



**Business  
Software  
for People**

cc | factory data capture (fdc)

QUANTITY DATA  
PRODUCTION TIME DATA ORDER PACKAGES  
TARGET/ACTUAL COMPARISONS WORK AREAS  
STATUS DATA BREAK MODELS PERSONNEL DATA SERVICE COLLECTIVE ORDERS CLOCKING  
PROCESS DATA ASSEMBLY POSTING AUTHORISATIONS  
FACTORY DATA CAPTURE (FDC)  
HUMAN RESOURCES SHIFT STRUCTURES ORDER DATA  
VARIABLE RECORDING FIELDS

## cc|factory data capture (fdc)

For greater transparency in working processes

Be it manufacturing, project work, services or assembly, requirements such as continual transparency of the workflow, material flow and value flow are difficult to meet without good factory data capture (FDC). Companies often find they are lacking targets or setpoints, but feedback shows that it is predominantly actual values that are either absent or only partially documented due to insufficient recording tools. This makes effective controlling either difficult or almost impossible.

cc|fdc creates the necessary reference values, documents the entire actual process and enables costs and times to be allocated to an order precisely. This enables quantities and times to be subjected to various variance analyses and target/actual comparisons at both order and product level. cc|fdc therefore helps you to control, monitor and optimise your processes.

COSMO CONSULT has years of experience in developing and implementing timekeeping systems. We advise and support you in the creation of a company-specific FDC concept and the implementation of a FDC system to fulfil your requirements.

### INTEGRATION INTO ALL RELEVANT MICROSOFT DYNAMICS NAV MODULES

cc|fdc offers fully automated integration into all relevant Microsoft Dynamics NAV modules (available in real time as an option), i.e.:

- ▶ The deliberately simple data on times, quantities and status recorded using cc|fdc goes through plausibility checks and highly effective export routines to ensure that there are no conflicts before being posted direct to the partly complex ERP environment.
- ▶ Additional postings to the relevant modules are not necessary.

### Particular highlights:

- ▶ Optional cumulative export of times and quantities (grouping of values to reduce the number of items)
- ▶ Optimum processing of cancellation postings
- ▶ Transfer of item tracking details (serial/batch numbers) for production items and consumables
- ▶ Configurable transfer of Microsoft Dynamics NAV standard dimensions

CC|FDC SET-UP

### SUPPORTED MICROSOFT DYNAMICS NAV STANDARD MODULES:

#### ▶ Production orders

Used to record, post and analyse actual messages and consumption, i.e., the quantities of items produced, the times of the work steps, status information on the work steps and component consumption.

► **Jobs**

Used to record, post and analyse project times, project quantities and project consumption.  
(For project-based production companies and project service providers).

► **Service orders**

Used to record, post and analyse service times and consumption.

► **Assembly orders (as of Microsoft Dynamics NAV)**

The assembly-orders function in Microsoft Dynamics NAV is used to assemble or process sets. Assembly orders are ideal for simple production companies, wholesalers and individual retailers where the production process

- Is part of the warehouse process
- Is short and only involves a few simple work steps
- Only needs to be recorded in the ERP system with minimal set-up and training (without implementation of the production module)

► **Resource journal**

- Used to record, post and analyse resource times.
- Using costing (i.e. internal set-offs and allocations), this export version enables you to determine effective operating costs.
- Analysis of costs per cost centre and cost unit, e.g., to create reliable bases for calculation.

► **Human resources**

- For using employee data

**PROPRIETARY ORDER MODULE FOR WORK ORDERS**

FDC work orders represent the original records for the supported Microsoft Dynamics NAV standard modules (e.g. production orders from the production module). They can be created manually via the pull principle or automatically via the push principle, i.e.:

Bearbeiten - BDE Arbeitsauftrag - 1011002

START NAVIGATE

Ansicht Bearbeiten Freigeben Status zurücksetzen BDE Erfassungsstellen Von Projekt Von Serviceauftrag Von Fertigungsauftrag Von Montageauftrag Arbeitsgänge holen Verteilen OneNote Notizen Links Aktualisieren Filter löschen Gehe zu Vorheriger Nächster

