



# **SCHEDULER**

CIMCO Scheduler

An introduction to the digital planning board

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# What is CIMCO Scheduler?

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CIMCO Scheduler is a production scheduling application that enables you to increase the efficiency and optimize timing in your production by providing a central planning hub for, organizing, and tracking work in progress on your shop floor.

Key features:

- Visual job planner
- Manage workorders and operations
- Individual shift setup for each machine
- Integration of national holidays
- Planning of preventative maintenance
- Secure User/Group management system
- Identification of production bottlenecks
- Increase the accuracy of delivery dates
- Identification of untapped production capacity
- Real-time visualization of key notes from running orders on Live Screen
- Receive an email when planned order exceeds delivery time
- Plan orders with multiple operation dependency.

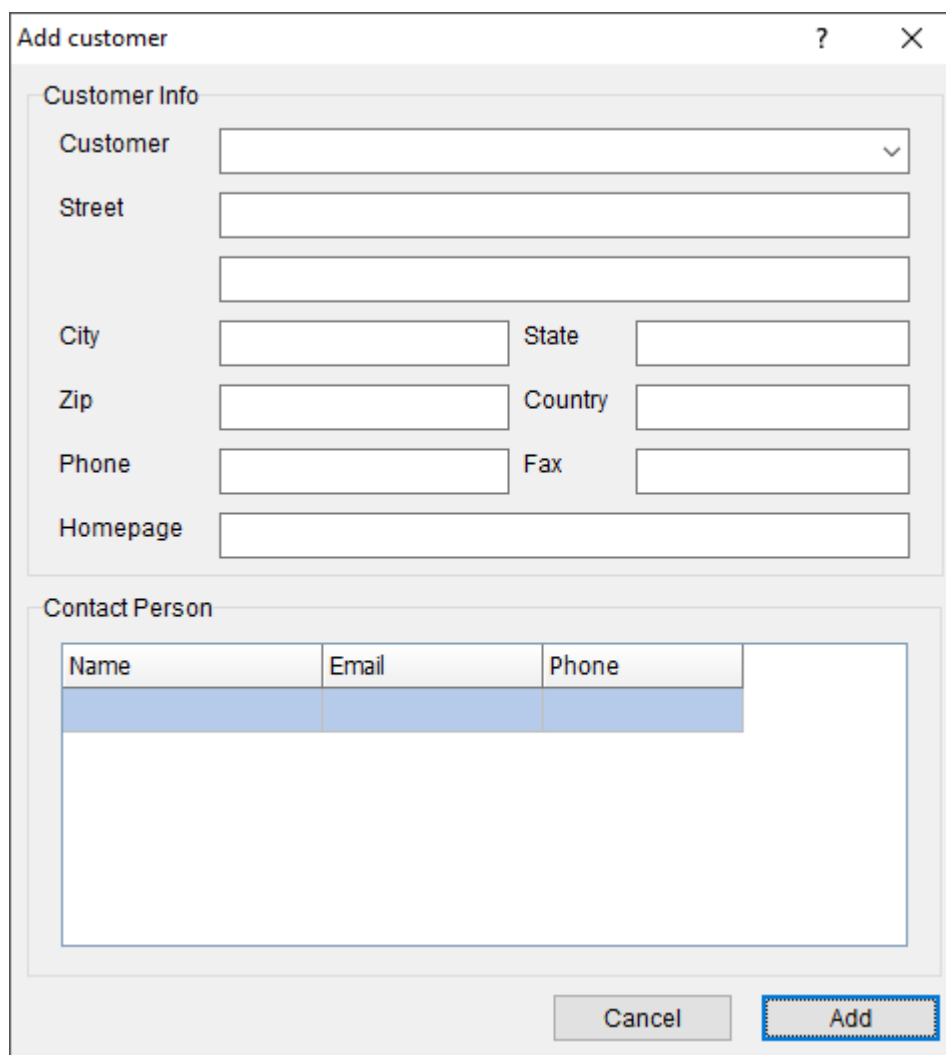
# View

## Customers

This section describes the settings under Customers with which customers can be created, edited, and deleted.

### Add

Click on this button to add new customers. The following dialog appears:



The dialog box is titled "Add customer" and contains two main sections: "Customer Info" and "Contact Person".

**Customer Info**

- Customer: A dropdown menu.
- Street: Two stacked text input fields.
- City: A text input field.
- State: A text input field.
- Zip: A text input field.
- Country: A text input field.
- Phone: A text input field.
- Fax: A text input field.
- Homepage: A text input field.

**Contact Person**

Name	Email	Phone

At the bottom of the dialog are two buttons: "Cancel" and "Add".

Dialog: Add customer.

Specify the customer's name, address data, etc. Click on Add to add the new customer to the database. To cancel the process, click on Cancel.

## **Edit**

Click this option to edit the selected customer's details. A dialog window with the title **Edit customer** opens, which looks like the Add customer dialog window. Select the customer you want to edit from the drop-down list and click Change to enter the new customer information. Click on **Edit** to confirm the changes or cancel the editing with **Cancel**.

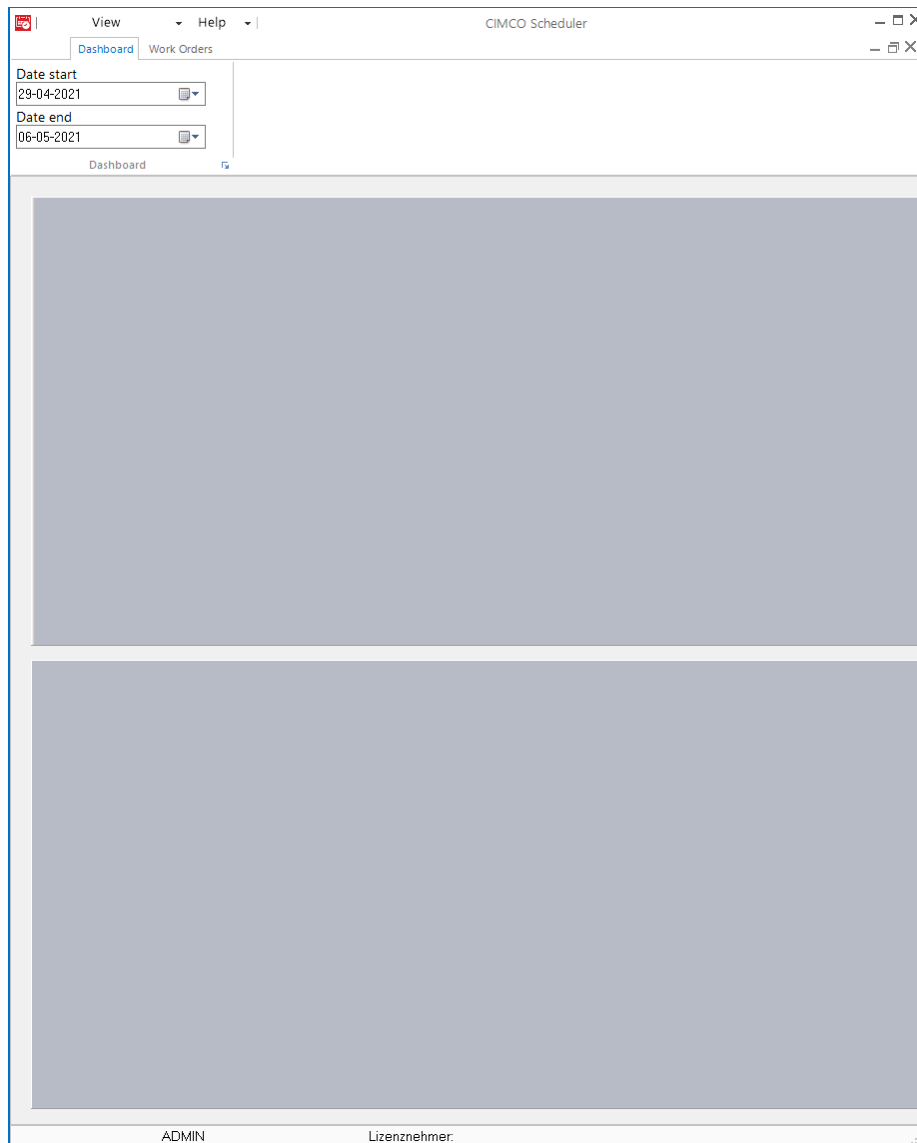
## **Delete**

Click this option to delete the selected customer. A dialog window with the title **Delete customer** opens, which looks like the Edit customer dialog window. Select the customer you want to delete from the drop-down list. Click on Delete to delete the customer or cancel the processing with Cancel.

# Dashboard

This section describes the Dashboard settings that allow templates to be viewed and deleted from the Dashboard. Current print templates can be displayed and used in the dashboard.

More information on Dashboard later.



Dialog: Dashboard.

## Add

Click right into the interface to add a template. The following dialog appears (using the example of the template "Order Results"):

### *Order Results*

Check the template that should be displayed in the dashboard:

Order results

Date from: 29-04-2021 Date to: 29-04-2021 Group: All

Page: 1

KW: -

Begin	Order	Product	Order planned	Order production	Setup time cal.	Setup time	Parts	Parts done
<b>HTC-1000</b>								
29-04-2021 08:44:01	A1001	0	29,27	79,18	121	1213	542	0
03-05-2021 06:05:04	A1002	0	3,47	0,00	94	0	222	0
03-05-2021 09:38:04	A1003	0	7,47	0,00	192	0	290	0
03-05-2021 17:11:04	A1004	0	11,22	0,00	235	0	960	0
04-05-2021 12:29:04	A1005	0	34,40	0,00	38	0	545	0
<b>HTC-2000</b>								
29-04-2021 06:00:00	A2000	0	23,02	79,88	129	12	324	60
29-04-2021 13:48:00	A2002	0	7,97	0,00	60	0	339	0
29-04-2021 21:51:00	A2003	0	20,25	0,00	140	0	277	0
03-05-2021 10:11:00	A2004	0	15,35	0,00	78	0	429	0
04-05-2021 09:37:00	A2005	0	10,07	0,00	218	0	515	0
04-05-2021 19:46:00	A2006	0	7,70	0,00	45	0	317	0
05-05-2021 11:33:00	A2007	0	24,48	0,00	215	0	396	0
<b>HTC-3000</b>								
29-04-2021 13:13:00	A3000	0	21,15	75,15	125	125	314	0

ADMIN Lizenznehmer:

Dialog: Dashboard, display print template.



# Work Orders

The Work Orders tab shows all existing orders and accordingly operations in the planner.

Note: In search field **List** you can switch between searching for Orders or Operations.

Work orders can be added, edited, and deleted as required. Work orders can also be exported from an external system such as an ERP system and automatically imported into the scheduler.

Note: The import format can be XML and, in most cases, must be adapted before the import is possible. Please ask your dealer about this.

CIMCO Scheduler													
View Help													
Scheduler Work Orders													
New Edit Delete													
Order													
List	Order-No.	Delivery Date	Created	Customer	Calculated time	Time (Running)	Scheduled time	Description	Begin	End	Status	Scheduling approval	Order confirmation
Orders	A3002	03-11-2021	20-10-2021	Tesla	0 T 6 S 49 M			Air filter control			Not Started	Yes	PN-54609
Order	A3003	28-10-2021	20-10-2021	Cutting Technologies	0 T 4 S 9 M			Range shifter			Not Started	Yes	PN-81557
	A3001	25-10-2021	20-10-2021	Techcenter corp.	0 T 12 S 28 M			Valve			Not Started	Yes	PN-65788
Customer	A3000	30-10-2021	20-10-2021	Cutting Technologies	1 T 0 S 5 M			Valve			Not Started	Yes	PN-25797
Partnumber	20102021T01	25-10-2021	20-10-2021		0 days 6 hours	0 D 0 H 36 M	0 days 7 hours 10		20-10-2021	20-10-2021	Started	Yes	PN02
	A2009	28-10-2021	19-10-2021	Cutting Technologies	0 D 3 Hours 56		0 D 4 Hours 0 M	Tube holder	29-10-2021	29-10-2021	Not Started	Yes	PN-18905
Description	A2008	25-10-2021	19-10-2021	Dynamic housings	0 D 22 Hours 40		0 D 22 Hours 40 M	Extension shaft	28-10-2021	29-10-2021	Not Started	Yes	PN-25516
	A2006	22-10-2021	19-10-2021	Tesla	0 days 17 hours		0 days 17 hours 0	Range shifter	25-10-2021	26-10-2021	Not Started	Yes	PN-21133
Order confirmation	A2007	10-11-2021	19-10-2021	CCV-Engineering	0 days 12 hours		0 days 12 hours 20	Extension shaft	26-10-2021	27-10-2021	Not Started	Yes	PN-81678
	A2005	08-11-2021	19-10-2021	Dynamic housings	0 days 5 hours		0 days 5 hours 20	Extension shaft	25-10-2021	25-10-2021	Not Started	Yes	PN-42972
Operation	A2003	30-10-2021	19-10-2021	Techcenter corp.	0 days 10 hours	0 D 0 H 39 M	0 days 10 hours 10	Clamping block	21-10-2021	22-10-2021	Started	Yes	PN-46098
	A2004	26-10-2021	19-10-2021	CCV-Engineering	0 days 11 hours		0 days 11 hours 40	Beam tube	22-10-2021	25-10-2021	Not Started	Yes	PN-63918
Machines	A2002	13-11-2021	19-10-2021	Techcenter corp.	1 days 2 hours	0 D 0 H 0 M	0 days 15 hours 40	Clamping block	20-10-2021	21-10-2021	Finished	Yes	PN-19863
	A2000	28-10-2021	19-10-2021	Dynamic housings	0 T 8 S 55 M	0 D 0 H 0 M		Air filter control			Finished	Yes	PN-10072
Status	A2001	02-11-2021	19-10-2021	Megaparts	0 days 10 hours	0 D 0 H 0 M	0 days 0 hours 0	Clamping block	19-10-2021	20-10-2021	Finished	Yes	PN-53520
All	A1009	16-11-2021	19-10-2021	Dynamic housings	0 days 5 hours		0 days 6 hours 0	Range shifter	29-10-2021	01-11-2021	Not Started	Yes	PN-23142
	A1008	12-11-2021	19-10-2021	CCV-Engineering	0 days 18 hours		0 days 18 hours 20	Cooling pipe	28-10-2021	29-10-2021	Not Started	Yes	PN-49342
	A1006	20-10-2021	19-10-2021	Tesla	0 days 7 hours		0 days 7 hours 20	Cooling pipe	27-10-2021	27-10-2021	Not Started	Yes	PN-54427
	A1007	01-11-2021	19-10-2021	Megaparts	0 days 13 hours		0 days 13 hours 20	Base plate	27-10-2021	28-10-2021	Not Started	Yes	PN-46034
	A1005	07-11-2021	19-10-2021	Dynamic housings	1 days 0 hours		1 days 0 hours 50	Beam tube	25-10-2021	27-10-2021	Not Started	Yes	PN-77690
	A1004	21-10-2021	19-10-2021	Tesla	0 days 12 hours		0 days 12 hours 40	Beam tube	25-10-2021	25-10-2021	Not Started	Yes	PN-85101
	A1003	11-11-2021	19-10-2021	Tesla	0 days 5 hours		0 days 5 hours 30	Cooling pipe	22-10-2021	25-10-2021	Not Started	Yes	PN-69380
	A1002	21-10-2021	19-10-2021	CCV-Engineering	0 days 14 hours		0 days 14 hours 10	Beam tube	21-10-2021	22-10-2021	Not Started	Yes	PN-32226
	A1000	28-10-2021	19-10-2021	Megaparts	0 D 7 Hours 39	0 D 0 H 0 M	0 D 0 Hours 0 M	Extension shaft			Finished	Yes	PN-59856
	A1001	06-11-2021	19-10-2021	Megaparts	1 days 2 hours	0 D 0 H 43 M	1 days 2 hours 20	Tube holder	19-10-2021	21-10-2021	Started	Yes	PN-34971
ADMIN Lizenznehmer:													

## Work orders, Orders

Scheduler

Work Orders

New

Edit

Delete

Order

List

Operations

Order

Customer

20102021T01

Partnumber

Description

Order confirmation

Operation

Machines

Status

All

</

## Work orders, Operations

In Tab Work Orders/Operation you can search for the values as shown above. You can limit the search to come up with work orders / operations having certain character strings in common.

## Machines

You can limit your search to a specific machine.

## Status

Status search applies to the following statuses: Not started, Started, Finished.

## New order

To add a new order, click on the button New in the menu. The following dialog appears:

Work Order

Order details

Order-No.

Order confirmation

Scheduling approval

☒

Partnumber

Status

Not Started

Comment

Color mode

Automatic color

Color

Customer

Material status

Material available

Material date

07-05-2021

Delivery Date

12-05-2021

Positions

Name	Pos	Amount	Amount (Ready)	Scheduled time	Scheduled %	Job time	Machine Group	Calculated time	Catego

OK

Cancel

**Work Order** [X]

**Order details**

Order-No.  Order confirmation  Scheduling approval ☒

Partnumber  Status

Comment  Color mode  Color

Customer  Material status  Material date

Delivery Date

**Positions**

Name	Pos	Amount	Amount (Ready)	Scheduled time	Scheduled %	Job time	Machine Group	Calculated time	Category
<div> New  Edit  Delete  Copy </div>									

OK Cancel

Dialog: Work Orders.

## Order details

Entering the key data of an order

### Order-No

Use this field to input the order number.

### Description

Enter the description here.

### Customer

Enter the customer's name here.

### Delivery date

Add a delivery date when creating a work order.

## **Scheduling approval**

Check the box here to release the work order.

Notice: Only released work orders are displayed in the planning board under “Orders” and can be planned.

## **Order confirmation**

Information on the order confirmation.

## **Status**

Status display of the work order.

The following statuses are possible:

- Not started
- Started
- Finished

## **Color mode**

The color mode determines how the color should be selected for the work order.

The following modes are possible:

- Default color

Notice: Settings for the default color can be found in Settings > Global settings > Colors > Bottom” Item default”.

- Automatic color

Colors are automatically assigned to work order.

- Select color

Click on this button and select a color from the opened color palette by clicking on it. Close the color palette with OK.

## Material Status

Information on the material status.

Notice: The material status is displayed in the order in the planning board.

The following modes are possible:

- Material available
- Material not delivered

Notice: If you have selected "Material expected", you can enter a delivery date under "Material date" on the right.

## Positions

Shows all existing operations together with their key data.

## Adding operation to order

A work order can have one or more operations associated.

To add an operation, right-click the operation field, in the lower part of the dialog (see image below), and then click *New*. The operation dialog will then appear.

Note. New operations can also be created from the planning board (same NEW button).

**Work Order**

Order details

Order-No.  Order confirmation  Scheduling approval ☒

Partnumber  Status

Comment  Color mode  Color

Customer  Material status  Material date

Delivery Date

Positions

Name	Pos	Amount	Amount (Ready)	Scheduled time	Scheduled %	Job time	Machine Group	Calculated time	C
New Edit Delete Copy									

OK Cancel

Dialog Work Order.

