution Expected Qty.

Distribute Error

Distributed

FDC work order in COSMO Factory Data Capture

Variable Fields of Entry based on FDC Dimensions

COSMO Factory Data Capture expands the dimensional structure in Dynamics 365 Business Central with its own FDC structure. In doing so, it is possible to report operation-specific data outside the entries required for posting. For example, each posting can be assigned codes, quality indicators, machine data and/or process parameters can be and/or process parameters in order

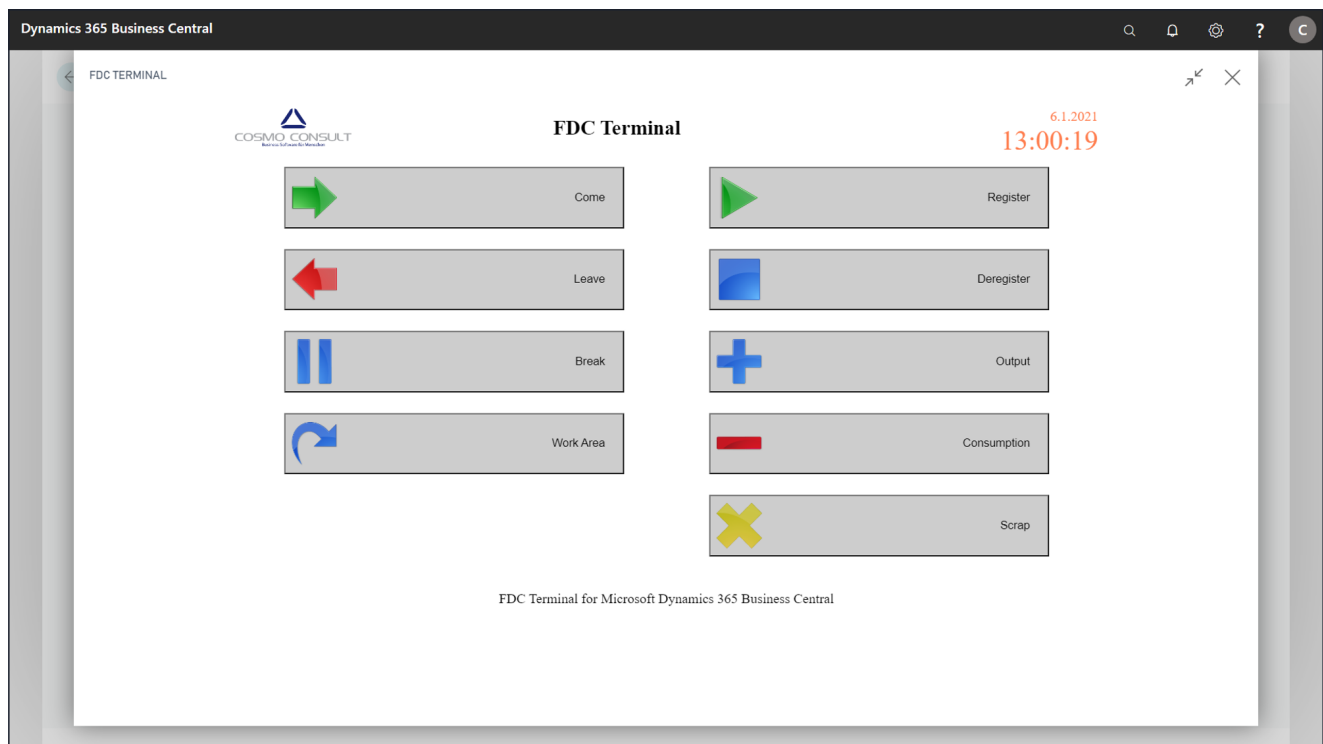
to evaluate them later. Furthermore, the permissibility of FDC dimension values is controlled based on individual FDC resources and/or the FDC work order. If permissible PDC dimension values are stored in both places, the intersection is considered permissible for corresponding transactions.

Postings

The validity of postings can be controlled by the FDC resource, the FDC work area and/or the FDC work order. If booking privileges are stored in all places, the intersection of the privileges applies to the corresponding bookings. Key features include:

- Management of work areas, work shift models, break models and posting privileges.

- Display of ordering backlog according to work area with choices for posting
- Various posting options:
 - Clocking in
 - Posting of data entry (simple TDC and FDC);
 - Result values—posting of FDC data and posting of simple TDC data



Enter postings with COSMO Factory Data Capture in Dynamics 365 Business Central client.