1011002

Allgemein

Nr.: 1011002 Gesamt Istzeit (brutto) (Std.): 24,89  
 Art: Mit Herkunft Gesamt Istzeit (Std.): 24,89  
 Beschreibung: FA-Zeile 1011002 10000 BDE Arbeitsauftragsgänge beendet: Nein  
 Status: Freigegeben Export gesperrt: ☐

Zeilen

Start Zeile Suchen Filter Filter löschen

Beschreibung	BDE Ressourcennr.	Fälligkeitsdatum	Sollzeit (Std.)	Istzeit (Std.)	Sollmenge (Basis)	Istmenge (Basis)	Verbrauchsm... (Basis)	Ausschussm... (Basis)	Barcode	Bu...	Faktor Mengenverteilu...	Faktor Zeitverteilung
FA-Arbeitsgang Freigegeben,1011002,10000,1000,10: Radmontage	100	28.01.2015	7,23	9,13	27,00	27	0	0	BC001013	Nein	0,00	0,00
FA-Arbeitsgang Freigegeben,1011002,10000,1000,20: Kettenmon...	120	29.01.2015	7,00	7,20	27,00	27	0	0	BC001014	Nein	0,00	0,00
FA-Arbeitsgang Freigegeben,1011002,10000,1000,30: Endmontage	130	30.01.2015	9,17	5,00	27,00	27	0	0	BC001015	Nein	0,00	0,00
FA-Arbeitsgang Freigegeben,1011002,10000,1000,40: Kontrolle	110	30.01.2015	3,77	3,56	27,00	27	0	0	BC001016	Nein	0,00	0,00

Auftragspaket

Auftragspaket Zeit Verteilungsschlüssel: Gleichverteilt Verteilungsfehler:   
 Auftragspaket Menge Verteilungsschlüssel: Gleichverteilt Verteilt: ☐  
 Auftragspaket BDE Ressourcenfilter:  Verteilungsdatum:   
 Verteilungszeit:

OK

WORK ORDER IN CC|FDC

## cc|factory data capture (fdc)

For greater transparency in working processes

- ▶ Either the original records relevant for product data acquisition are pulled into FDC work orders, or
- ▶ When a new original record is created, the FDC work order appears automatically

It is also possible to represent overheads orders using FDC work orders.

The required barcodes can be printed directly onto the work slip of the original record or onto the FDC work order slip.

Original records with a FDC work order are write-protected; a feature that would normally be controlled through the change-protocol function. However, it is not necessary to activate the change protocol and the relevant tables, leaving the change protocol free for other purposes.

### ORDER PACKAGES FOR COLLECTIVE ORDERS OR MULTIPLE MACHINE OPERATION

If an employee only works on one order or operates just one machine, it is always clear how the recorded times must be allocated. When operating multiple machines or processing collective orders, it is not possible to allocate the times without further processing. Configurable order packages in cc|fdc assist with this task.

In cc|fdc, employees can clock or post multiple orders at the same time. The "order packages" are created prior to this. The program determines and distributes the actual times and/or actual

quantities to the individual orders based on a number of factors, such as the setpoint (prescribed) time. Settled order packages can be resettled at any time.

The distribution options available meet virtually all requirements in practice. Individual distribution or factor calculation are available for special requirements.

### VARIABLE RECORDING FIELDS USING FDC-DIMENSIONS

As well as utilising the regular dimension structure of Microsoft Dynamics NAV, cc|fdc offers its own FDC dimension structure. This makes it possible to report company-specific data/entries beyond the input required for the posting. So, for example, users can also input event codes, quality indicators, machine data and/or process parameters for each posting and then analyse them later. The reliability of FDC dimension values can also be managed using the individual FDC resource and/or the FDC work order. If reliable FDC dimension values are stored in both locations, the intersection for corresponding transactions is reliable.

### POSTING AUTHORISATIONS

The reliability of postings can be controlled by means of the FDC resource, the FDC working area and/or the FDC work order. If posting authorisations are stored in all locations, then the intersection of authorisations for corresponding transactions is valid.