The following dialog appears:

Operation

Position Chart

Name

Description

Amount Extern ☐ Delivery Date 12-05-2021

Part time (min:sec) 000:00 hours ☐ Amount (Ready) Time (Running)

Change over time (min:sec) 000:00 Status Not Started

Setup time (hrs:min) 000:00 Color

Total time (hrs:min) 0000:00 ☒ Enable auto-rescheduling

Delay time (hrs:min) 000:00 Reschedule after 5 Reschedule every 1

Category

Machines

- ☐ DMU-2711
- ☐ FNC 01D
- ☐ Gleason-280C
- ☐ HH-ARNEDELL2
- ☐ HMC-320
- ☐ HMC-518
- ☐ HTC-1000
- ☐ HTC-2000
- ☐ HTC-3000
- ☐ HTC-4000
- ☐ Mazak i100 BARTAC
- ☐ MTConnect
- ☐ Okuma LT200M
- ☐ TNC 026
- ☐ VMC-48
- ☐ VMC-70
- ☐ VMC-81
- ☐ VMC-82

Dependencies

OK Cancel

Operation dialog.

## Position

### Name

Use this field to specify a name for the operation.

### Description

Enter the description here.

### Amount

Use this field to specify the number of items to be produced.

### Part time (Min:Sec)

Use this field to specify the part time.

### Change over time (Min:Sec)

Use this field to specify the change over time on the machine.

Notice: The change over time is multiplied by the number of items to be produced.



**Setup time (Hrs:Min)**

Use this field to specify the setup time.

**Total time (Hrs:Min)**

The sum of all specified time.

Note: The total time is calculated automatically from the data given above.

Use this field to enter dwell time.

**Delay time (Hrs:Min)**

The delay time can be used in the following scenarios. For this we need at least 2-3 operations (in dependency) in the work order in both scenarios.

More on this topic in the Dependencies section below.

**Category**

Information on the category.

**Delivery date**

Use this field to specify the delivery date.

Note: The delivery date of the operation can differ from the delivery date of the work order. Use this option in such a case.

**Amount (Ready)**

Indicates the number of parts produced.

**Time (Running)**

Indicates current production time.

**Status**

Indicates status of operation.

Possible status: Not started, Started, Finished.

**Color**

The bottom displays the color of the operation. Click on the bottom to change the color.

## Machines

Use this field to assign the operation to a machine. A checkmark in the left column indicates that the machine is assigned to this operation.

Notice: The machines displayed here are all machines defined in Planner Groups.

## Dependencies

Use this field to create dependencies between operations. A check mark in the left column indicates that this operation depends on another operation.

To use dependencies, you need two or more operations in a work order. Only operations in the same work order can be marked as dependent. You can also create an external operation (e.g., "hardening") as a third external operation between 2 operations.

## Dependencies example 1

2 work steps (turning - milling) depending on.

Operation:

Work Order

Order details

Order-No.

070520211

Order confirmation

Scheduling approval

☒

Partnumber

BT 1298

Status

Not Started

Comment

Motor

Color mode

Automatic color

Color

Customer

Aviatec

Material status

Material available

Material date

03-05-2021

Delivery Date

12-05-2021

Positions

Name	Pos	Amount	Amount (Ready)	Scheduled time	Scheduled %	Job time	Machine Group	Calculated time	C
OP1	1	100	0		0			0 D 3 H 30 M	
OP2	2	100	0		0			0 D 5 H 10 M	

OK

Cancel

Dialog Operation, 2 Operation

First, operation - OP1 (turning with specified delay time)

The 'Operation' dialog box is shown with the 'Position' tab selected. The 'Name' field contains 'OP1'. The 'Description' field contains 'Flange Upper X1. Ø123, Turning'. The 'Amount' field contains '100'. The 'Delivery Date' field contains '10-05-2021'. The 'Part time (min:sec)' field contains '002:00'. The 'Change over time (min:sec)' field contains '000:00'. The 'Setup time (hrs:min)' field contains '000:10'. The 'Total time (hrs:min)' field contains '0003:30'. The 'Delay time (hrs:min)' field is highlighted with a blue border and contains '006:00'. The 'Category' field is empty. The 'Machines' list on the right includes checkboxes for DMU-2711, FNC 01D, Gleason-280C, HH-ARNEDELL2, HMC-320, HMC-518, HTC-1000, HTC-2000, HTC-3000 (checked), HTC-4000, Mazak i100 BARTAC, MTConnect, Okuma LT200M, TNC 026, VMC-48, VMC-70, VMC-81, and VMC-82. The 'Status' dropdown is set to 'Finished'. The 'Color' slider is positioned at the middle. The 'Dependencies' list contains '2 OP2'. The 'OK' and 'Cancel' buttons are at the bottom right.

Dialog Operation including Delay time.

Note: The delay time between work steps is always determined in the first work step.

Second, operation - OP2 (depending on OP1)

**Operation**

Position Chart

Name: OP2

Description: Flange X5, Ø12

Amount: 100 Extern ☐ Delivery Date: 10-05-2021

Part time (min:sec): 003:00 hours Amount (Ready): 100 Time (Running):

Change over time (min:sec): 000:00 Status: Finished

Setup time (hrs:min): 000:00 Color:

Total time (hrs:min): 0005:10 ☐ Enable auto-rescheduling

Delay time (hrs:min): 000:00 Reschedule after: 5 Reschedule every: 1

Category:

Machines:

- ☐ DMU-2711
- ☐ FNC 01D
- ☐ Gleason-280C
- ☐ HH-ARNEDELL2
- ☐ HMC-320
- ☐ HMC-518
- ☐ HTC-1000
- ☐ HTC-2000
- ☐ HTC-3000
- ☒ HTC-4000
- ☐ Mazak i100 BARTAC
- ☐ MTCConnect
- ☐ Okuma LT200M
- ☐ TNC 026
- ☐ VMC-48
- ☐ VMC-70
- ☐ VMC-81
- ☐ VMC-90

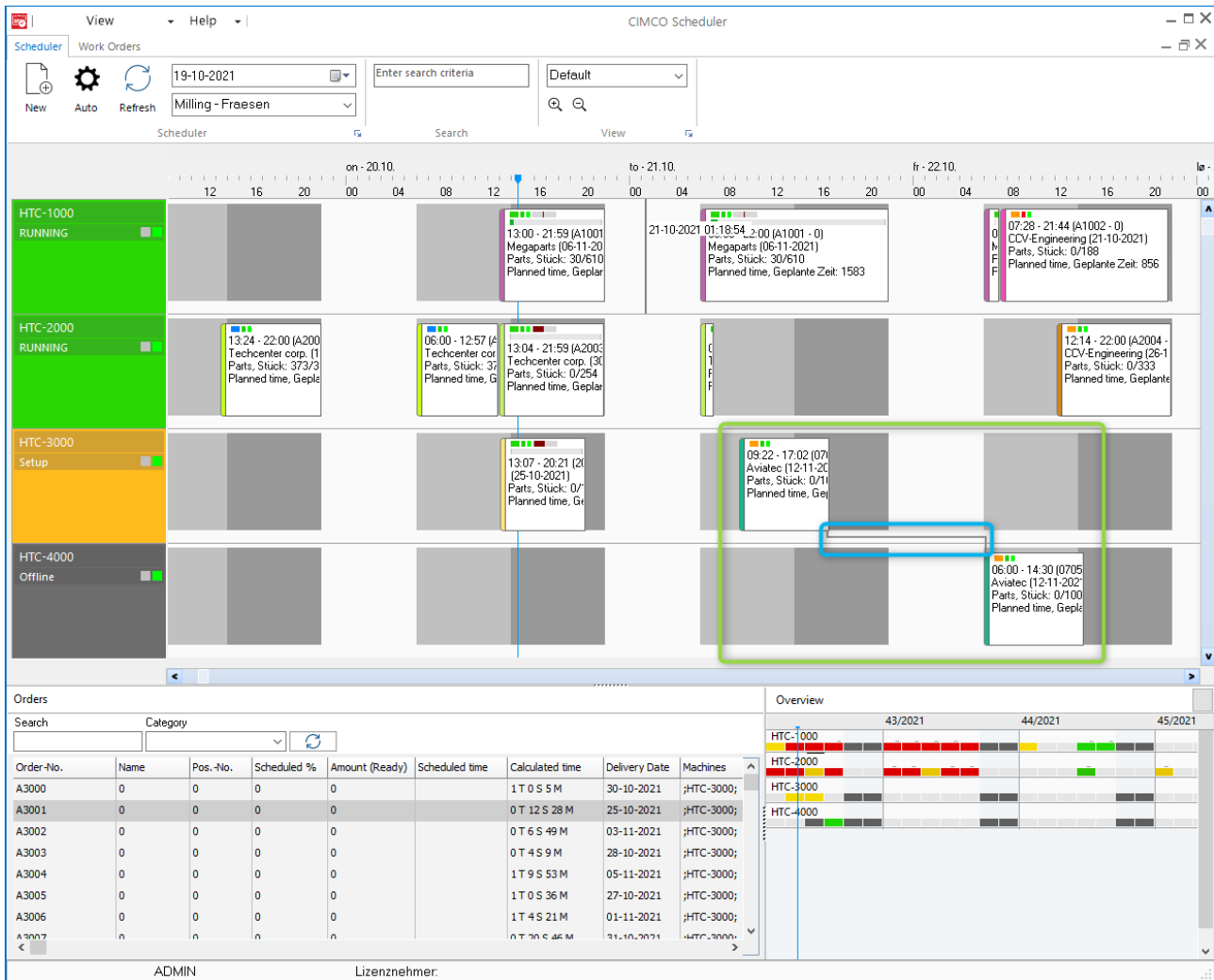
Dependencies:

- ☒ 1 OP1

OK Cancel

A check mark in the left column in dependencies (green frame) indicates that this operation depends on another operation (in our example OP1).

Operations OP1 and OP2 in the planning board:



Dialogue, two operations planned to depend on each other.

Notice: Dependent operations are planned together (green frame) and the dependency is indicated by a connecting line between them in the planning board (blue frame).

If an operation is rescheduled, dependent operations are also automatically updated and rescheduled (possibly considering the specified delay time).

## Dependencies example 2

3 work steps (turning - external hardening - milling) depending on. External hardening is the external work step.

Work order:

Work Order

Order details

Order-No.

070520212

Order confirmation

Scheduling approval

☒

Partnumber

BT 1298

Status

Not Started

Comment

Motor

Color mode

Automatic color

Color

Customer

Aviatec

Material status

Material available

Material date

03-05-2021

Delivery Date

12-05-2021

Positions

Name	Pos	Amount	Amount (Ready)	Scheduled time	Scheduled %	Job time	Machine Group	Calculated time	C
OP1	1	100	0		0			0 D 3 H 30 M	
Hardening	2	0	0		0			0 D 0 H 0 M	
OP2	3	100	0		0			0 D 10 H 0 M	

OK

Cancel

Dialogue, two operations + 1 external operation planned depending on each other.

First, operation - OP1 (turning)

Operation

Position

Chart

Name

OP1

Description

Flange Upper X1, Ø123, Turning

Amount

100

Extern

☐

Delivery Date

12-05-2021

Part time (min:sec)

002:00

hours

☐

Amount (Ready)

0

Time (Running)

Change over time (min:sec)

000:00

Status

Not Started

Setup time (hrs:min)

000:10

Color

Total time (hrs:min)

0003:30

Enable auto-rescheduling

☐

Delay time (hrs:min)

006:00

Reschedule after

5

Reschedule every

1

Category

Machines

☐ DMU-2711

☐ FNC 01D

☐ Gleason-280C

☐ HH-ARNEDELL2

☐ HMC-320

☐ HMC-518

☐ HTC-1000

☐ HTC-2000

☒ HTC-3000

☐ HTC-4000

☐ Mazak i100 BARTAC

☐ MTConnect

☐ Okuma LT200M

☐ TNC 026

☐ VMC-48

☐ VMC-70

☐ VMC-81

☐ VMC-90

Dependencies

☐ 2 Hardening

☐ 3 OP2

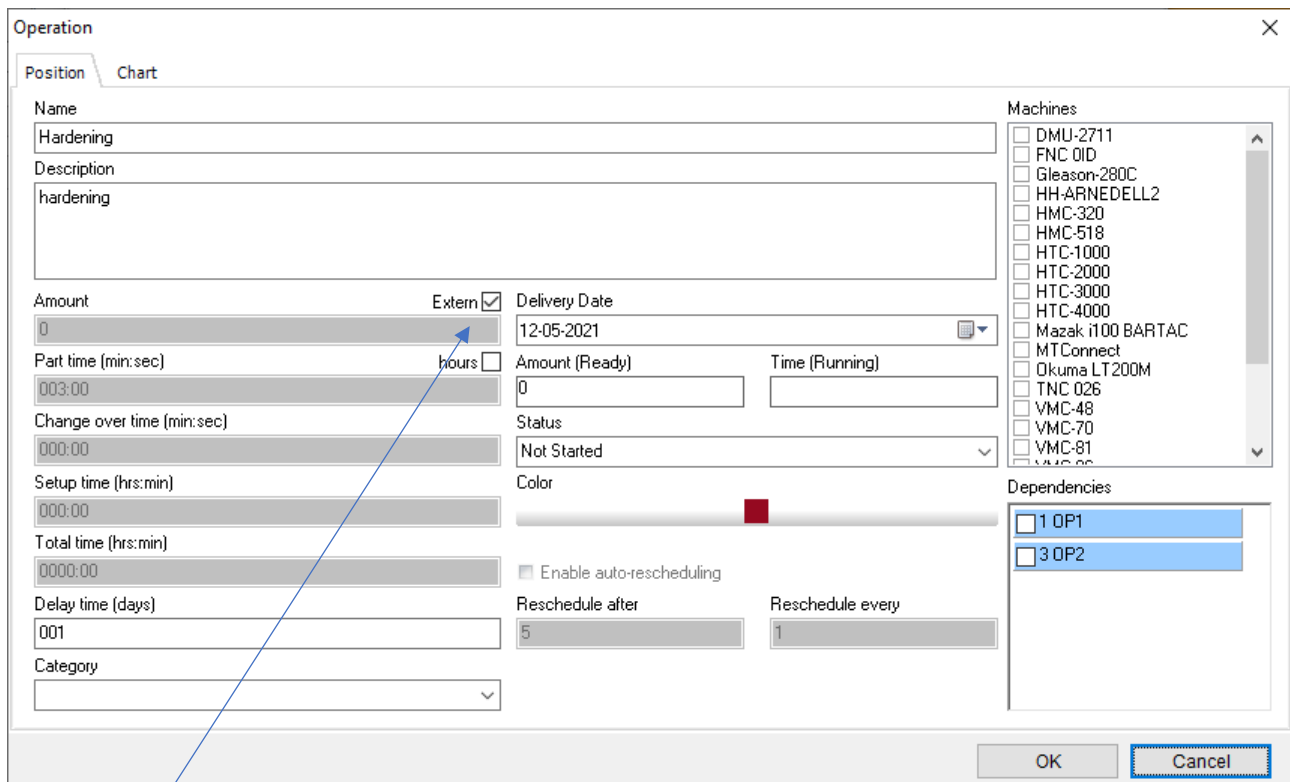
OK

Cancel

Dialog Operation "OP1" turning.



## Second, operation - "Hardening" (external operation)



**Operation**

Position Chart

Name: Hardening

Description: hardening

Amount: 0 ☒ Extern Delivery Date: 12-05-2021

Part time (min:sec): 003:00 hours ☐ Amount (Ready): 0 Time (Running):

Change over time (min:sec): 000:00 Status: Not Started

Setup time (hrs:min): 000:00 Color:

Total time (hrs:min): 0000:00 ☐ Enable auto-rescheduling

Delay time (days): 001 Reschedule after: 5 Reschedule every: 1

Category:

Machines:

- ☐ DMU-2711
- ☐ FNC 01D
- ☐ Gleason-280C
- ☐ HH-ARNEDELL2
- ☐ HMC-320
- ☐ HMC-518
- ☐ HTC-1000
- ☐ HTC-2000
- ☐ HTC-3000
- ☐ HTC-4000
- ☐ Mazak i100 BARTAC
- ☐ MTConnect
- ☐ Okuma LT200M
- ☐ TNC 026
- ☐ VMC-48
- ☐ VMC-70
- ☐ VMC-81

Dependencies:

- ☐ 1 OP1
- ☐ 3 OP2

OK Cancel

Dialog operation External - hardening".

### Extern

Check **External** to define this operation as an external operation.

Notice: An external operation (e.g., hardening) is of course given without data such as quantity / piece time etc. (information is grayed out) and only "marked" is displayed in the planning board (see planning board below).

### Delay time (days)

The delay time specified here is specified in days and is the time required for the entire external work step (in our example 1 day).

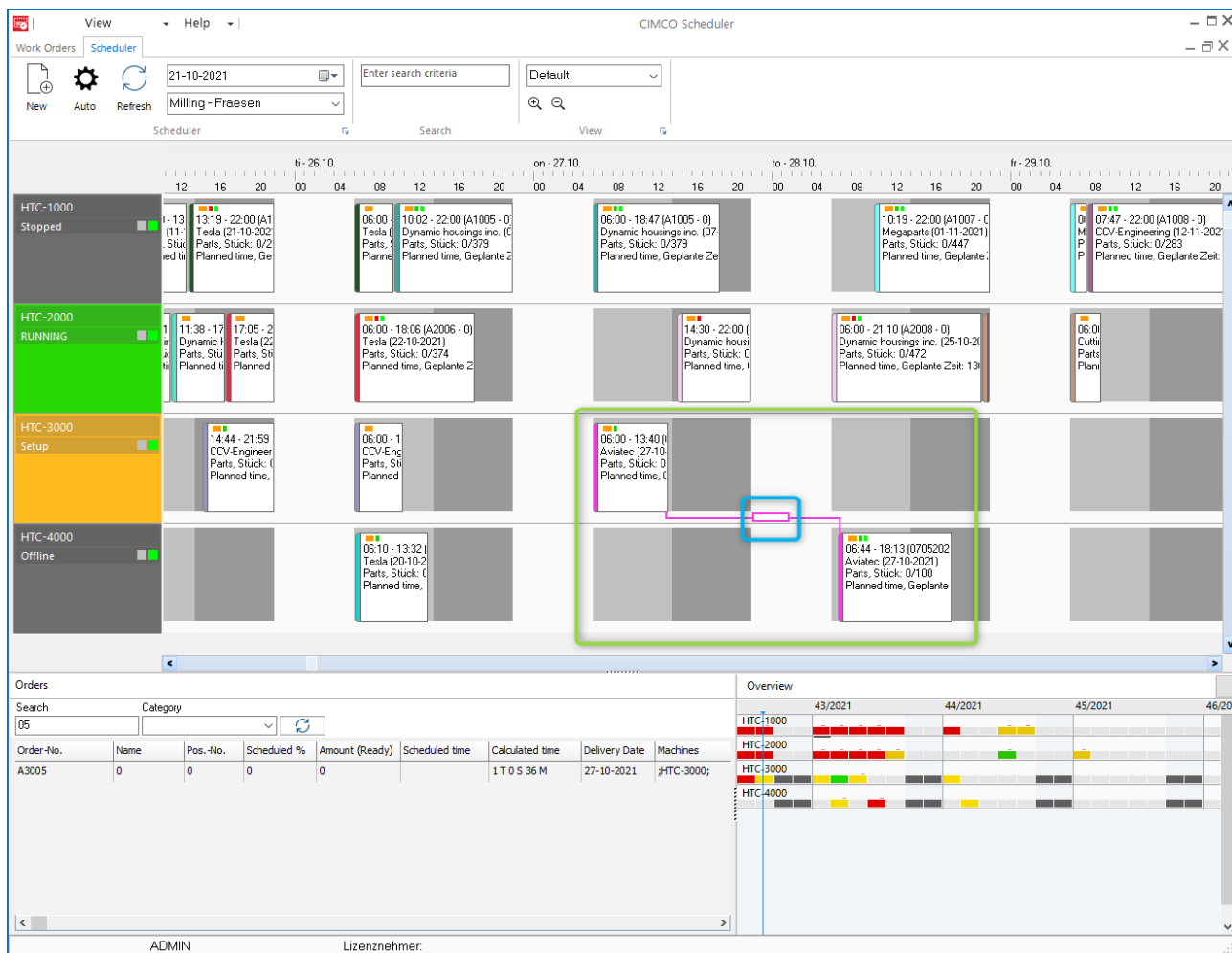
### Third, Operation - OP3 (milling)

The screenshot shows the 'Operation' dialog box for 'OP2'. The 'Name' field is 'OP2' and the 'Description' is 'Flange X5, Ø12'. The 'Amount' is '100' and the 'Delivery Date' is '28-05-2021'. The 'Part time (min:sec)' is '006:00' and the 'Status' is 'Not Started'. The 'Machines' list on the right includes DMU-2711, FNC 01D, Gleason-280C, HH-ARNEDELL2, HMC-320, HMC-518, HTC-1000, HTC-2000, HTC-3000, HTC-4000, Mazak i100 BARTAC, MTConnect, Okuma LT200M, TNC 026, VMC-48, VMC-70, and VMC-81. The 'Dependencies' section, highlighted with a green frame, shows two checked items: '1 OP1' and '2 Hardening'. The 'OK' and 'Cancel' buttons are at the bottom right.

