

NAVEKSA solutions - Developers guide

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NAVEKSA A/S

Table of Contents

1. General Description	1
2. Objects and documentation	2
3. Datamodels	3
4. Webservices	4
5. Field descriptions in ShopFloor capacity ledger table.....	5

1. General Description

General Description

NAVEKSA Enhanced Manufacturing is a Vertical Solution based on Microsoft Dynamics NAV primarily intended for production companies.

The solution has been build as a stand alone add-on, meaning that it is fully integrated with Microsoft Dynamics NAV, but without any kind of modifications in the standard NAV product.

NAVEKSA solutions are all Microsoft certified applications working on top of Dynamics NAV starting with version 2016 and newer.

Our newest solution using Dynamics 365 Business Central is now available on Microsoft AppSource.

The solution includes primarily 3 main modules:

- ItemPlanning
- ShopFloor
- CadConnect

Quality and functionality are constantly developed following new releases from Microsoft of new versions of the base product "Microsoft Dynamics NAV".

This proces can be described as follows:

- November: New release from Microsoft
- November-December: Technical upgrade of the NAVEKSA solution
- December-January: Internal test
- February-March: New release from NAVEKSA
- March-August: Experience and feedback from customers on new functionality
- June: NAVEKSA Hotfix release with corrections and minor new functionality
- September: NAVEKSA Hotfix release with corrections and minor new functionality

A few key words on the functionality in the solution:

- Material availability planning
- Capacity planning and follow-up
- Control and reporting of actual production
- Integration with CAD-systems
- Automated creation of Items, BOMs and Routings

2. Objects and documentation

Objects and documentation

NAVEKSA Enhanced Manufacturing requires an “Extended Pack” license for Microsoft Dynamics NAV / Dynamics 365 Business Central.

The solution is build in the following interval of object nos.:
6170471-6170568

There are NO modifications on standard NAV objects.

A menu suite has been created for access to the modules:

1055 Dept – Naveksa

Versionlist:

The following version number is an ongoing number for the Naveksa objects: NAVEKSA 8.07.01

The number shall be interpreted as follows:

8 is the Naveksa product number

07 refers to the NAVEKSA release number

01 refers to the NAVEKSA-Hotfix/Update number

3. Datamodels

Datamodels

ItemPlanning:

The Module is based on NAV's Item Table and the BOMS, Routings and planned transactions on the Items.
Item Production BOM Assembly BOM Routing Production Order ItemPlanning Line

ShopFloor:

The Module is based on NAV's Capacity Resources and Production Orders with planning and reporting through the external NAVEKSA client-program.

Capacities (WorkCentre, MachineCentre) Prod.order Line ShopFloor Line
ShopFloor Capacity Entry

CadConnect:

The Module is based on data from external (CAD) sources for modelling and creation of basic data in NAV.
CadConnect Header CadConnect Line

—> Item, Production BOM, Routing

4. Webservices

Webservices

Webservices are used for integration with the external NAVEKSA ShopFloor client-program.

These Webservices includes the following objects:

- Codeunit 6170477
- XMLport 6170471-6170495 and 6170498-6170506

5. Field descriptions in ShopFloor capacity ledger table

Field descriptions in ShopFloor capacity ledger table

*ShopFloor Capacity Ledger Entries,

Table 6170477

To be used for additional query and BI purposes.*

Contains the following fields:

Entry No.

- Consecutive number assigned on creation of the record.

No.

- Production resource number selected on the client

Posting Date

- Date for posting the transaction to the BC output journal

Type

- Work Centre / Machine Centre

Document No.

- Not used

Description

- Description from the production order routing line

Operation No.

- Operation number from the production order routing line

Work Center No.

- Work Center number from the production order routing line

Quantity

- Not used

Setup Time

- Calculated setup time based on calendar setup in ShopFloor setup if the transaction is marked as setup

Run Time

- Calculated run time based on calendar setup in ShopFloor setup if the transaction is not marked as setup

Stop Time

- For future use

Invoiced Quantity

- Quantity from the production order line

Output Quantity

- Not used

Scrap Quantity

- Scrap quantity from the client transaction

Concurrent Capacity

- Not used

Setup Indicator

- X mark if Setup is selected in the client

Employee No.

- Employee code selected on the client when performing the transaction

Employee Reference

- Reference according to ShopFloor Setup

Cap. Unit of Measure Code

- Run time Unit of Measure from the production order routing line

Qty. per Cap. Unit of Measure

- Not used

Global Dimension 1 Code

- Dimension 1 value from the production order

Global Dimension 2 Code

- Dimension 2 value from the production order

Dimension Set ID

- Dimension set ID from the production order

Last Output Line

- True/False to indicate whether the operation is the last operation in the routing

Completely Invoiced

- Not used

Starting Time

- System time when the transaction was started

Ending Time

- Time when the transaction was ended

Starting Date

- Date when the transaction was started

Ending Date

- Date when the transaction was ended

Prod. Order No.

- Production order number from the production order routing line

Prod. Order Line No.

- Production order Line number from the production order routing line

Routing No.

- Routing number from the production order routing line

Routing Reference No.

- Routing reference number from the production order routing line

Item No.

- Item number from the production order line

Variant Code

- Variant code from the production order line

Unit of Measure Code

- Unit of Measure from the production order line

Qty. per Unit of Measure

- Quantity per Unit of measure from the production order line

Document Date

- Not used

External Document No.

- Not used

Location Code

- Location from the production order line

Bin Code

- Bin code from the production order line

Stop Code

- For future use.

Scrap Code

- Scrap code from the client transaction

Work Center Group Code

- Work Center Group Code as found on the Work Center card.

Work Shift Code

- Not used

Direct Cost

- Value from the actual Work Center / Machine Center

Overhead Cost

- Value from the actual Work Center / Machine Center

Status

- Production order status from the production order routing line

Direct Cost (ACY)

- Value from the actual Work Center / Machine Center

Overhead Cost (ACY)

- Value from the actual Work Center / Machine Center

Subcontracting

- True/False to indicate whether the Work Center has a value in the field "Subcontractor No.".

Sequence number

- System created sequence number for the transaction

QA signed off

- True/False to indicate whether the transaction has been QA signed in the client

User ID

- System ID for the user account executing the webservice

SetUpText

- Not used

RunText

- Not used

OutputText

- Not used

ScrapText

- Not used

End Operation

- X mark if End operation is selected in the client

Transferred to Output Jnl

- True/False to indicate whether the transaction has been transferred to the BC output journal

Prod.order deleted

- True/False to indicate whether the prod.order and the prod.order line exists when the transaction is posted to the output journal.

Family Order

- Not used

Expected Setup

- Setup time from the production order routing line

Expected Run

- Run time from the production order routing line

Auto stopped

- True/False to indicate whether the transaction has been stopped automatically according to ShopFloor Setup.

ResourceCode

- Not used

ResourceType

- Not used

System-Created Start

- Indication of whether the transaction is started automatically as a concurrent transaction

System-Created Stop

- Indication of whether the transaction is stopped automatically as a concurrent transaction

Time calculated

- Not used

Time Calculation Date

- Not used

UseSerialNo

- Indication of whether the item has been setup to use serial no.s

UseLotNo

- Indication of whether the item has been setup to use lot no.s