Auftragspaket	
Auftragspaket Zeit Verteilungsschlüssel:	Istmenge
Auftragspaket Menge Verteilungsschlüssel:	Gleichverteilt
Auftragspaket BDE Ressourcenfilter:	Sollzeit
	Sollmenge
	Istmenge
	Individuelle Verteilung
	Individuelle Faktorberechnung

Verteilungsfehler:	
Verteilt:	
Verteilungsdatum:	
Verteilungszeit:	

TAB FOR THE ORDER PACKAGE IN THE PDA WORK ORDER





## For greater transparency in working processes

cc|fdc features its own (simple) time and attendance function for two important reasons:

- ## INTEGRATION OF VARIOUS TIME AND ATTENDANCE SYSTEMS

Various interfaces are already in place and ready for use as required — please just ask.

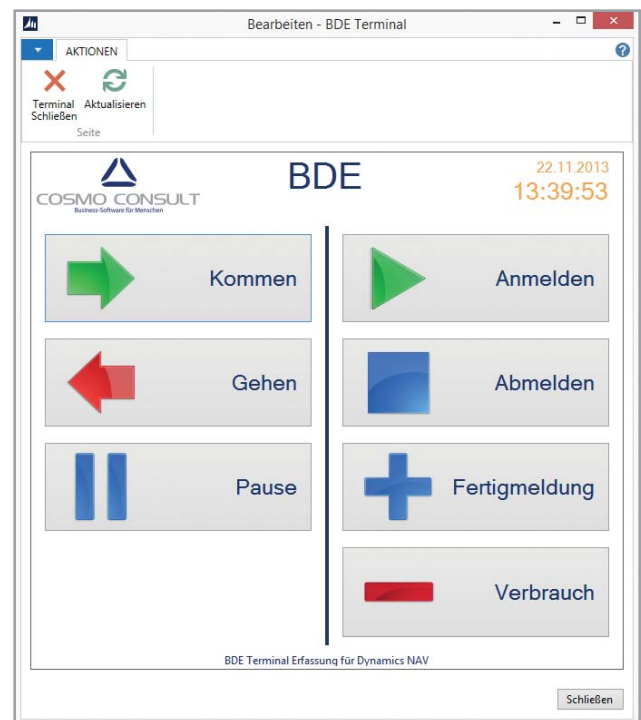
With all the data gathered, an extensive range of diagrams and tables are at your disposal for analysis. The data can be correlated and analysed using various factors. Meaningful and typical KPIs (e.g., OEE) enable internal comparisons.