Dialog operation "OP2".

A tick in the left column in "Dependencies" (green frame) indicates that this operation depends on 2 operations (in our example OP1 and External - hardening).

Operation OP1, External - hardening and OP2 in the planning board:



Dialog, three operation (1 "external") planned in dependence.

Note: Dependent operations are planned together (green frame) and the dependency is indicated by a connecting line between them in the planning board.

The **external** operation is displayed in the blue frame.

When an operation is rescheduled, dependent operations are also automatically updated and rescheduled.

# Planning Orders and Operations

## Timeline

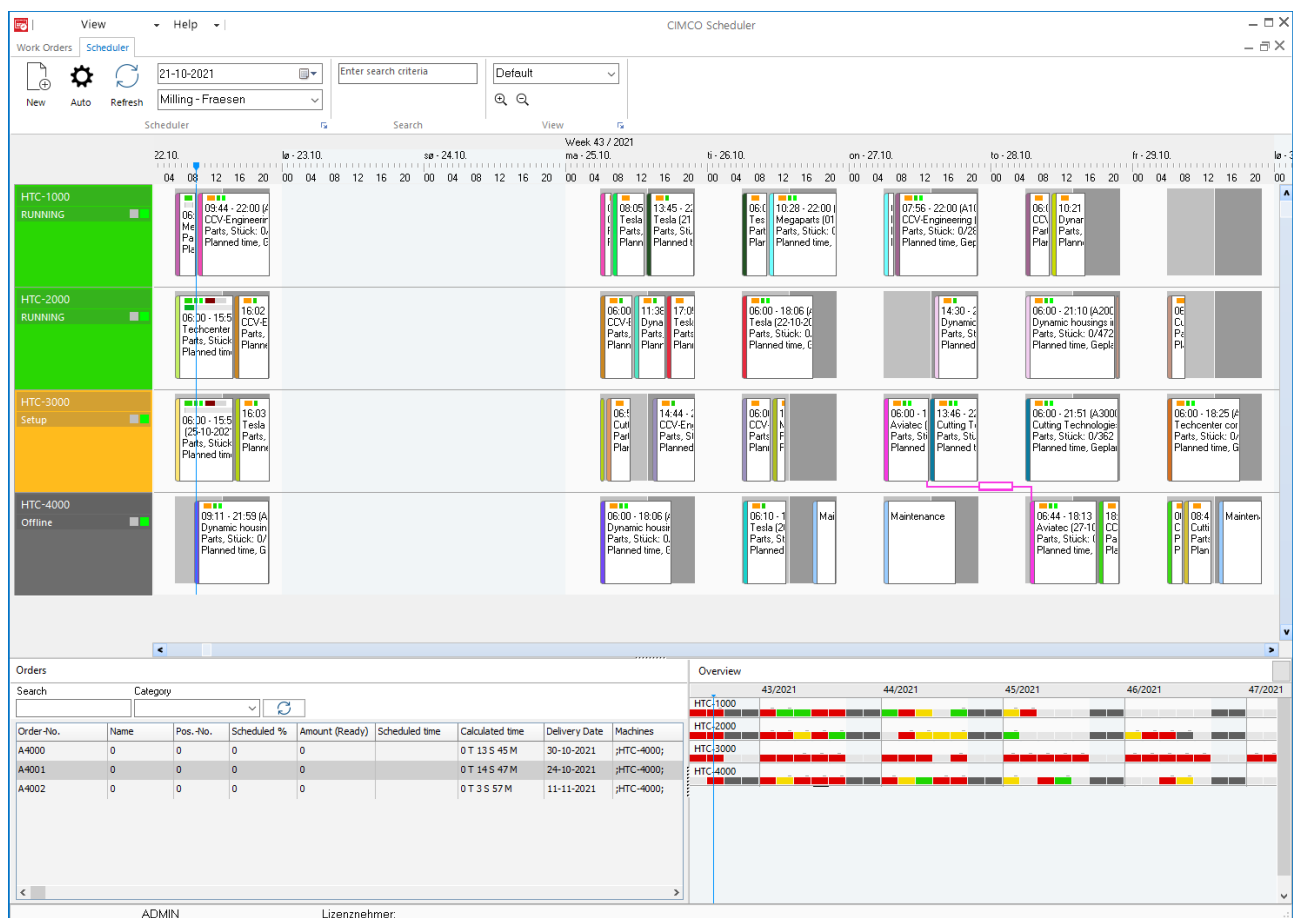
This section describes how to plan operations on Scheduler.

Operations can be manually added to a machine on the timeline simply by drag and drop from JOBS list.

Operations can also be automatic scheduled using Auto function.

Jobs that have already been planned (not yet started) can simply be moved from one machine to another using drag & drop.

Orders that have already been planned can be recalculated directly from the planning board (e.g., if the number of pieces changes).



Scheduler timeline.

## New

Adds a new order (also read section “Work orders”).

## Auto

Work order can be planned automatically. If you have created one or more orders in work order (or auto imported them e.g., from an ERP system), you can plan them automatically.

Click on Auto to automatically schedule a work order. The following dialog appears:

Order-No.	Operation	Quantity	Delivery Date	Simulated start	Simulated end	Machines	Schedule	Scheduling mode
A3100	0	78	13-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3101	0	584	12-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3102	0	176	04-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3103	0	194	04-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3105	0	425	08-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3106	0	195	28-10-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3107	0	404	20-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3108	0	569	31-10-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3109	0	625	17-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A4000	0	552	31-10-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4001	0	388	29-10-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4002	0	502	02-11-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4100	0	234	31-10-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4101	0	219	14-11-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4102	0	663	20-11-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4103	0	176	25-10-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4104	0	633	23-10-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4105	0	510	14-11-2021			;HTC-4000;	<input type="checkbox"/>	Forward

Dialog Auto schedule (example).

## Dialog Auto Schedule

Shows all orders released for planning.

Notice: The orders displayed here can also be found in Orders at the bottom left of the timeline.

### Order-No.

Display of the order number.

### Operation

Display of the operation number.

**Quantity**

Number of planned parts.

**Delivery date**

Delivery date.

**Simulated start**

Display of the simulated start time (date / time).

Note: In the **Schedule** column, check one or more orders to simulate them.

**Simulated end**

Display of the simulated end time (date / time).

Note: In the **Schedule** column, check one or more orders to simulate them.

**Machines**

Name of Machine on which orders/operations are planned.

**Schedule**

Check this checkbox to automatic plan this order/operation.

Notice: If you uncheck this checkbox, this operation is not automatically planned.

## Planning mode

Order-No.	Operation	Quantity	Delivery Date	Simulated start	Simulated end	Machines	Schedule	Scheduling mode
A3100	0	78	13-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3101	0	584	12-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3102	0	176	04-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3103	0	194	04-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3105	0	425	08-11-2021			;HTC-3000;	<input type="checkbox"/>	Backward
A3106	0	195	28-10-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3107	0	404	20-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3108	0	569	31-10-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3109	0	625	17-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A4000	0	552	31-10-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4001	0	388	29-10-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4002	0	502	02-11-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4100	0	234	31-10-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4101	0	219	14-11-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4102	0	663	20-11-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4103	0	176	25-10-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4104	0	633	23-10-2021			;HTC-4000;	<input type="checkbox"/>	Forward
A4105	0	510	14-11-2021			;HTC-4000;	<input type="checkbox"/>	Forward

Simulate OK Cancel

*Dialog AutoSchedule (Planning mode).*

Specify the planning mode here. Forward and backward are possible.

Notice: It is the delivery date and the length of the operation, as well as orders that have already been planned, which determine how and at what time an order is planned.

The planning mode also determines the following:

### Forward:

If possible, new orders are planned in free, unplanned periods.

### Backward:

New orders are planned from the last order that was already planned.

### Simulate

Click on **Simulate** to simulate the beginning and the end of the work order(s)

Note: In the Schedule column, check one or more orders to simulate them.

The following dialog appears:

Order-No.	Operation	Quantity	Delivery Date	Simulated start	Simulated end	Machines	Schedule	Scheduling mode
A3100	0	78	13-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3101	0	584	12-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3102	0	176	04-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3103	0	194	04-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3105	0	425	08-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3106	0	195	28-10-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3107	0	404	20-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3108	0	569	31-10-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A3109	0	625	17-11-2021			;HTC-3000;	<input type="checkbox"/>	Forward
A4000	0	552	31-10-2021	28-10-2021 18:19:12	29-10-2021 10:12:12	;HTC-4000;	<input checked="" type="checkbox"/>	Forward
A4001	0	388	29-10-2021	02-11-2021 14:36:34	03-11-2021 11:26:34	;HTC-4000;	<input checked="" type="checkbox"/>	Forward
A4002	0	502	02-11-2021	03-11-2021 11:32:34	04-11-2021 09:31:34	;HTC-4000;	<input checked="" type="checkbox"/>	Forward
A4100	0	234	31-10-2021	04-11-2021 09:37:34	04-11-2021 19:42:34	;HTC-4000;	<input checked="" type="checkbox"/>	Forward
A4101	0	219	14-11-2021	04-11-2021 19:48:34	05-11-2021 12:31:34	;HTC-4000;	<input checked="" type="checkbox"/>	Forward
A4102	0	663	20-11-2021	05-11-2021 12:37:34	09-11-2021 06:00:34	;HTC-4000;	<input checked="" type="checkbox"/>	Forward
A4103	0	176	25-10-2021	09-11-2021 06:06:34	09-11-2021 14:45:34	;HTC-4000;	<input checked="" type="checkbox"/>	Forward
A4104	0	633	23-10-2021	09-11-2021 14:51:34	10-11-2021 19:55:34	;HTC-4000;	<input checked="" type="checkbox"/>	Forward
A4105	0	510	14-11-2021	10-11-2021 20:01:34	11-11-2021 21:40:34	;HTC-4000;	<input checked="" type="checkbox"/>	Forward

Dialog AutoScheduler (Simulate).

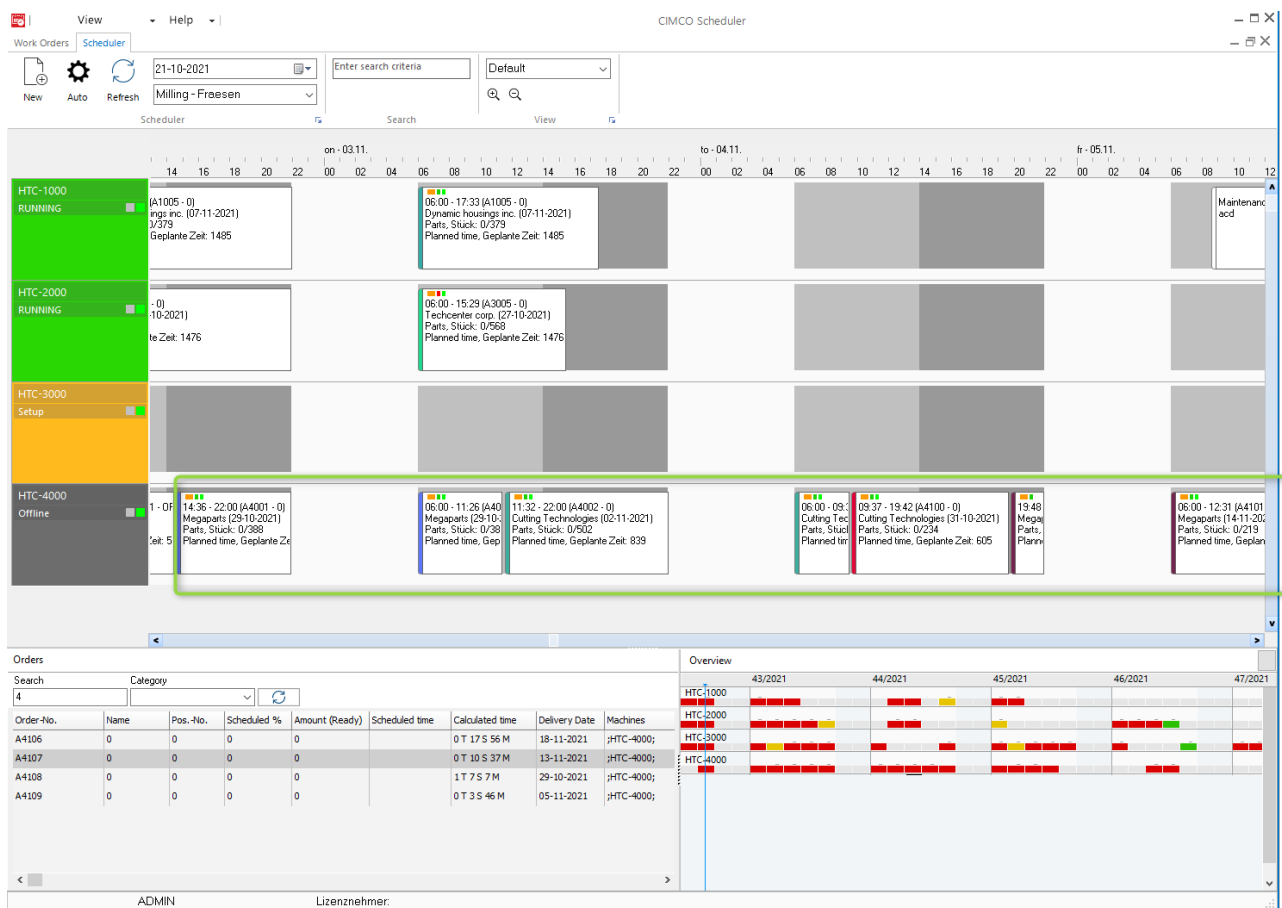
## OK

Click **OK** to automatically schedule the selected jobs (see image below).

## Cancel

Click on Cancel to cancel the process.





Auto scheduled orders.

## Scheduler date and Planner Group

19-06-2020

Select a Start date for the current timeline view.

Milling

Select a Planner group for the current timeline view.

## Search

Enter search criteria

Use this field to search for planned orders. Entering search criteria and push ENTER will open the following (result) dialog:

Search Results										
Search										
40										
Order-No.	Partnumber	Description	Customer	Delivery	Pos	Name	Amount	Machine	Jobstart	Jobend
A4000	PN-63701	Air folter control	Techcenter	31-10-2021	0	0	552	HTC-4000	28-10-2021	29-10-2021
A4001	PN-11805	Cooling pipe	Megaparts	29-10-2021	0	0	388	HTC-4000	02-11-2021	03-11-2021
A4002	PN-86127	Cooling pipe	Cutting	02-11-2021	0	0	502	HTC-4000	03-11-2021	04-11-2021

Search results dialog.

View

Default

Select a view for the display of the Scheduler.

Zoom inZoom out

Zoom in \ Zoom out of the timeline.



Click on this icon to open the View (settings) dialog.

Notice: More information about View settings can be found in the section *Settings > Views*.

The following dialog appears:

Dialog: Configure View.

In this dialog you can define how the different visual items are shown in the scheduler.

## Edit

Click on **Edit** to Edit settings.

Notice: This will open dialog and make it editable.

## View name

Use this field to select the View you want to configure.

## Name

Specify the name of the View.

## Timeline height (pixel)

Specify the height of the timeline.

### **Shift height**

Specify the height of Shifts.

### **Timeline width (pixel)**

Use this field to specify the width of the timeline.

### **Item gab**

Use this field to specify the item gab.

Item gab is the distance from the bottom edge of the operation to the bottom edge of the Shift.

Notice: Use a value between approx. 0-10. Higher values can result in invisible operations.

### **Day with (pixel)**

Specify the width of days (in pixel).

### **Machine width (pixels)**

Enter the width of the machine name/status display shown on the left side of the timeline (in pixels).

### **View start date**

Specify the start date of the View.

Start date determines from which point in time the timeline should be shown.

Possible views:

- Last Closed
- Today
- Start of the week
- Start of the month

### **Default item format**

Use this field to specify how items (orders/operations) are shown on the Timeline.

Items can display a combination of text and variables. The following variables can be used:

Planned time: \$STARTHOUR:\$STARTMINUTE - \$ENDHOUR:\$ENDMINUTE

Order name – position (operation): (\$ORDER - \$POSITION)

Customer: \$CUSTOMER

Delivery date: (\$DELIVERYDATE)

Parts: \$PARTSDONE/\$PARTSAMOUNT

- \$PARTSDONE (parts produced)
- \$PARTSAMOUNT (planned parts)

Part time: \$PARTTIME

Duration: \$JOBMINUTES

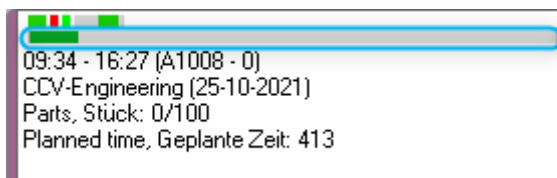
Duration is the time from Order started to order ended.

### Show weeks

Check this field to show weeks in calendar.

### Show progress bar

Check this field to show progress bar in planned operations (blue frame).



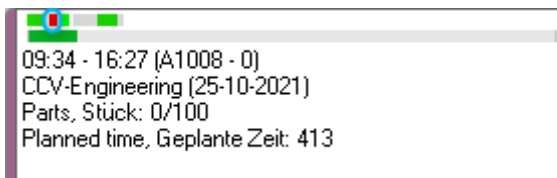
Notice: The progress bar evaluates the parts done.

### Draw gradient

Check this field to show color of Order in gradient.

### Delivery date

Check this field to display the status of the delivery date (blue frame).



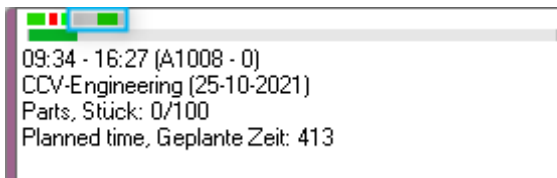
## Status Material

Check this field to display the material status (blue frame).