Simple Time Date Capture (STDC)

COSMO Factory Data Capture includes its own (simple) time data capturing (TDC) for two important reasons:

1. TDC postings can be entered in **COSMO Factory Data Capture** and exported to other modules. This provides a uniform recording interface.
2. **COSMO Factory Data Capture** supports Sequence Planning

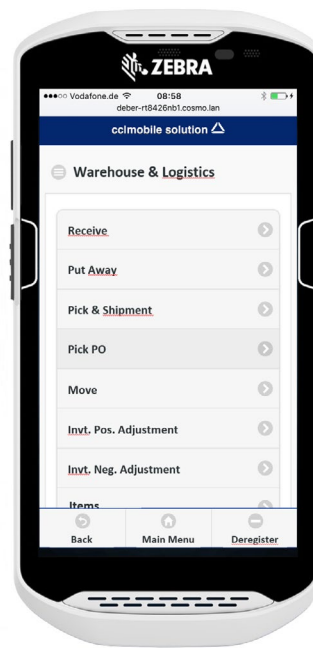
Maintenance and Setup Orders

- a) Capture TDC data such as in, out, break and unplanned absence.
- b) TDC entries from other modules can be imported into the FDC software. An easy way to integrate other TDC systems. In so doing, the attendance/absence determination for the FDC recording can be carried out on the basis of the TDC data even though different systems are used. In addition, the TDC attendance time can be compared with the FDC order time.

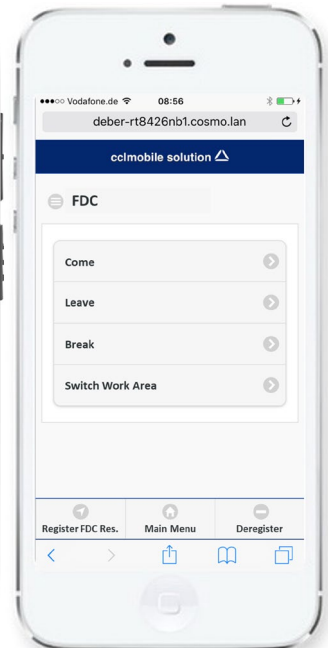
In order to connect other time & attendance systems, **COSMO Factory Data Capture** provides various interfaces, for example based on web services and SQL tables.

Reporting and Analyses

The collected data are available for extensive graphical and tabular analyses. They can be related to different factors and be analyzed. Useful and common key figures (e.g. OEE) also allow internal comparisons.



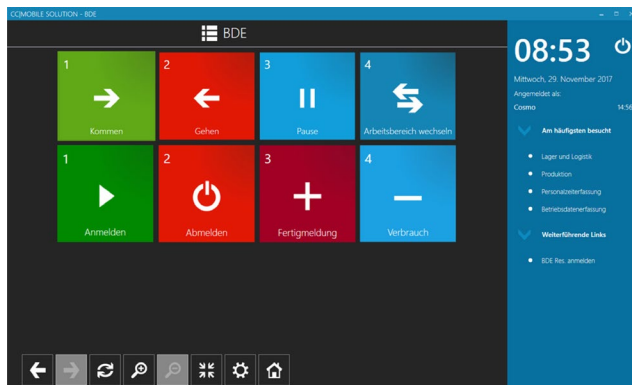
Project time recording with mobile client of COSMO Mobile Solutions



Factory data capturing with mobile client of COSMO Mobile Solutions

Success Factors and Security

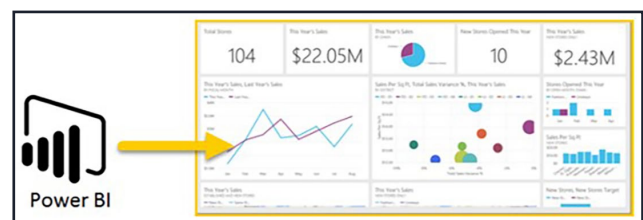
- **Process optimization**
 - Establish process transparency
 - Record malfunctions and warnings
 - Track order progress
 - Use overhead cost orders
 - Record unplanned activities
 - Post setup and idle times
- **Current Stocks**
 - Record completion notice, receipts and consumption of materials in a timely manner—with reference to order, cost center and/or cost object
 - Post unplanned inward & outward stock movements
 - Consider scrap & shortages in all production stages
- **Security of investment**
 - Fully integrated extension for Dynamics 365 Business Central
 - Continuous further development
 - Comprehensive support
 - COSMO Factory Data Capture is future-proof, scalable, and flexible



FDC as terminal application

Highlights

- Use factory data capture directly in Dynamics 365 Business Central.
- Touchscreen optimized terminal capture
- Can be extended to include mobile data capturing and scanner use (via **COSMO Mobile Solution**).
- Configurable barcode management module to define, set up and interpret barcodes can be added (via **COSMO Mobile Solution**).
- Step-by-step configurable automatisms up to real-time processing: You decide whether the billing and/or transfer of recorded data runs at periodic intervals, cumulatively or in real time.
- Switching between work areas (cost centers)
- Any number of additional data via the so-called PDC dimensions.
- Enter quantities for manufactured or consumed items—all units and item tracking settings from the item master are supported.
- Built-in processing calls make it easy to consider company-specific features such as special restrictions or exceptional calculations.



Power BI Dashboard

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