Suchen: <input type="text"/>											
IDE Aktivitätskategorie	IDE Ressource	Sub-Ziel (Stk)	Int-Ziel (Stk)	Sub-Phasent (Stk)	Int-Phasent (Stk)	Sub-Rollzeit (Stk)	Int-Rollzeit (Stk)	Sub-Leerzeit (Stk)	Int-Leerzeit (Stk)	Sub-Menge	Int-Menge
AUFTRAG001	Herstellung	16,33	2,66	13,17	13,86	13,13	13,81	0,66	0,33	14,01	0,66
	Material	7,17	1,66	5,51	5,66	5,66	5,66	0,66	0,33	6,01	0,66
	Mittelabschreiber	2,66	0,66	2,00	1,66	2,01	2,01	0,66	0,33	2,01	0,66
	Einzelver	4,01	0,66	3,35	3,35	3,35	3,35	0,66	0,33	3,68	0,66
	Einzelver	16,33	2,66	13,17	13,86	13,13	13,81	0,66	0,33	14,01	0,66
AUFTRAG002	Herstellung	3,33	2,66	0,67	0,66	0,66	0,66	0,66	0,33	2,66	2,66
	Material	0,75	0,33	0,42	0,33	0,33	0,33	0,33	0,17	0,50	0,33
	Mittelabschreiber	0,66	0,33	0,33	0,33	0,33	0,33	0,33	0,17	0,50	0,33
	Einzelver	0,66	0,33	0,33	0,33	0,33	0,33	0,33	0,17	0,50	0,33
	Einzelver	3,33	2,66	0,67	0,66	0,66	0,66	0,66	0,33	2,66	2,66
AUFTRAG003	Schleifer	10,17	11,33	11,33	0,66	2,66	0,66	0,66	0,33	11,33	0,66
	Einzelver	10,17	11,33	11,33	0,66	2,66	0,66	0,66	0,33	11,33	0,66
	Schleifer	10,17	11,33	11,33	0,66	2,66	0,66	0,66	0,33	11,33	0,66
	Einzelver	10,17	11,33	11,33	0,66	2,66	0,66	0,66	0,33	11,33	0,66
	Einzelver	10,17	11,33	11,33	0,66	2,66	0,66	0,66	0,33	11,33	0,66
AUFTRAG007	Herstellung	10,17	10,17	10,17	0,66	0,66	0,66	0,66	0,33	10,17	0,66
	Material	10,17	10,17	10,17	0,66	0,66	0,66	0,66	0,33	10,17	0,66
	Mittelabschreiber	10,17	10,17	10,17	0,66	0,66	0,66	0,66	0,33	10,17	0,66
	Einzelver	10,17	10,17	10,17	0,66	0,66	0,66	0,66	0,33	10,17	0,66
	Einzelver	10,17	10,17	10,17	0,66	0,66	0,66	0,66	0,33	10,17	0,66
AUFTRAG010	Herstellung	5,33	5,33	5,33	0,66	0,66	0,66	0,66	0,33	5,33	0,66
	Material	4,25	4,24	4,24	0,33	0,33	0,33	0,33	0,17	4,24	0,33
	Mittelabschreiber	5,33	5,33	5,33	0,66	0,66	0,66	0,66	0,33	5,33	0,66
	Einzelver	5,33	5,33	5,33	0,66	0,66	0,66	0,66	0,33	5,33	0,66
	Einzelver	5,33	5,33	5,33	0,66	0,66	0,66	0,66	0,33	5,33	0,66
AUFTRAG011	Links-Mittel	10,00	3,33	10,00	0,66	0,66	0,66	0,66	0,33	1,00	0,66
	Links-Mittel	10,00	3,33	10,00	0,66	0,66	0,66	0,66	0,33	1,00	0,66
	Links-Mittel	10,00	3,33	10,00	0,66	0,66	0,66	0,66	0,33	1,00	0,66
	Links-Mittel	10,00	3,33	10,00	0,66	0,66	0,66	0,66	0,33	1,00	0,66
	Links-Mittel	10,00	3,33	10,00	0,66	0,66	0,66	0,66	0,33	1,00	0,66
AUFTRAG012	Links-Mittel	10,00	3,33	10,00	0,66	0,66	0,66	0,66	0,33	1,00	0,66
	Links-Mittel	10,00	3,33	10,00	0,66	0,66	0,66	0,66	0,33	1,00	0,66
	Links-Mittel	10,00	3,33	10,00	0,66	0,66	0,66	0,66	0,33	1,00	0,66
	Links-Mittel	10,00	3,33	10,00	0,66	0,66	0,66	0,66	0,33	1,00	0,66
	Links-Mittel	10,00	3,33	10,00	0,66	0,66	0,66	0,66	0,33	1,00	0,66

CC|PDA ACTUAL/TARGET COMPARISON

Vordr.Nr.	Ressource	Gesamter Start	Gesamter Puffer	Gesamter Spätster Start	Gesamter Spätster Termin	Festst. Meistwert	Auftragsgesamte Pufferzeit	Indiz. auftragsgesamte Pufferzeit	Indiz. zurechenbare Pufferzeit				
23.01.12	LINCA	8,00	-2,00	-1,00	7,00	5,00	6,00	116,00%	6,00	5,00	6,00	10,00%	
	WOLTER	11,00	-2,00	-1,25	7,00	7,77	-5,77	4,00	57,92%	6,00	0,00	3,27	42,00%
24.01.12	LINCA	10,00	-1,50	-0,50	7,00	8,00	-1,00	8,00	81,25%	6,00	0,00	1,50	18,75%
	WOLTER	8,00	-1,00	0,00	7,00	7,00	-1	4,50	64,38%	8,00	8,00%	2,50	25,00%
25.01.12	LINCA	8,00	-3,20	0,00	7,00	7,00	-4,00	2,50	31,25%	6,00	0,00	5,50	47,60%
	WOLTER	8,00	-1,00	-0,60	7,00	6,38	5,00	74,69%	6,00	0,00	1,65	25,91%	
26.01.12	LINCA	8,00	-4,50	-1,25	7,00	7,25	-1,25	3,80	72,11%	6,00	0,00	1,47	27,89%
	WOLTER	10,00	-1,00	-0,50	8,00	8,00	-1,00	8,00	92,59%	6,00	0,00	0,00	50,00%
27.01.12	LINCA	8,00	-1,00	0,00	7,00	6,00	-2,00	3,70	74,00%	1,00	20,00%	0,30	6,00%
	WOLTER	11,25	-2,10	-0,50	7,00	8,63	-1,63	5,50	81,69%	5,00	5,00%	2,63	52,00%