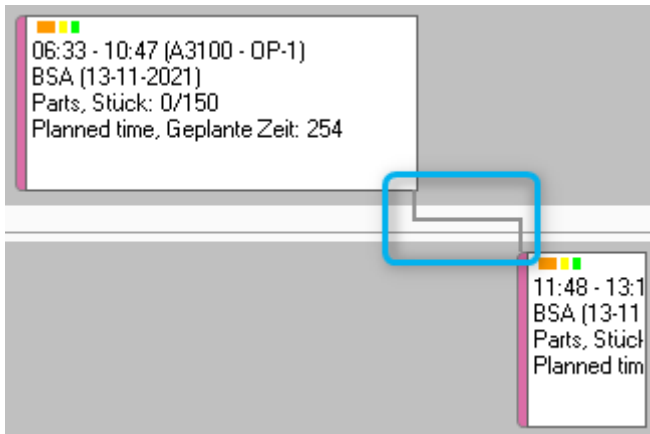
## Job status

Check this field to display the status of the operation (blue frame).



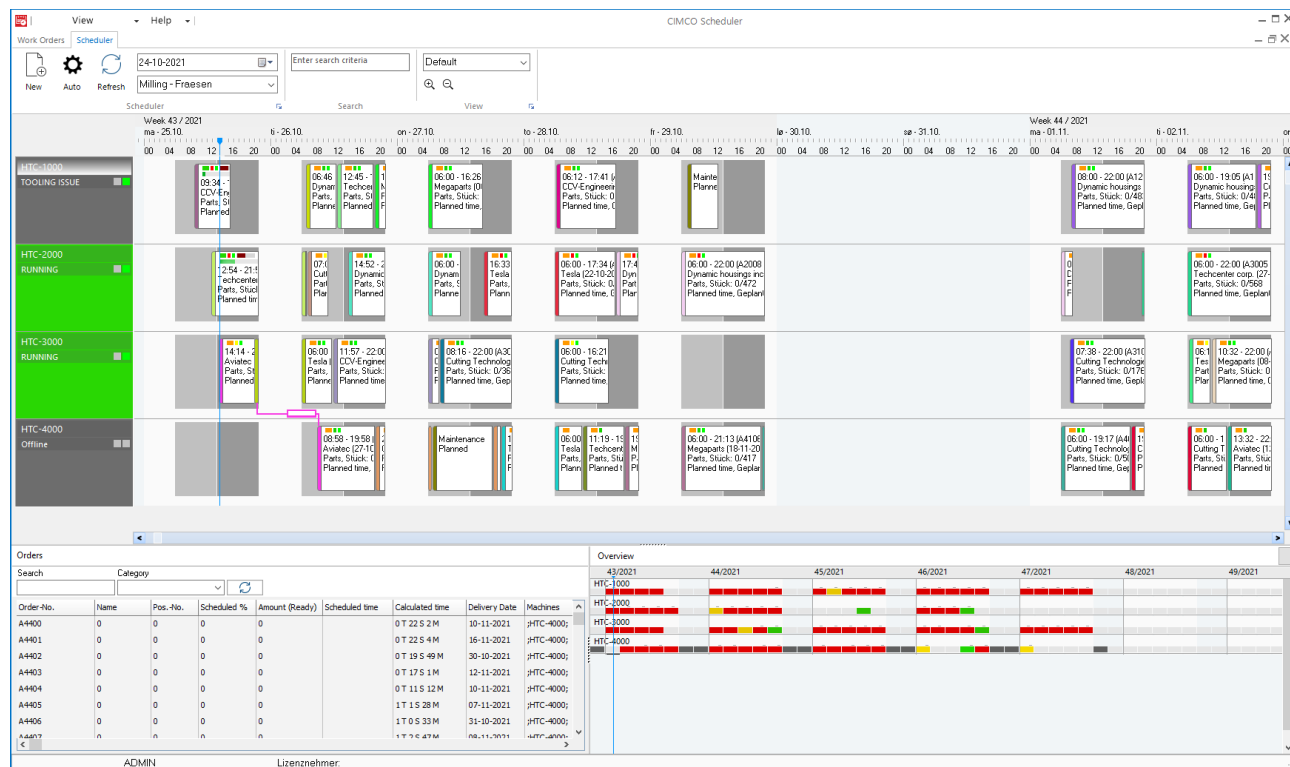
## Show dependencies.

Check this field to show dependencies (blue frame).



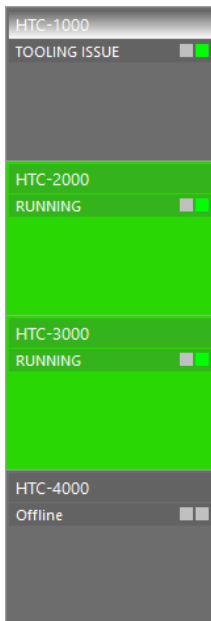
# Items on Timeline

This section describes the visual items on the timeline.



Scheduler: Timeline

## Machines



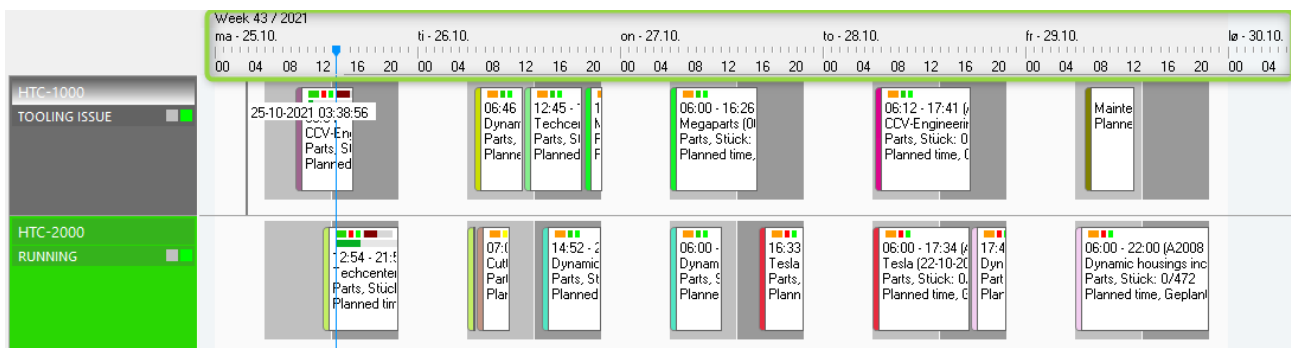
The machines and their job status are displayed in the left column in the timeline.

Machines are machines in DNC-Max. After the current, planned work order has been started via the operator screen, the status is the current status of the machine such as "Set-up", "Maintenance".

Which status is ultimately displayed depends on the individual configuration in which the scheduler was installed. Ask your dealer who also installed the software.

## Calendar

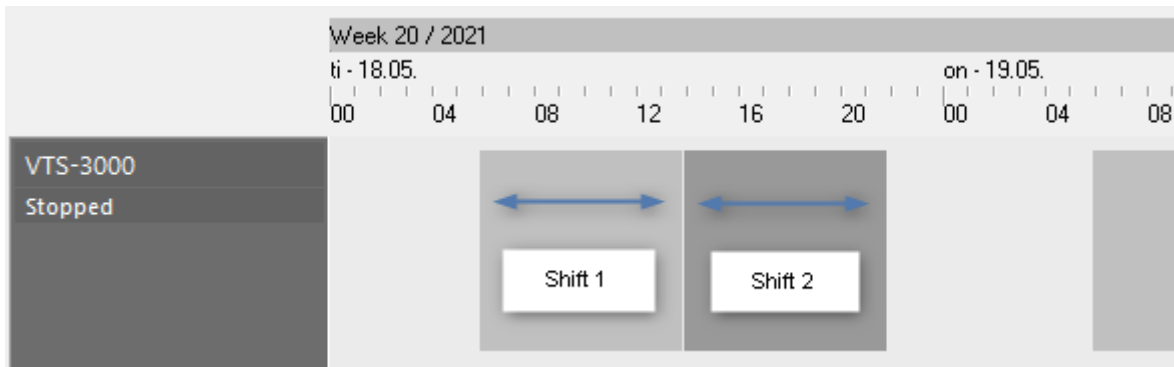
Week, day, time display (green frame):



Note: The display of the week, day and time depends on the zoom factor that has been set, time zone of pc/server and language settings.



## Machine and display of the shifts.



Note: Information on setting the shifts can be found in Settings> Shifts.

## Orders

List of all unplanned orders.

Orders								
Search		Category						
<input type="text"/>		<input type="text"/>						
Order-No.	Name	Pos.-No.	Scheduled	Amount (Ready)	Scheduled time	Calculated time	Delivery Date	Machines
A1007	0	0	0	0	0 D 0 H 0 M	0 T 12 S 28 M	30-05-2021	;HTC-1000;
A1011	0	0	0	0	0 D 0 H 0 M	0 T 21 S 56 M	28-05-2021	;HTC-1000;
A2002	OP2 Milling	0	0	140	0 D 0 H 0 M	0 D 18 H 18 M	09-05-2021	;HTC-2000;
A2006	0	0	0	0	0 D 0 H 0 M	1 T 8 S 50 M	15-05-2021	;HTC-2000;
A3004	0	0	0	0	0 D 0 H 0 M	0 T 10 S 34 M	15-05-2021	;HTC-3000;
A3005	0	0	0	0	0 D 0 H 0 M	0 T 5 S 39 M	14-05-2021	;HTC-3000;
040520214	OP1 turning	1	0		0 D 0 H 0 M	0 D 15 H 30 M	18-05-2021	;HTC-4000;
070520212	OP1	1	0	0	0 D 0 H 0 M	0 D 3 H 30 M	28-05-2021	;HTC-3000;

Dialog Jobs – list of all unplanned orders

## Search

Check this field to search for (not planned) orders / operations.

## Category

Order search by category.

Note: Category can be specified in the operation.



Refresh list.

**Order-No.**

Display of the order number.

**Name**

Display of the operation name.

**Pos. No.**

Display of the position number.

**Scheduled %**

Shows what percentage of the order is planned.

**Amount ready**

Display of the parts done.

**Time scheduled**

Display of the scheduled time.

**Calculated time**

Display of the calculated time.

**Delivery date**

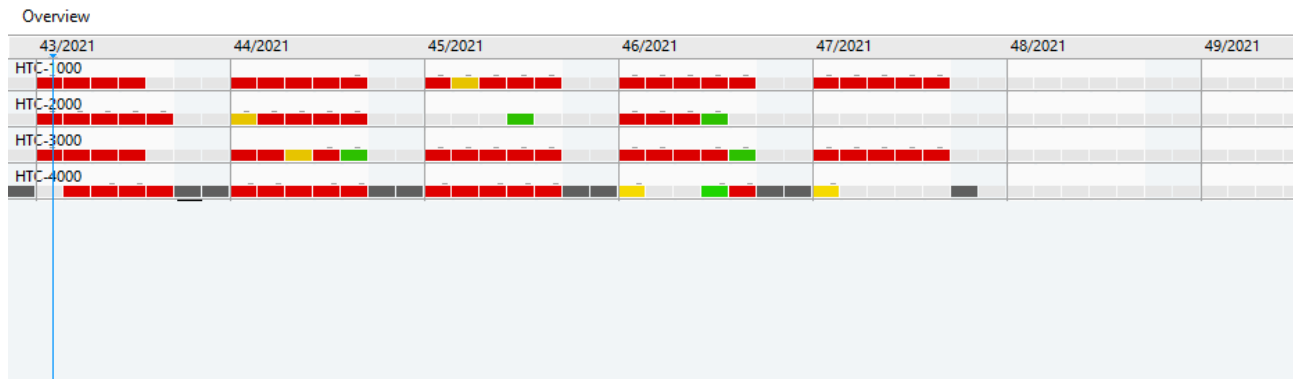
Delivery date for this order.

**Machines**

Display of the machine for this order.

## Overview

Weekly overview of the current production capacity of the selected Scheduler machine group:



Weekly overview – timeline.

## Colors

Gray: Not planned (Full free capacity)  
Green: Medium planned (Medium free capacity)  
Yellow: High planned (Low free capacity)  
Red: Fully planned (No free capacity)

Blue line: Time now

Note: If you position the cursor over a machine / shift in the timeline, the corresponding day is underlined in the overview.

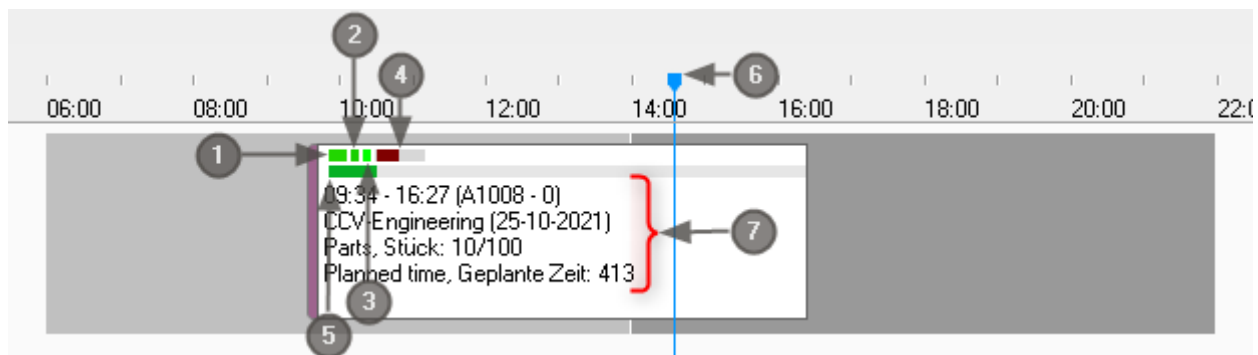
# The planned order in the timeline

This section describes the functions and the individual visual elements of the planned orders / operations in the timeline.

An order can consist of a single work step, which means that the work step is identical to the order and its key data (and the status displays described below) in the scheduler. If an order consists of several work steps, the following status displays (delivery date, progress display, etc.) refer to the individual operation.

Note: Most of the colors mentioned here can be configured manually. Below is a reference to the standard setting of the status colors.

## Show status



### 1. Order status indicator

Red: Order not started  
Green: Order is started  
Blue: Order is finished

An operation is completed when all parts are finished and are automatically set to the colour blue.

Note: In normal cases, completed operations are deleted from the planning board by terminating the operation on the operator screen. More on this topic can be found in the section Starting / Ending a job.

### 2. Delivery status indicator

Green: Order is in time  
Yellow: Order is still in time but close to exceeding the delivery date  
Red: Order has exceeded the delivery date

### 3. Material available status indicator

Green: Material available  
Red: Material not delivered

#### **4. Status Operation**

The display of the operation status is a real-time display for the dynamic status of the operation and is calculated considering the following parameters: planned time, current order time, planned parts and parts done.

No color:	Order is in time (as expected)
Green:	Order is in time (better as expected)
Red:	Order has exceeded the delivery date

Note: The wider the colour display of a current status is (green or red), the greater the value.

#### **5. Order progress bar indicator**

The Order progress bar indicator is a dynamic real time status bar and is calculated considering the following dynamic parameters: Parts done.

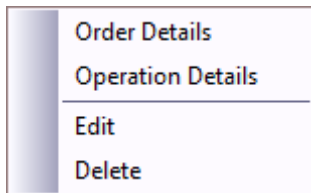
#### **6. Current time**

#### **7. Format Entry field**

The Format entry field defines which variables are displayed in the orders in the planning board.

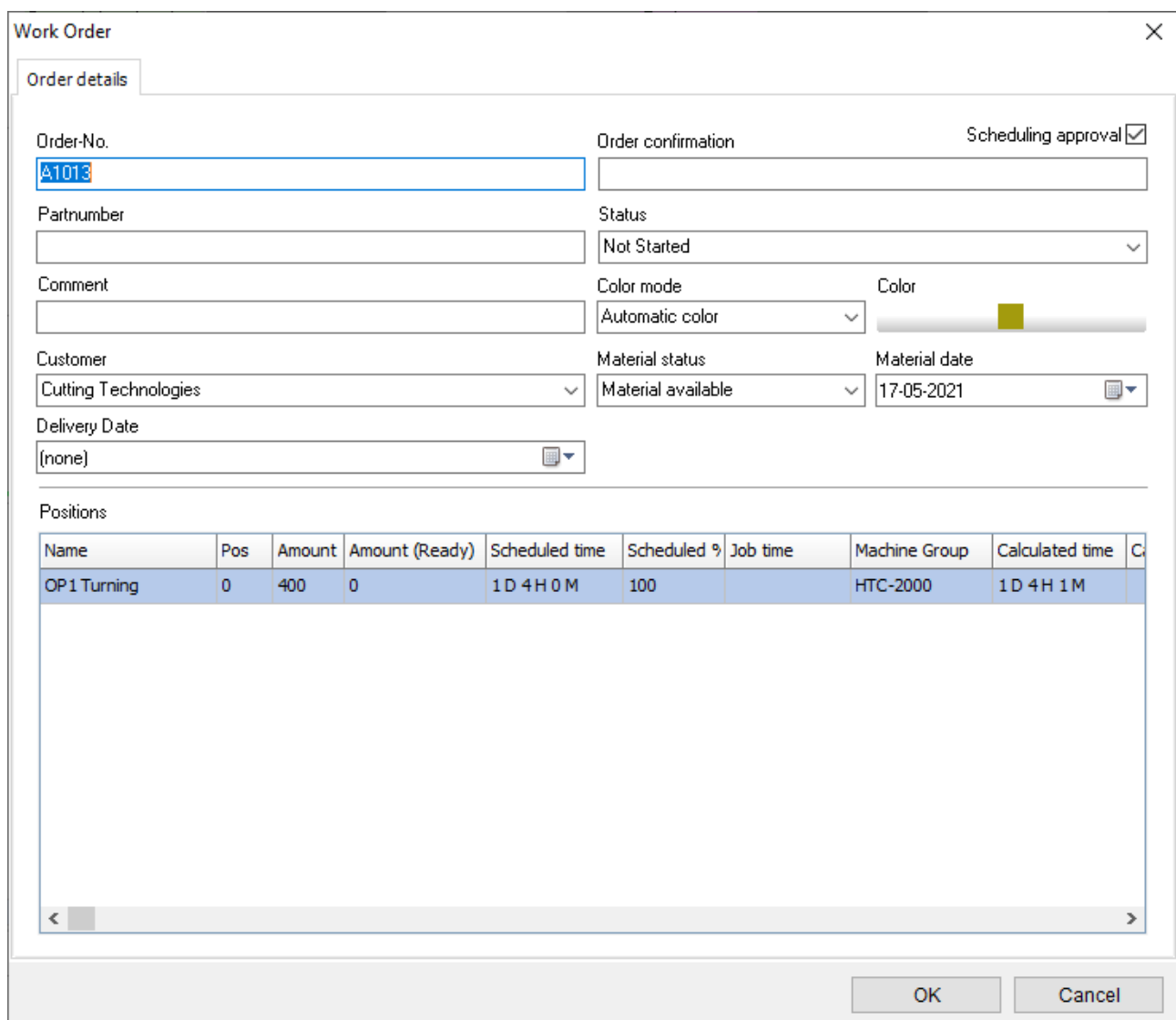
## Changing the key data of a scheduled order

You can change all the key data of a planned order directly from the timeline. To change data right click on order and the following options will appear:



### Order Details

This will open dialog Work order.

A screenshot of the 'Work Order' dialog box. It has a title bar with a close button. The 'Order details' tab is selected. The form contains several fields: 'Order-No.' with value 'A1013', 'Order confirmation' (empty), 'Scheduling approval' (checked), 'Partnumber' (empty), 'Status' (dropdown with 'Not Started'), 'Comment' (empty), 'Color mode' (dropdown with 'Automatic color'), 'Color' (color picker with a yellow square), 'Customer' (dropdown with 'Cutting Technologies'), 'Material status' (dropdown with 'Material available'), 'Material date' (calendar with '17-05-2021'), and 'Delivery Date' (calendar with '[none]'). Below these is a 'Positions' section with a table. The table has columns: Name, Pos, Amount, Amount (Ready), Scheduled time, Scheduled %, Job time, Machine Group, Calculated time, and C. The first row is 'OP1 Turning', '0', '400', '0', '1 D 4 H 0 M', '100', empty, 'HTC-2000', '1 D 4 H 1 M', and empty. At the bottom are 'OK' and 'Cancel' buttons.

Name	Pos	Amount	Amount (Ready)	Scheduled time	Scheduled %	Job time	Machine Group	Calculated time	C
OP1 Turning	0	400	0	1 D 4 H 0 M	100		HTC-2000	1 D 4 H 1 M	

Dialog Work order

Notice: More information about handling Work orders can be found in the Settings section.

## Operation Details – Update planning

This will open dialog Operation.

Operation dialog box showing fields for Name, Description, Amount, Delivery Date, Part time, Change over time, Setup time, Total time, Delay time, Category, and a list of Machines. The 'HTC-2000' machine is selected. The 'Reschedule after' field is set to 1.

Operation dialog.

Notice: More information about handling Work orders can be found in the Settings section.

If you change data here that has influence on the calculated 'total time' of this operation (like amount, part time etc.) you will be prompted to "Reschedule operation":

Confirmation dialog box asking: Reschedule operation ?

Dialog Confirmation – Reschedule Operation?

Click **OK** to reschedule this operation (and subsequent operations).

Click on **OK** to reschedule operation.

It is important to notice that the system will also reschedule any nearby orders affected by the change.

Notice: If you have an order planned with option “Disable reschedule” enabled (see picture below):

New Entry

Type: Order

Order: A7306

Search Order: 0

Comment:

Machine: Gleason 280C

Begin: 25-06-2020 11:08:03

End: 25-06-2020 16:09:03

Hours: 5

Not Scheduled: 000:01

Scheduled:

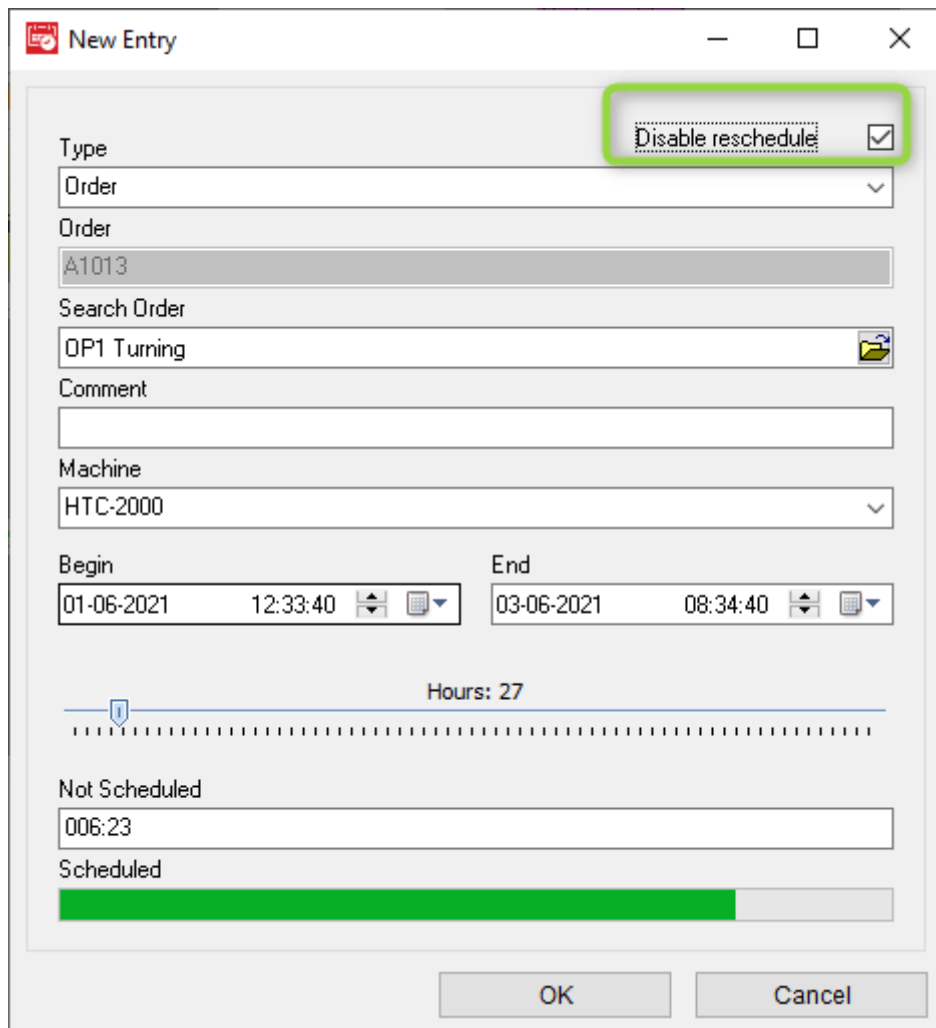
OK Cancel

...then the reschedule process will be reschedule around the order.



## Modify

This will open dialog Modify:



The screenshot shows a 'New Entry' dialog box with the following fields and controls:

- Type:** A dropdown menu with 'Order' selected.
- Order:** A text field containing 'A1013'.
- Search Order:** A text field containing 'OP1 Turning' with a folder icon to its right.
- Comment:** An empty text field.
- Machine:** A dropdown menu with 'HTC-2000' selected.
- Begin:** A date and time field showing '01-06-2021 12:33:40' with a calendar icon.
- End:** A date and time field showing '03-06-2021 08:34:40' with a calendar icon.
- Hours:** A horizontal bar with a blue line and a label 'Hours: 27'.
- Not Scheduled:** A text field containing '006:23'.
- Scheduled:** A green progress bar.
- Disable reschedule:** A checkbox that is checked, highlighted by a green rectangle.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom.

Dialog New entry (Modify)

## Disable reschedule.

It is important to note that the system reschedules the orders and all orders affected by the change.

If you rescheduled a job with the Disable Rescheduling option enabled, the rescheduling process will be rescheduled around that job.

## Type

Classifies the type of entry (Example: Order or Maintenance)

## Search Order

Displays the Position name (operation name).

## Comment

Use this field to specify a comment.

## Machine

The machine selected for the job is displayed here.

Note: You can select a new machine from the drop-down list to reschedule the order to another machine.

## Begin

Use this field to enter the start of the order.

## End

Use this field to enter the end of the order.

Notice: It is important to notice that the system will reschedule the order and reschedule any nearby orders affected by the change.

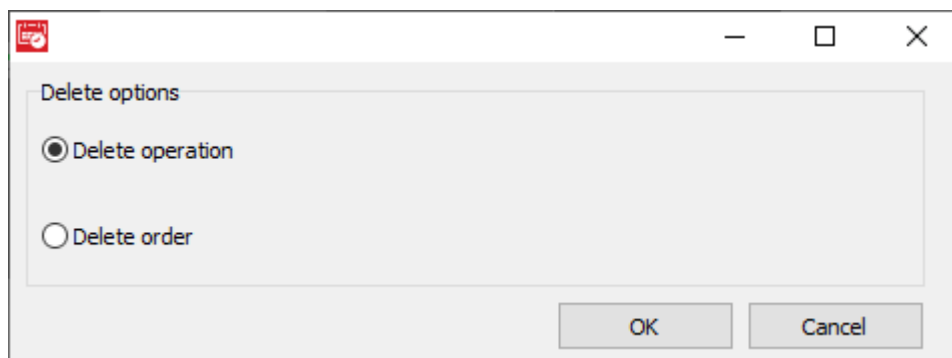
If you have an order planned with option "Disable reschedule" enabled, then the reschedule process will be reschedule around the order.

## Hours

Display the length of an order in hours.

## Delete

Removes the order from the timeline. This will open dialog "Delete item":



Dialog Delete.

**Delete operation.**

Select this option to delete the operation from the planning board.

**Delete order.**

Select this option to delete the entire order.

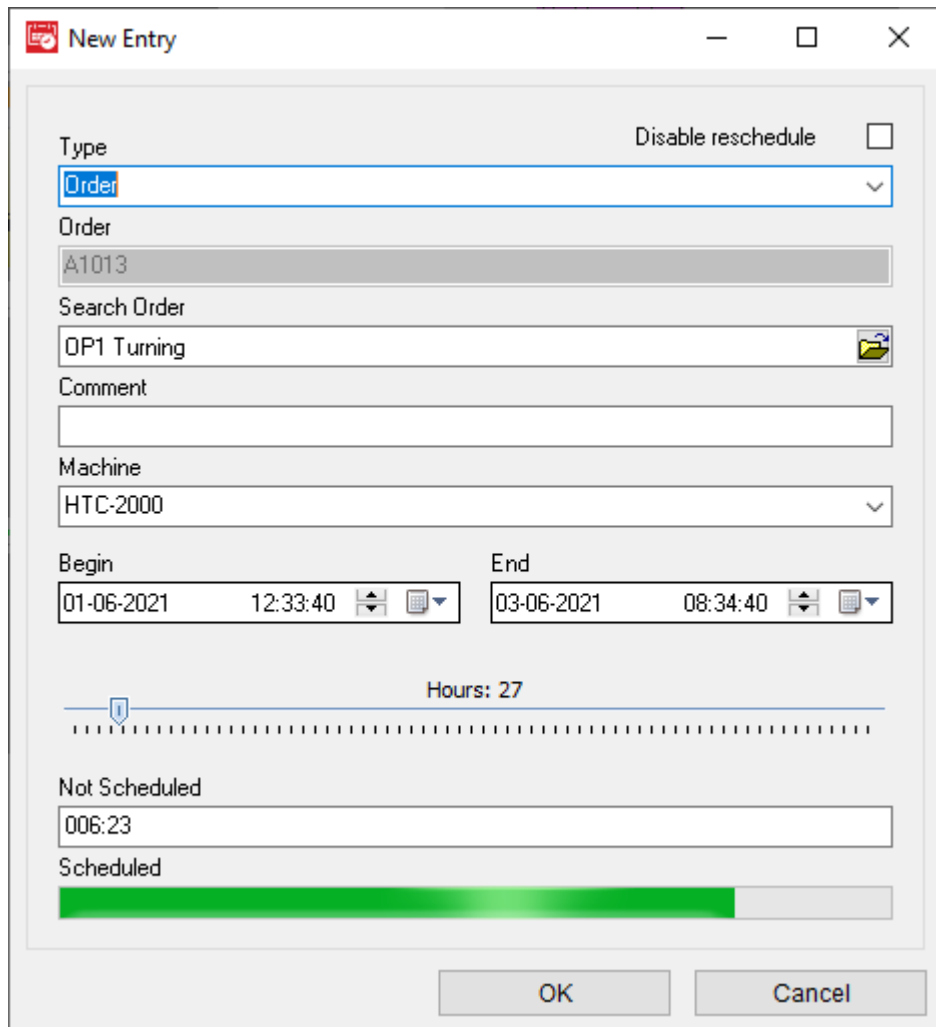
Note: If you select the “Delete order from the schedule”, all operations assigned and planned for this order will be deleted from the timeline.

Click **OK** to delete the operation / order. To cancel the process, click on **Cancel**.

## Schedule order

Schedule orders manually using drag & drop.

To manually schedule a job, left click on a job in the job list below and drag it to the selected machine's timeline. The following dialog appears.



The 'New Entry' dialog box is shown with the following fields and controls:

- Type:** A dropdown menu with 'Order' selected.
- Disable reschedule:** An unchecked checkbox.
- Order:** A text field containing 'A1013'.
- Search Order:** A text field containing 'OP1 Turning' with a folder icon to its right.
- Comment:** An empty text field.
- Machine:** A dropdown menu with 'HTC-2000' selected.
- Begin:** A date and time field showing '01-06-2021 12:33:40' with a calendar icon.
- End:** A date and time field showing '03-06-2021 08:34:40' with a calendar icon.
- Hours:** A horizontal timeline bar with a blue arrow pointing to the left, labeled 'Hours: 27'.
- Not Scheduled:** A text field containing '006:23'.
- Scheduled:** A green progress bar.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.

Dialog Reschedule the order.

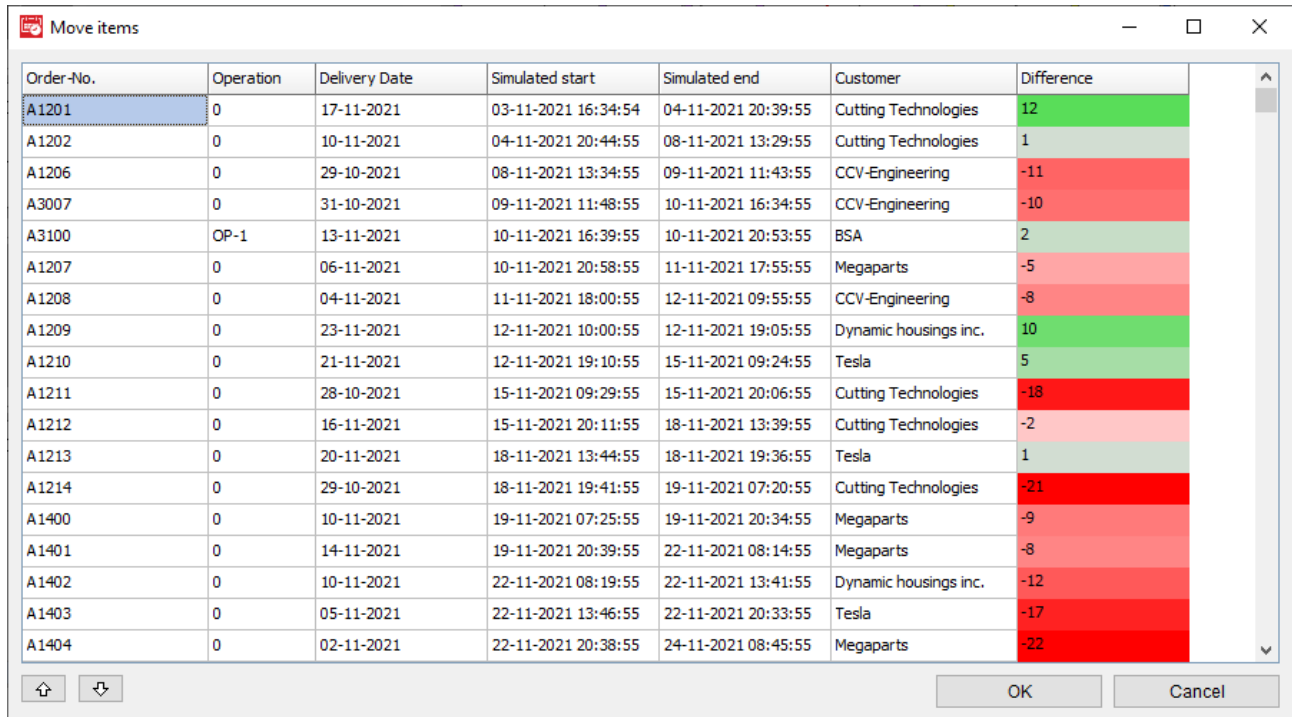
Same values than in Modify above.

## Move the planned order

Orders that have already been planned can be moved in the planning board using drag & drop. Orders can be moved within the same machine or into another machine.

It is important to note that the system reschedules the orders and all orders affected by the change.

If you move an order and subsequent orders are affected by this, the following dialog appears:



The screenshot shows a 'Move items' dialog box with a table listing the impact of moving order A1201. The table has columns for Order-No., Operation, Delivery Date, Simulated start, Simulated end, Customer, and Difference. The 'Difference' column is color-coded: green for positive values and red for negative values. The dialog also includes a scroll bar on the right and 'OK' and 'Cancel' buttons at the bottom.

Order-No.	Operation	Delivery Date	Simulated start	Simulated end	Customer	Difference
A1201	0	17-11-2021	03-11-2021 16:34:54	04-11-2021 20:39:55	Cutting Technologies	12
A1202	0	10-11-2021	04-11-2021 20:44:55	08-11-2021 13:29:55	Cutting Technologies	1
A1206	0	29-10-2021	08-11-2021 13:34:55	09-11-2021 11:43:55	CCV-Engineering	-11
A3007	0	31-10-2021	09-11-2021 11:48:55	10-11-2021 16:34:55	CCV-Engineering	-10
A3100	OP-1	13-11-2021	10-11-2021 16:39:55	10-11-2021 20:53:55	BSA	2
A1207	0	06-11-2021	10-11-2021 20:58:55	11-11-2021 17:55:55	Megaparts	-5
A1208	0	04-11-2021	11-11-2021 18:00:55	12-11-2021 09:55:55	CCV-Engineering	-8
A1209	0	23-11-2021	12-11-2021 10:00:55	12-11-2021 19:05:55	Dynamic housings inc.	10
A1210	0	21-11-2021	12-11-2021 19:10:55	15-11-2021 09:24:55	Tesla	5
A1211	0	28-10-2021	15-11-2021 09:29:55	15-11-2021 20:06:55	Cutting Technologies	-18
A1212	0	16-11-2021	15-11-2021 20:11:55	18-11-2021 13:39:55	Cutting Technologies	-2
A1213	0	20-11-2021	18-11-2021 13:44:55	18-11-2021 19:36:55	Tesla	1
A1214	0	29-10-2021	18-11-2021 19:41:55	19-11-2021 07:20:55	Cutting Technologies	-21
A1400	0	10-11-2021	19-11-2021 07:25:55	19-11-2021 20:34:55	Megaparts	-9
A1401	0	14-11-2021	19-11-2021 20:39:55	22-11-2021 08:14:55	Megaparts	-8
A1402	0	10-11-2021	22-11-2021 08:19:55	22-11-2021 13:41:55	Dynamic housings inc.	-12
A1403	0	05-11-2021	22-11-2021 13:46:55	22-11-2021 20:33:55	Tesla	-17
A1404	0	02-11-2021	22-11-2021 20:38:55	24-11-2021 08:45:55	Megaparts	-22

Dialog: Move items (operations).

The Move elements dialog shows which operation, and which subsequent operations are affected by the move. The following values are displayed.

### Order-No.

Display of the order number.

### Operation

Display of the order number.

### Delivery date

Display of the delivery date.

### Simulated start

Display of the simulated start time (date / time).

Note: This is the new start time, influenced by the move.

### **Simulated end**

Display of the simulated end time (date / time).

Note: This is the new end time, influenced by the move.

### **Scheduled start**

Display of the current start time (date / time).

### **Scheduled end**

Display of the current end time (date / time).

### **Customer**

Customer information.

### **Difference**

Information on the delivery date. The deviation / difference (in days) from the current delivery date and the planned end is displayed here.

The additionally displayed color values have the following meaning:

Gray: delivery date = planned end time (0 days)

Green: The delivery date is (X days) before the planned end time.

Red: Delivery date is (X days) after the planned end time.