CC|PDA EMPLOYEE STATISTICS



CC|PDA TERMINAL

## HIGHLIGHTS

- ▶ Use of production data acquisition in Microsoft Dynamics NAV
- ▶ Various terminal recording screens (touch screen-optimised)
- ▶ Expansion option for recording via remote scanner — mobile data acquisition (MDA) (MDE process dialogs for FDC delivery scope of cc|mobile solution)
- ▶ Expansion option of a configurable barcode management module to define/set up and analyse barcodes (in the delivery scope of cc|mobile solution)
- ▶ Easy to use with stable, error-resistant processing
- ▶ Graduated configuration of automation right through to real-time processing: You decide whether the recorded data is settled and/or transferred periodically, cumulatively or in real time
- ▶ Switching between work areas (cost centres)
- ▶ Various posting options: Clocking — posting recorded data (time and attendance and production data acquisition), result values — posting FDC data and posting time and attendance data
- ▶ Management of work areas, shift structures, break models and posting authorisations
- ▶ Recording as much additional data as you like through the FDC dimensions, which, for example, can also be used for recording codes (with or without limitation of reliability)
- ▶ When recording quantities for manufactured or consumed items, all units and item tracking settings are supported from the item master
- ▶ Display of the order pool (by work area) with selection option for posting

CC|FDC RESOURCE

FDC SHIFT STRUCTURE

FDC BREAK MODEL



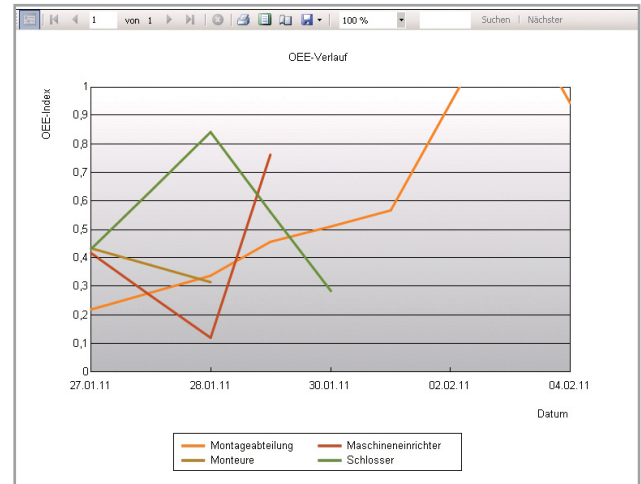
## cc|factory data capture (fdc)

For greater transparency in working processes

- ▶ Integrated processing requests to take company specifics into account simply such as special restrictions or out-of-the-ordinary calculations

### SUCCESS FACTORS AND RELIABILITY

- ▶ **Process security**
  - ▶ Production of process transparency
  - ▶ Recording of incidents and warnings
  - ▶ Order (progress) tracking
  - ▶ Use of overheads orders
  - ▶ Recording of unscheduled activities
  - ▶ Recording of set-up times and waiting times
- ▶ **Stock reliability**
  - ▶ Complete recording of incoming/outgoing materials with order reference, cost-centre reference and/or cost-unit reference
  - ▶ Recording of unscheduled incoming/outgoing of materials
  - ▶ Recording of reject quantities/deficiencies at all production stages
- ▶ **Investment reliability**
  - ▶ Certified and fully integrated expansion for Microsoft Dynamics NAV
  - ▶ Constant further development and comprehensive support
  - ▶ cc|fdc is future-proof, scalable and flexible



CC|FDC OEE CHART

Von: 27.01.11  
Bis: 27.01.12

Ressourcenname	Verfügbarkeit	Effektivität	Qualitätsrate	OEE Wert
Montageabteilung	0,97	0,15	0,91	<b>0,13</b>
Monteur	0,92	0,33	0,96	<b>0,29</b>
Maschineneinrichter	0,98	0,17	1,00	<b>0,17</b>
Schlosser	0,97	0,10	0,96	<b>0,09</b>

Verfügbarkeit

Ressourcenname	Planbelegungszeit	Überstunden	Ungelappte Ausfallzeiten	Rüstzeit	Hauptnutzungszeit	Verfügbarkeit
Montageabteilung	62,03	13,03	1,07	0,60	60,36	<b>0,97</b>
Monteur	19,66	5,66	0,83	0,80	18,03	<b>0,92</b>
Maschineneinrichter	21,00	0,00	0,00	0,37	20,63	<b>0,98</b>
Schlosser	33,72	11,72	0,43	0,65	32,64	<b>0,97</b>

Effektivität

Ressourcenname	Hauptnutzungszeit	Produzierte Menge	Produzierte Menge	Effektivität
Montageabteilung	60,36	69,00	472,50	<b>0,15</b>
Monteur	18,03	28,00	84,87	<b>0,33</b>
Maschineneinrichter	20,63	28,00	160,50	<b>0,17</b>
Schlosser	32,64	28,00	277,57	<b>0,10</b>

Qualitätsrate

Ressourcenname	Produzierte Menge	Gutmenge	Ausschussmenge	Qualitätsrate
Montageabteilung	69,00	63,00	6,00	<b>0,91</b>
Monteur	28,00	27,00	1,00	<b>0,96</b>
Maschineneinrichter	28,00	28,00	0,00	<b>1,00</b>
Schlosser	28,00	27,00	1,00	<b>0,96</b>

CC|FDC OEE ANALYSIS

BDE Posten

Filter: 1 - Nein

Posten	Buchung...	BDE Arbel...	BDE Res...	Bruttozeit (St.)	Nettozeit (Std.)	Fertig gestellt...	Verbrauch...	Stor...	Abg...	Exp...	Ver...	Lfd...
Zeit- und Fertigmeldung	27.01.2011	1011004	110	3,00	2,50	0	0	0	0	0	0	1
Zeit- und Fertigmeldung	27.01.2011	1011004	110	3,00	2,50	0	0	0	0	0	0	2
Zeit- und Fertigmeldung	27.01.2011	1011004	110	3,00	2,50	0	0	0	0	0	0	3
Zeit- und Fertigmeldung	27.01.2011	1011004	110	3,00	2,50	0	0	0	0	0	0	4
Zeit- und Fertigmeldung	27.01.2011	1011004	110	3,00	2,50	0	0	0	0	0	0	5
Zeit- und Fertigmeldung	27.01.2011	1011004	110	3,00	2,50	0	0	0	0	0	0	6
Zeit- und Fertigmeldung	27.01.2011	1011004	110	3,00	2,50	0	0	0	0	0	0	7
Zeit- und Fertigmeldung	27.01.2011	1011004	110	3,00	2,50	0	0	0	0	0	0	8
Zeit- und Fertigmeldung	27.01.2011	1011004	110	3,00	2,50	0	0	0	0	0	0	9

CC|FDC ITEMS



## RESELLER PROFILE

Naviona is a Microsoft partner and Dynamics NAV reseller with a long history of implementing and supporting the manufacturing verticals from COSMO Consult. As the premier reseller we have become the go-to partner for advanced manufacturing implementations based on Dynamics NAV in the US.

Naviona is the 'Navy SEALs of Dynamics NAV'; we are experienced, well trained and we get the job done. Our customer base is primarily manufacturing and distribution companies where finance, operations and inventory management are in focus.

The services provided includes everything from project management to development, we do full Dynamics NAV implementations, optimizations of business processes and ongoing support. We are also available if you just want a second opinion about something related to Dynamics NAV.

Our team is located across the US, from Tampa in the southeast to San Diego in the west. Feel free to contact us for more information or to request a demo.

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