# Reports

This section describes the settings under Reports with which reports can be generated using templates. You can search for and display specific orders in reports.

More information about the report later.

**Report**

Date from: 17-05-2021    Date to: 20-05-2021    User:    Machinegroup:

Search text 1:

Text:

Template:

Name
Auftrag Resultate
Order results

Generate    Close

Dialog Report.

If you generate a search, a corresponding preview is opened which can be printed or saved as a file for further processing (see example below).

Preview

100% 1 of 1 Close

**Order results** Page: 1

KW: 20 17-05-2021 - 20-05-2021

**Gleason-280C**

Begin	Order	Product	Order planned	Order production	Setup time cal.	Setup time	Parts	Parts done
17-05-2021 13:54:33	A6000	0	18,35	0,00	146	0	644	0
18-05-2021 16:21:34	A6001	0	18,10	0,00	151	0	404	0
19-05-2021 18:33:34	A6002	0	19,20	0,00	97	0	615	0

**HTC-3000**

Begin	Order	Product	Order planned	Order production	Setup time cal.	Setup time	Parts	Parts done
19-05-2021 12:52:07	A3002	0	8,68	826,52	208	0	428	105
19-05-2021 20:22:00	A3006	0	26,55	0,00	184	0	425	0

**VTS-4000**

Begin	Order	Product	Order planned	Order production	Setup time cal.	Setup time	Parts	Parts done
17-05-2021 15:56:00	A9001	0	23,97	23,60	97	0	417	0

**HTC-4000**

Begin	Order	Product	Order planned	Order production	Setup time cal.	Setup time	Parts	Parts done
17-05-2021 06:00:00	A8005	0	13,57	0,00	40	0	264	0

Page 1 of 1

Dialog Preview of a generated report.

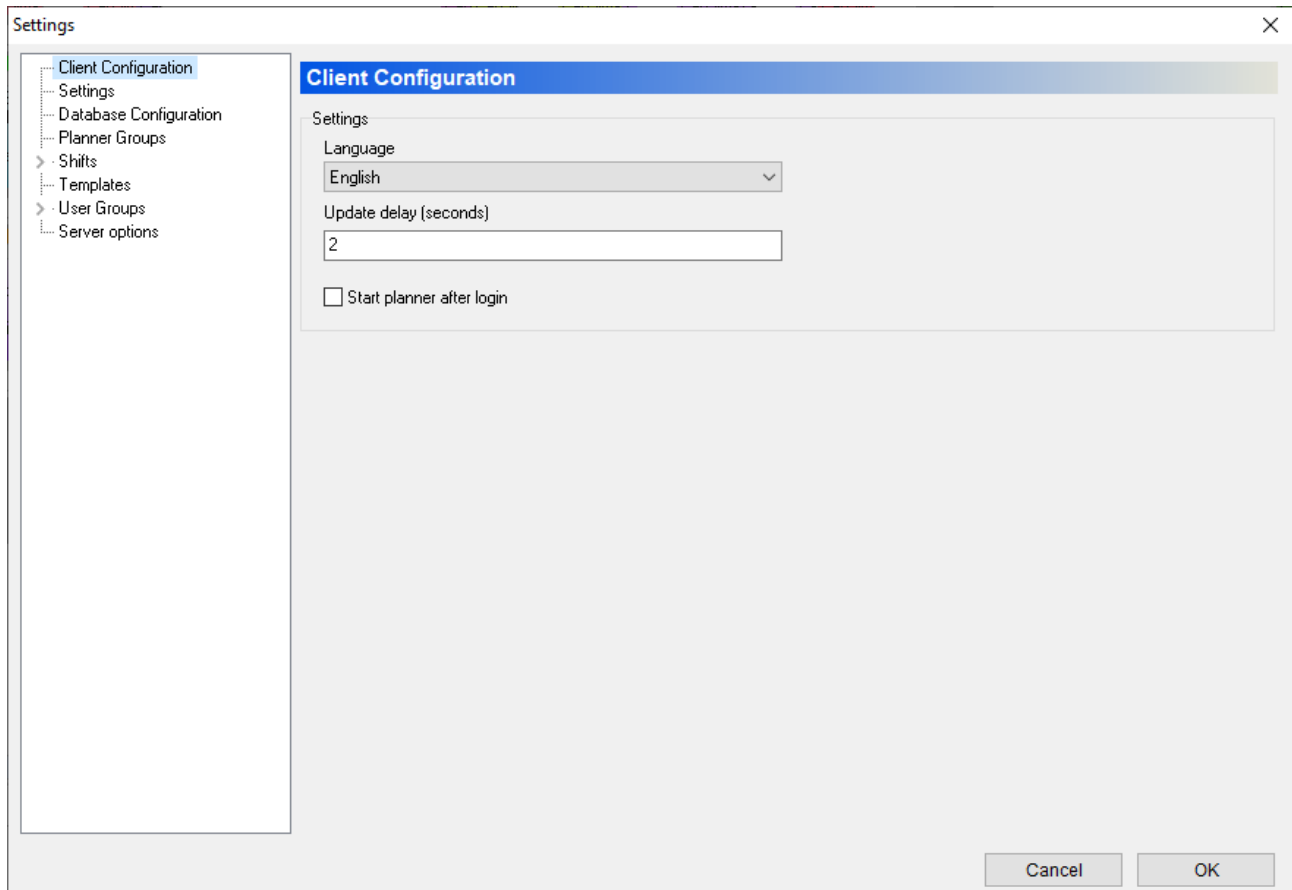
You can use the Preview dialog to print the template or save it for further processing.



# Settings

## Client configuration

This section describes the commands in client configuration menu.



Dialog Client Configuration

### Language

Select a new language from this list.

### Update delay (seconds)

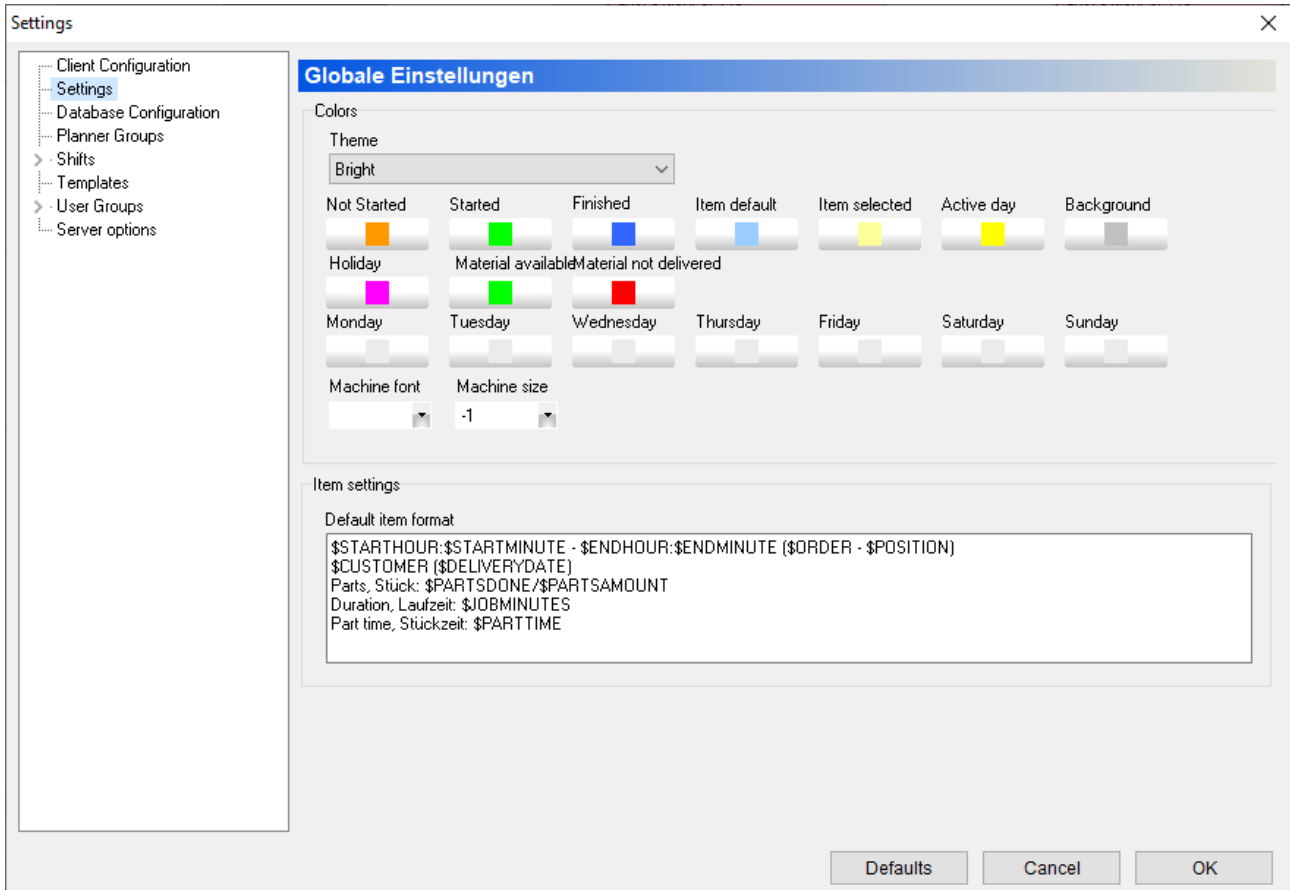
### Start planner after login.

Select this option to start planner timeline after login.

## Settings – Global settings

### Colors

This section explains the settings in color. In the Colors dialog you can design your own colors for the job status, holidays, and days.

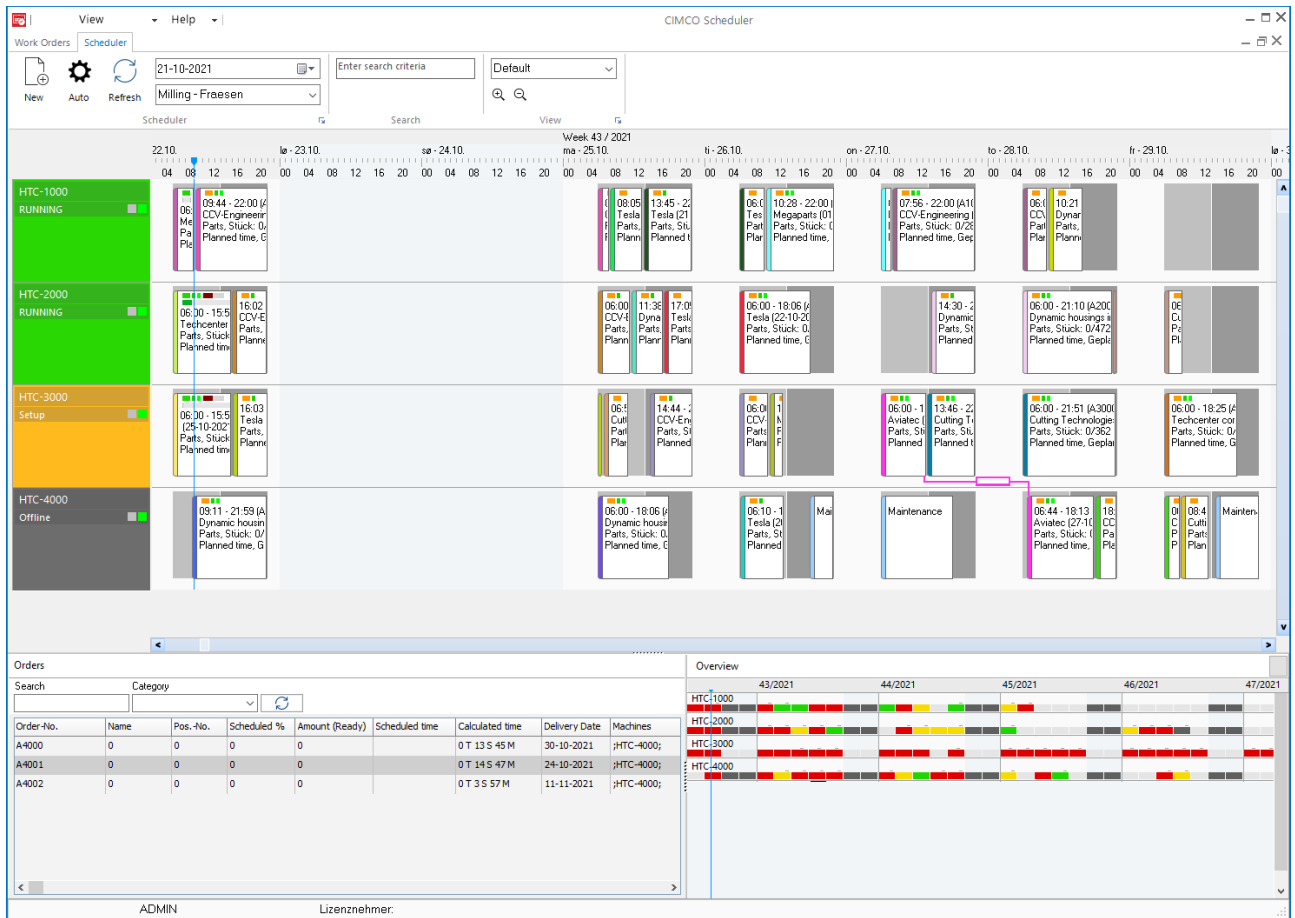


Dialog Global settings

## Colors / Theme

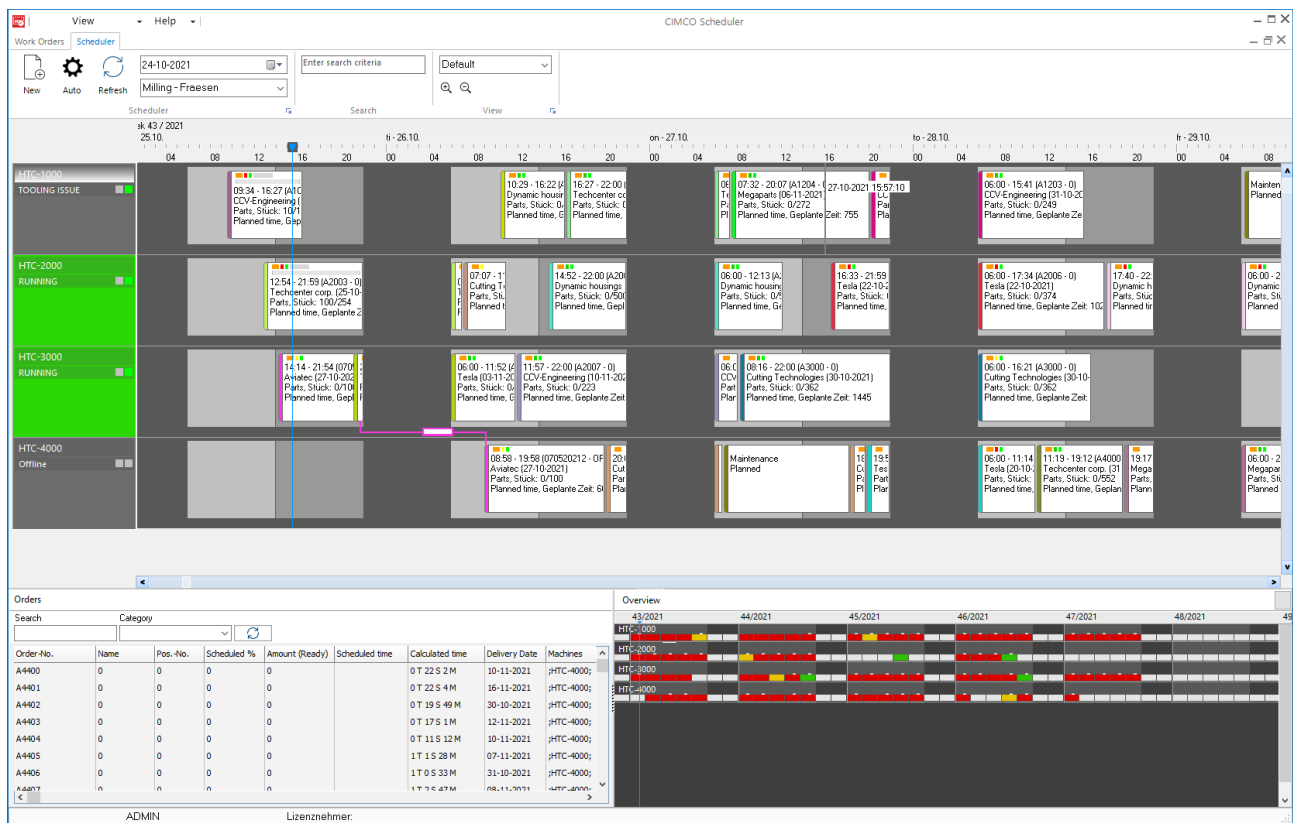
Enables you to select a color theme. Predefined themes are Bright, Dark and Custom.

Example of Bright theme:



Timeline view with Bright theme enabled.

Example of Dark theme:



Timeline view with Dark theme enabled.

Colors / Customize jobs and timeline.

In the Settings dialog under Colors, each job condition can have its own color defined. Colors for days, holidays and the background can also be set here as shown below:

Click on a condition/day to select a color. This opens the setup dialog where a color can be set.

## Item settings

Item Settings.

The Content format field defines what variables are shown on the job elements in the timeline.

Notice: Item hint field defines what variables are shown on the job elements in the timeline when mouse over.

Planned time:

\$STARTHOUR:\$STARTMINUTE - \$ENDHOUR:\$ENDMINUTE

Order name – position (operation):  
(\$ORDER - \$POSITION)

Customer:

\$CUSTOMER

Delivery date:

(\$DELIVERYDATE)

Parts (produced/planned):  
\$PARTSDONE/\$PARTSAMOUNT

Duration:

\$JOBMINUTES

Duration (the calculated order time):

\$JOBMINUTES

Part time (the calculated part time):

\$PARTTIME

## Configuring Database

In this dialogue, the settings are made that apply to the CIMCO NC-Base server and DNC-Max server.

Settings

Database Server

Database Server

Database

CIMCO Default

NC-Base Server Name

192.168.254.213

Username

root

Database Server Name

192.168.254.213

Password

NC-Base Server Port

3306

Cancel OK

Database server dialog.

### Database server

#### ***Database:***

Select the type of database to use.

#### **NC-Base Server Name:**

Specify the host name or IP address of the PC where the CIMCO NC-Base Server is installed.

#### **Database Server Name:**

Specify the host name or IP address of the PC where the CIMCO NC-Base Server is installed.

If the CIMCO NC-Base Server is running on the same PC as the CIMCO Scheduler, you can specify *localhost* as the Database server name. If you are using an MS/Oracle SQL server, it is required that you specify the computer name.

### **Username**

Specify the username. If the selected Database server does not require a username, leave this field blank.

### **DNC-Max server name:**

Specify the host name or IP address of the PC where the CIMCO DNC-Max Server is installed.

### **Password:**

Specify a password. If the Database server does not require a password, leave this field blank.

### **Database server port:**

Use this field to specify the port number used by the CIMCO NC-Base Server.

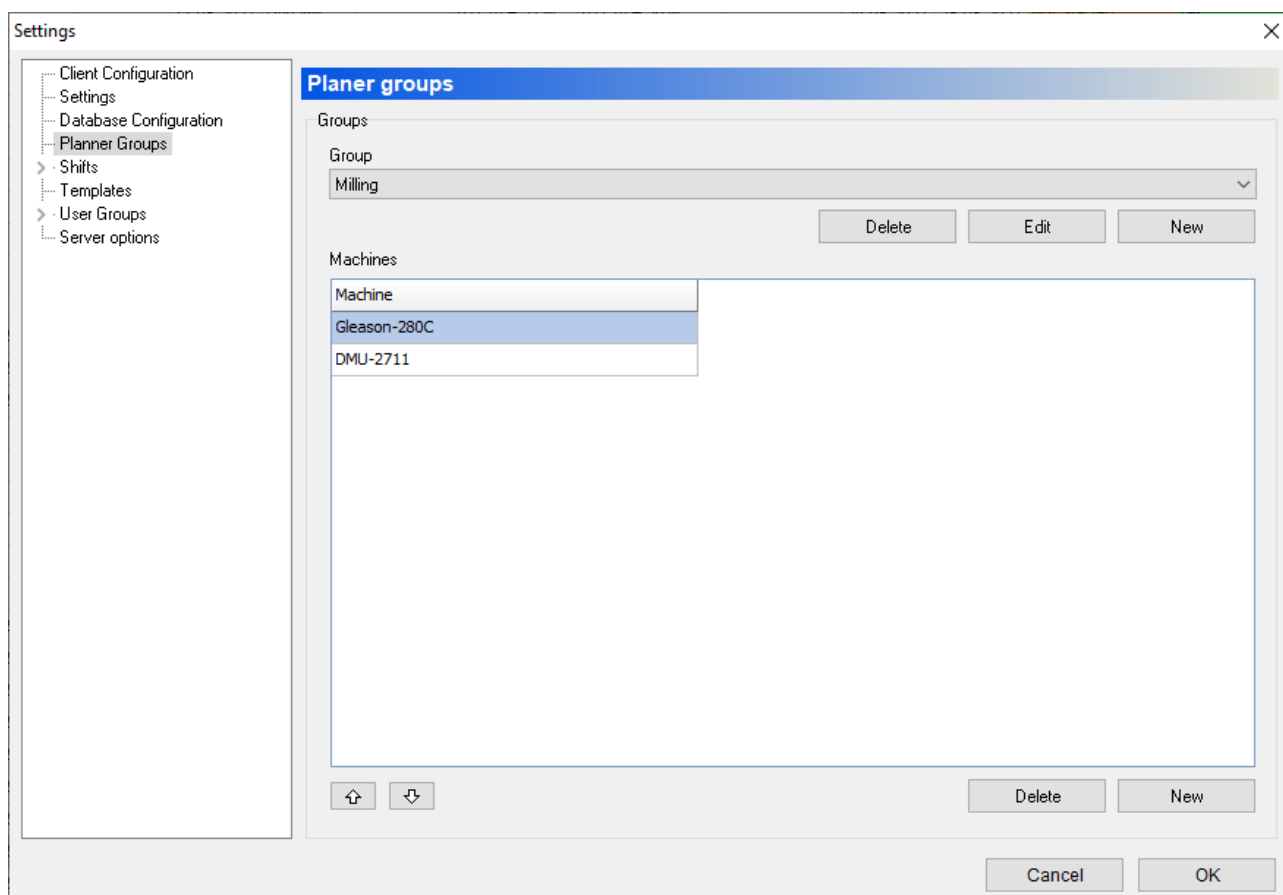


## Planer groups

The Planner Groups dialog provides functions that can be used to assign machines to a defined planner group.

Machines are always defined as ports in DNC-Max. Whether the ports in DNC-Max can also be used as DNC ports for the transmission of NC data or also as MDC ports for evaluating the signals from the CNC machines depends on the licensing.

The group settings determine which machines are combined in a common group for the timeline display.



Dialog Planer Gruppen.

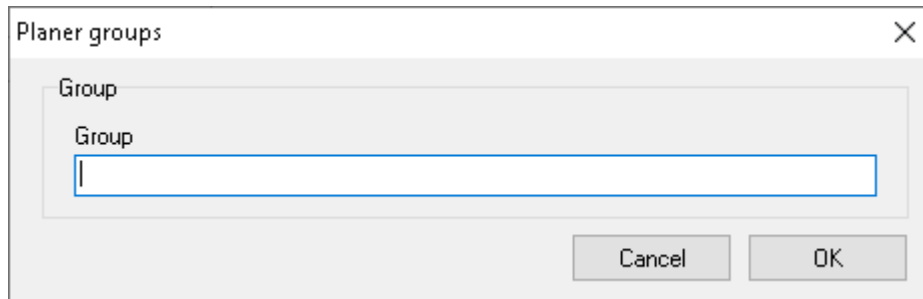
## Groups

### Group

Use this drop-down list to select a machine group and its associated machines.

### New

To add a new Planner group, click on the button New. The following window appears:

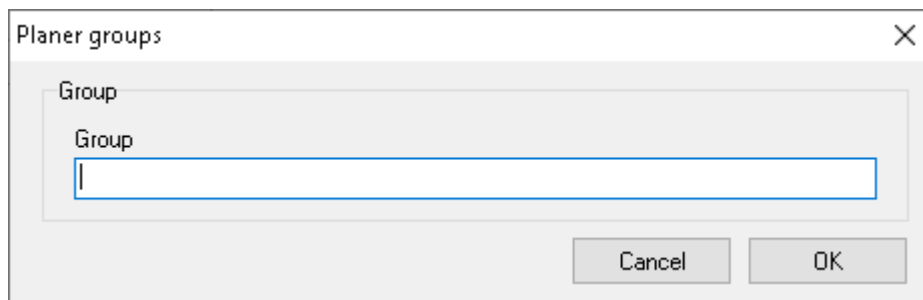


Dialog (Edit) Planner groups.

Enter a meaningful name and then click OK. If you want to close the dialog without entering data or changes taking effect, click Cancel.

### **Edit**

To rename a Planner group, click on the button Edit. The following window appears:



Dialog (Edit) Planner groups.

Enter a new name and then click OK. If you want to close the dialog without entering data or changes taking effect, click Cancel.

### **Delete**

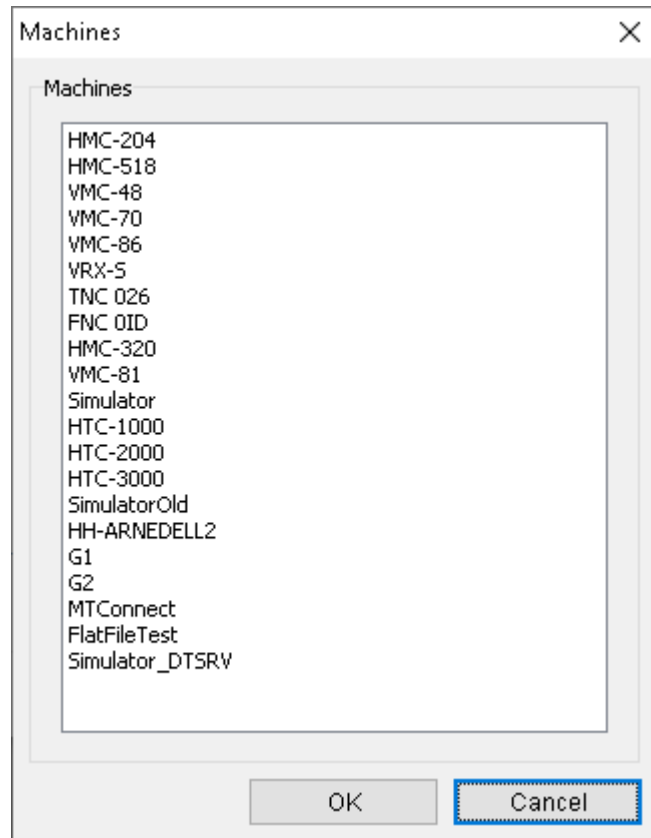
To delete a planner group, select a group from the list and click on delete.

### **Machines**

List of all machines in the selected group.

### **New**

To add a new machine to the selected Planner group, click on the button New. The following window appears:



Dialog Machines (example).

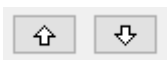
Highlight the machine(s) you want to add and then click OK. If you want to close the dialog without entering data or changes taking effect, click Cancel.

## Delete

To delete a new machine from the selected Planner group, mark the machine(s) you want to delete and click on the button Delete.

Machine
Gleason-280C
DMU-2711
Mazak i100 BARTAC
Okuma LT200M

Shows the order, in which the machines are displayed in the timeline.



Use the arrows to change the order, in which the machines are displayed in the timeline.

## Shifts

This section describes the options under Shifts that can be used to associate machine groups to shifts.

The Shift settings determine the shift times of each individual machine including the color of shifts in the Timeline.

Settings

Client Configuration  
Settings  
Database Configuration  
Planner Groups  
Shifts  
Templates  
User Groups  
Server options

**Shifts**

Settings

Machine  
CNCDEMO

Begin	End	Weekdays
06:00:00	14:00:00	Mon, Tue, Wed, Thur, Fri
14:00:00	22:00:00	Mon, Tue, Wed, Thur, Fri

Global Delete Edit New

Cancel OK

Dialog Scheduler Groups

## Settings

### *Machine*

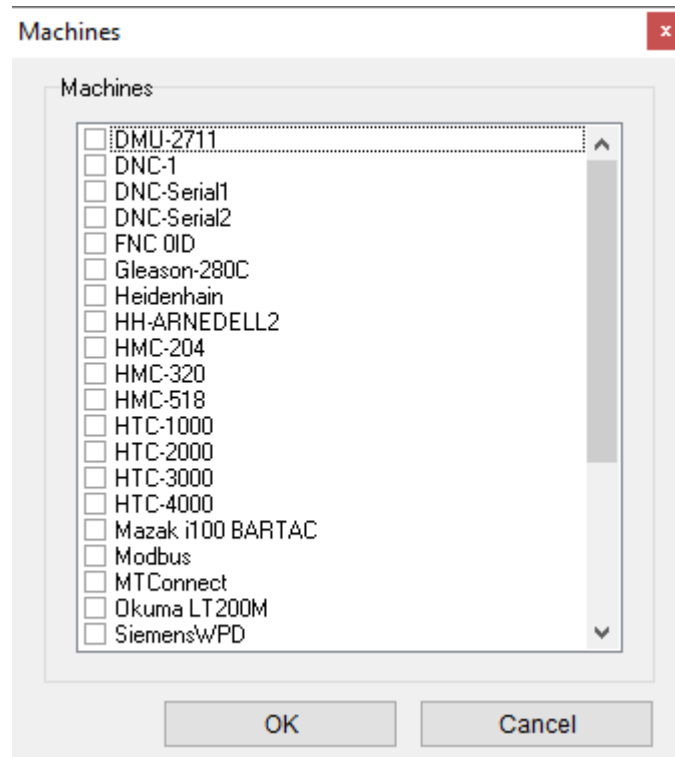
Use this drop-down list to select the machine (Group?)

### *Shift*

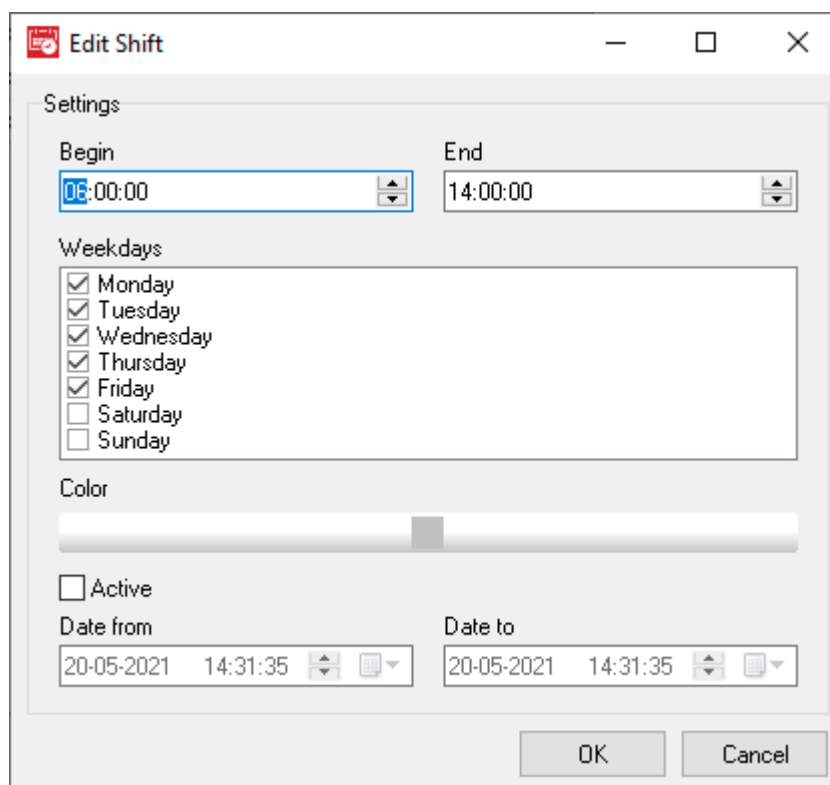
List of all shifts.

### *Global*

Use this option to set a specific Shift for all the selected machines in the list. The shift must first be selected.



Global change dialog.



Shift Edit dialog.

Edit Shift

## **Settings**

### **Begin**

Enter the start of the shift in this field.

### **End**

Enter the start of the shift in this field.

### **Weekdays**

Check the days of the week belonging to this shift.

### **Color**

Click this box to choose a color for the shift. This opens the setup dialog, in which a color can be set.

### **Active**

Check Active to activate this shift in the period specified under 'Date from' - Date

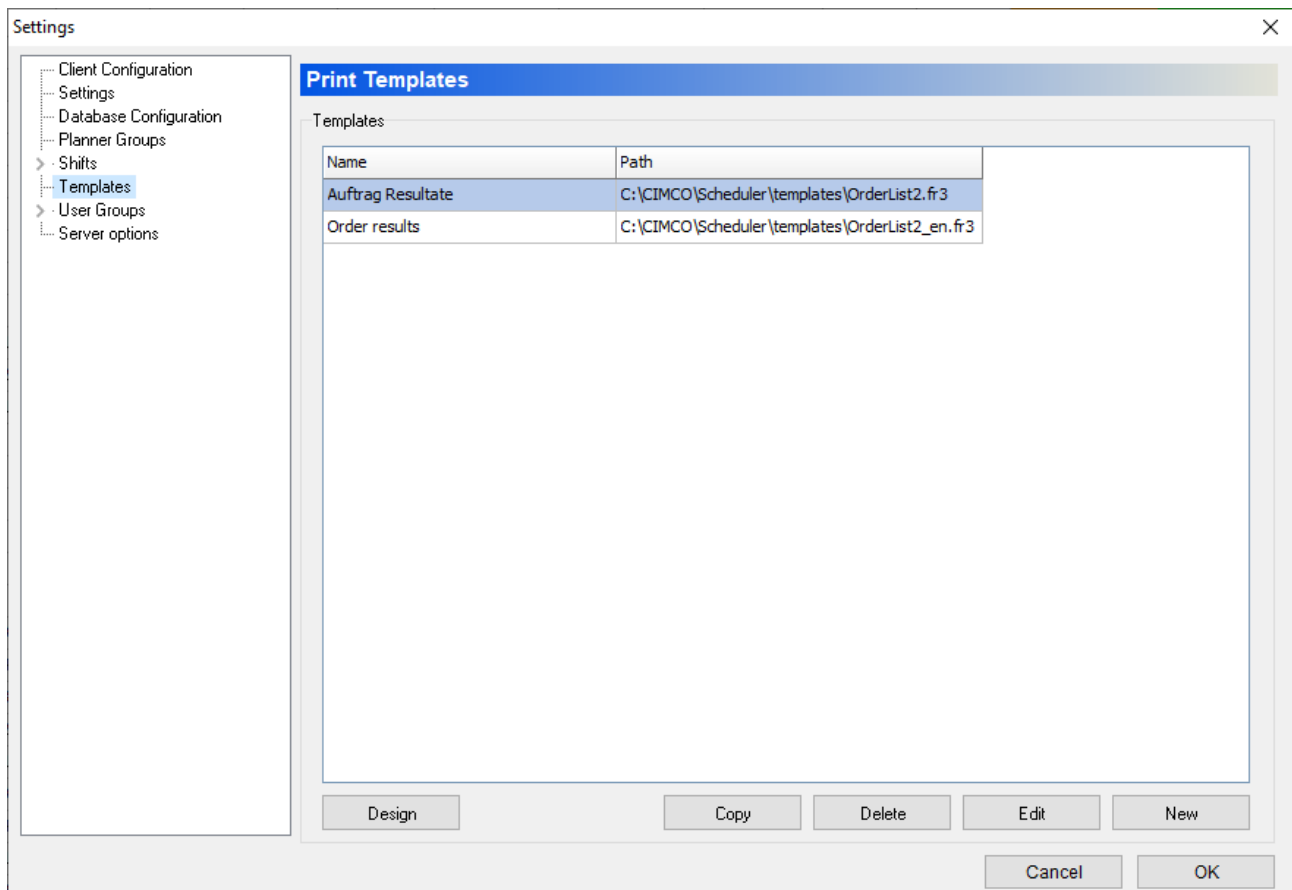
Notices: Shifts with Active activated are only displayed in the planning board in the specified period.

## Templates

### Print Templates

This section describes the options under Print Templates that can be used to setup print templates.

With print templates, depending on the type of template, you can view and print information such as order results, order list and other.



User Groups Dialogue (Example).

## Templates

This field shows a list of all defined print templates.

### New

To add a new print template, click on the button New. The following window appears:

**Template**

Template

Name  
Order results

Path  
C:\CIMCO\Scheduler\templates\OrderList2\_en.fr3

SQL-File  
C:\CIMCO\Scheduler\templates\OrderList2.txt

☐ Show in orders  
☐ Show in Operations  
☒ Show in dashboard

---

☒ Date from selector  
☒ Date to selector  
☒ Duration selector  
☒ Machinegroup selector

OK Cancel

Template dialog (example order results).

## Name

Give the print template a meaningful name here.

## Path

Path specification of the print template.

Click on the folder symbol on the right to select the corresponding print template.

## SQL-File

Path specification of the print template.

Click on the folder symbol on the right to select the corresponding print template.

## Show in orders

Check Show in orders to display this template in orders.

## Show in operations

Check **Show in operations** to display this template in operations.



**Show in dashboard**

Check **Show in Dashboard** to show this template in Dashboard.

**Date from selector**

Check this option to display the results of this template under 'Date from' limited period.

**Date to selector**

Check this option to display the results of this template under 'Date to' limited period.

**Machine Group selector**

Check this option to limit the results of this template to a machine group.

**Edit**

Select a print template in the list, then click on Change to change one of these.

**Delete**

Select a print template in the list, then click on Delete to delete it.

**Copy**

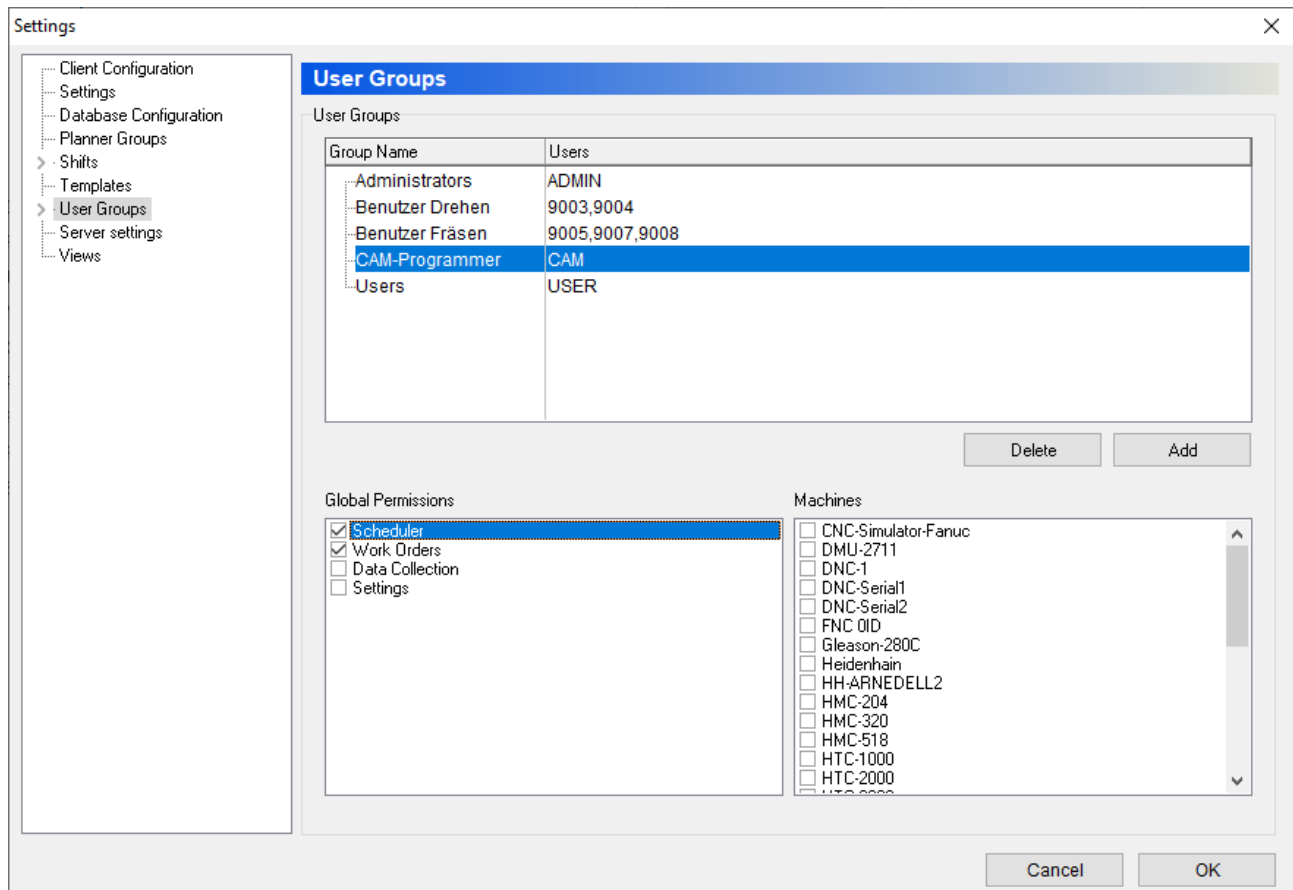
Select a print template in the list, then click on Copy to copy it.

## User Groups

This section describes how to configure user groups and user permissions.

Defining multiple users with different user rights has its advantages:

- The number of people who set the scheduler is limited.
- The number of people working on certain modules (e.g., planners) is limited.



Dialog user Groups (Example).

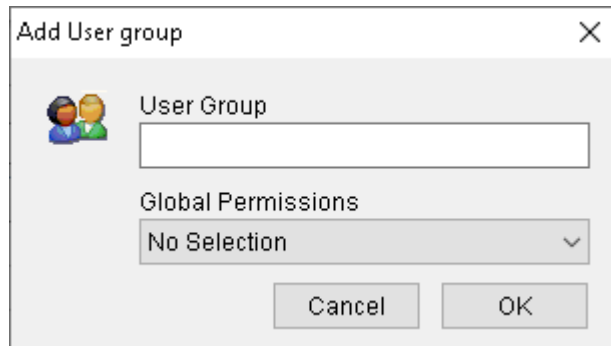
## User Groups

### Group Name / Users

This field shows the list of all defined groups and their users.

### Add

Click this button to add a new user group. The following window will appear.



Add User group dialog.

Enter the name of the group and click OK. If you want to close the window without adding a group, click Cancel.

## Delete

To delete a user group, highlight the user group and click Delete.

Notice: The administrator (ADMIN) cannot be deleted.

## Permissions

There are two levels of access rights: system owner and user. You can give a new user the access rights of a system administrator.

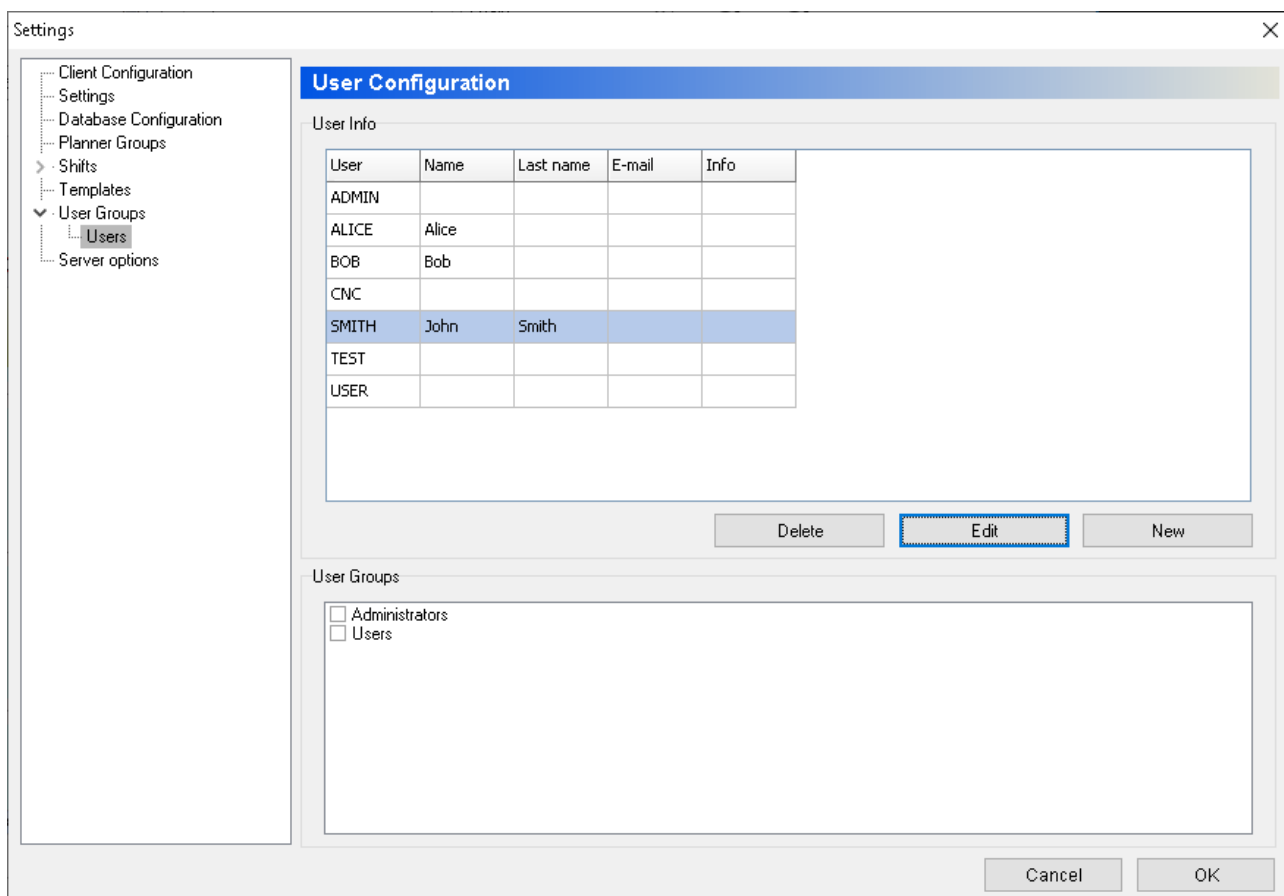
This field contains a list of all defined permissions. Check the boxes in this list to allow the highlighted user group access to the corresponding functions.

## Machines

This field shows a list of all defined machines. Check the box next to the machine group to allow the selected user group access to the machine.

## Users

Use this dialog to configure user information.



Dialog user configuration.

### User Info

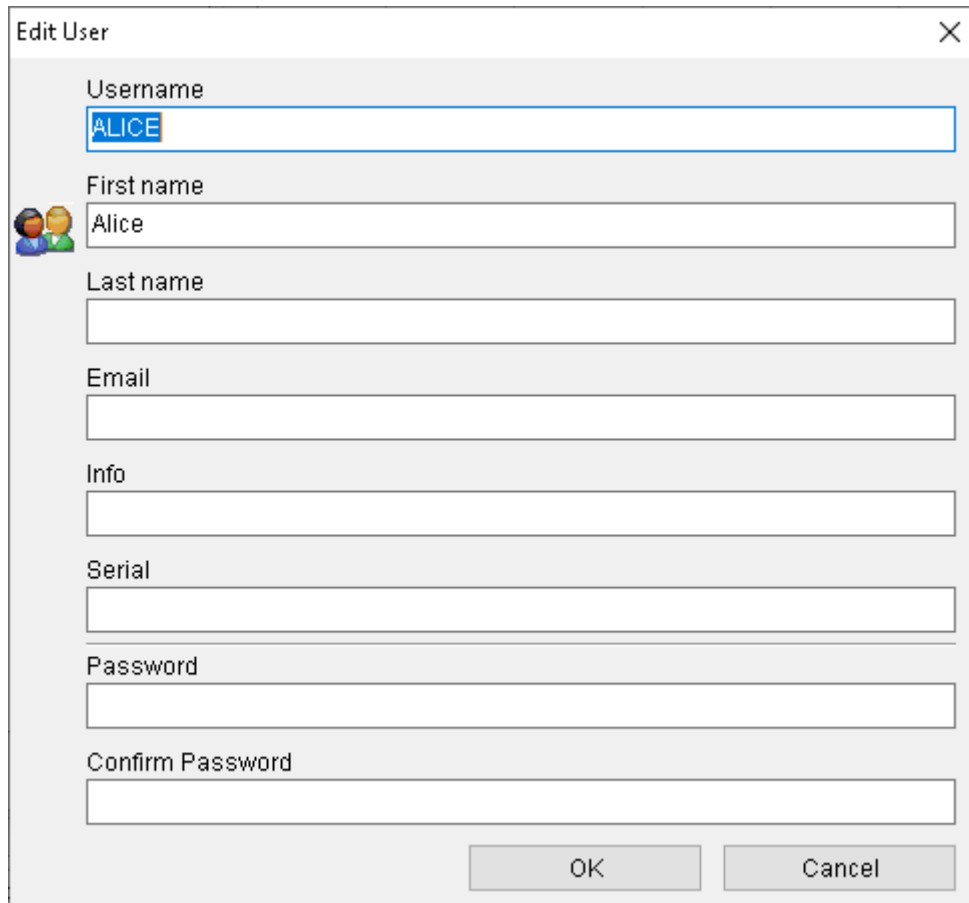
This field contains a list of all defined users.

### Delete

To delete a user, highlight the user and click Delete.

### Edit

Edit the selected user. The following window appears:



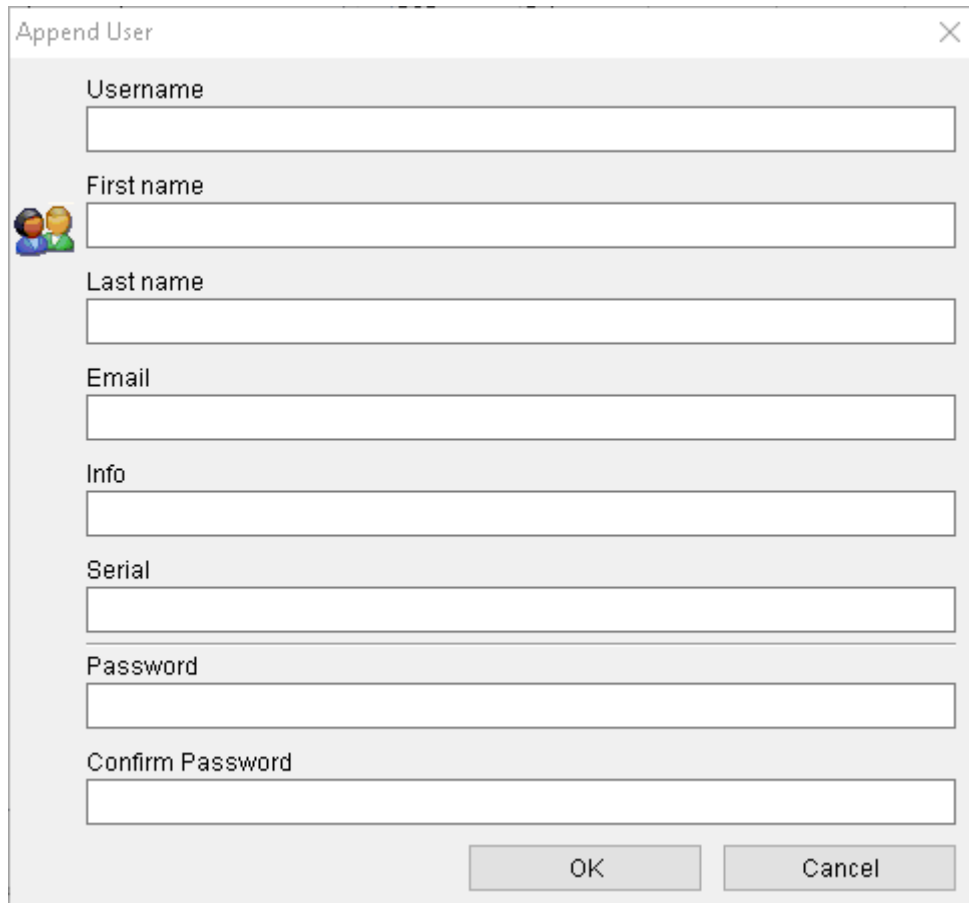
Dialog Edit User.

Dialog Edit User.

Enter Username, Password, and other information as needed and then click OK. If you want to close the dialog without entering data or changes taking effect, click Cancel.

## New

To add a new user, click on the button Add. The following dialog appears:

A screenshot of a software dialog box titled "Append User" with a close button (X) in the top right corner. The dialog contains several input fields: "Username", "First name" (with a small icon of two people to its left), "Last name", "Email", "Info", "Serial", "Password", and "Confirm Password". At the bottom right, there are two buttons: "OK" and "Cancel".

Append User

Username

First name

Last name

Email

Info

Serial

Password

Confirm Password

OK Cancel

Dialog Append User.

Enter Username, Password, and other information as needed and then click OK.

If you want to close the dialog without entering data or changes taking effect, click Cancel.

## User Groups

List of all the defined user groups. Select a user to see which user group the user belongs to.

## Server settings

This section describes how to configure Server options.

The screenshot shows the 'Settings' dialog box with the 'Server settings' tab selected. The left sidebar contains a tree view with the following items: Client Configuration, Settings, Database Configuration, Planner Groups, Shifts, Public holidays, Employees, Templates, User Groups, Server settings (selected), and Views. The main area of the dialog contains the following settings:

- ☐ Generate new order number
- Order number:
- ☒ Adjust running jobs
- Tolerance before scheduled end (minutes):
- Increase jobtime (minutes):
- ☒ Adjust just started jobs
- ☒ Adjust finished jobs
- ☒ Move never started jobs
- ☒ Recalculate stopped jobs

At the bottom right, there are 'Cancel' and 'OK' buttons.

User Groups dialog

## Settings

### ***Generate new order number.***

Check this field to automatically generate order number when adding new order.

### ***Order number.***

In this field you specify the starting number of the first order.

Notice: number of decimals is always 6. Example - If you specify 0 the first order is 000001.

### ***Adjust running jobs.***

Check this field to automatically adjust orders.

Notice: If an order exceeds scheduled END date and time, you can use this option to automatically reschedule the planned order.

### **Time tolerance before scheduled end.**

This is the time tolerance before an order that exceeds the scheduled END date and time is rescheduled on Timeline.

### **Increase job time (minutes)**

This is the amount of time, an order that exceeds the delivery date, is rescheduled.

### **Adjust just started jobs.**

Check this field to automatically schedule jobs that have just started from the current point in time.

With this function, the machine operator can start and automatically reschedule planned jobs without access to the planning board.

Note: Poss. other planned orders are automatically rescheduled.

### **Adjust finished jobs.**

Check this field to delete/cut jobs that have just been completed from the planning board.

### **Recalculate stopped jobs.**

Check this field to recalculate interrupted jobs after the restart.

## **Views**

This section describes how to configure Views.

This dialog is used to define how the different visual items are shown in the scheduler.



**Settings**

- Client Configuration
- Settings
- Database Configuration
- Planner Groups
- Shifts
- Templates
- User Groups
- Server settings
- Views

**Views**

View name: Default

View options:

Name: Default

Timeline height (pixel): 120 Shift-height: 100

Timeline width (pixel): 12000 Item gap: 0

Day width (pixel): 340

Machine width (pixel): 160

View start date: Last closed

Default item format:

```

$$STARHOUR:$STARTMINUTE - $ENDHOUR:
$ENDMINUTE ($$ORDER - $POSITION)
$CUSTOMER ($$DELIVERYDATE)
Parts, Stück: $PARTSDONE/$PARTSAMOUNT
Planned time, Geplante Zeit: $JOBMINUTES

```

☒ Show weeks  
☒ Show progress bar  
☒ Draw gradient  
☒ Delivery status  
☒ Material status  
☒ Job status  
☒ Show dependencies  
☐ Show timeline  
☐ Show operator availability

Delete Edit New

Cancel OK

Dialog: Configure View.

## Edit

Click on **Edit** to Edit settings.

Notice: This will open dialog and make it editable.

## View name

Use this field to specify what view to specify.

## Name

Use this field to specify the name of the view.

## Timeline height (pixel)

Use this field to specify the height of the timeline.

## Shift height

Use this field to specify the height of the shift.

### **Timeline width (pixel)**

Use this field to specify the width of the timeline.

### **Item gab**

Use this field to specify the item gab.

Item gab is the distance from the bottom edge of the operation to the bottom edge of the Shift.

Notice: Use a value between approx. 0-10. Higher values can result in invisible operations.

### **Day with (pixel)**

Use this field to specify day width (in pixel).

### **Machine width (pixels)**

Enter the width of the machine display on the left in the time bar (in pixels).

### **View start date**

Specify the view start date.

View start day is the display of the timeline from this point in time.

Possible views:

- Last Closed
- Today
- Start of the week
- Start of the month

### **Default item format**

Use this field to specify Items displayed (in planned operations) for this view.

Items are variables (and text), the following variables can be used:

Planned time: \$STARTHOUR:\$STARTMINUTE - \$ENDHOUR:\$ENDMINUTE

Order name – position (operation): (\$ORDER - \$POSITION)

Customer: \$CUSTOMER

Delivery date: (\$DELIVERYDATE)

Parts: \$PARTSDONE/\$PARTSAMOUNT

- \$PARTSDONE (parts produced)

- \$PARTSAMOUNT (planned parts)

Part time: \$PARTTIME

Duration: \$JOBMINUTES

Duration is the time from Order started to order ended.

## Operator screen, Web Client.

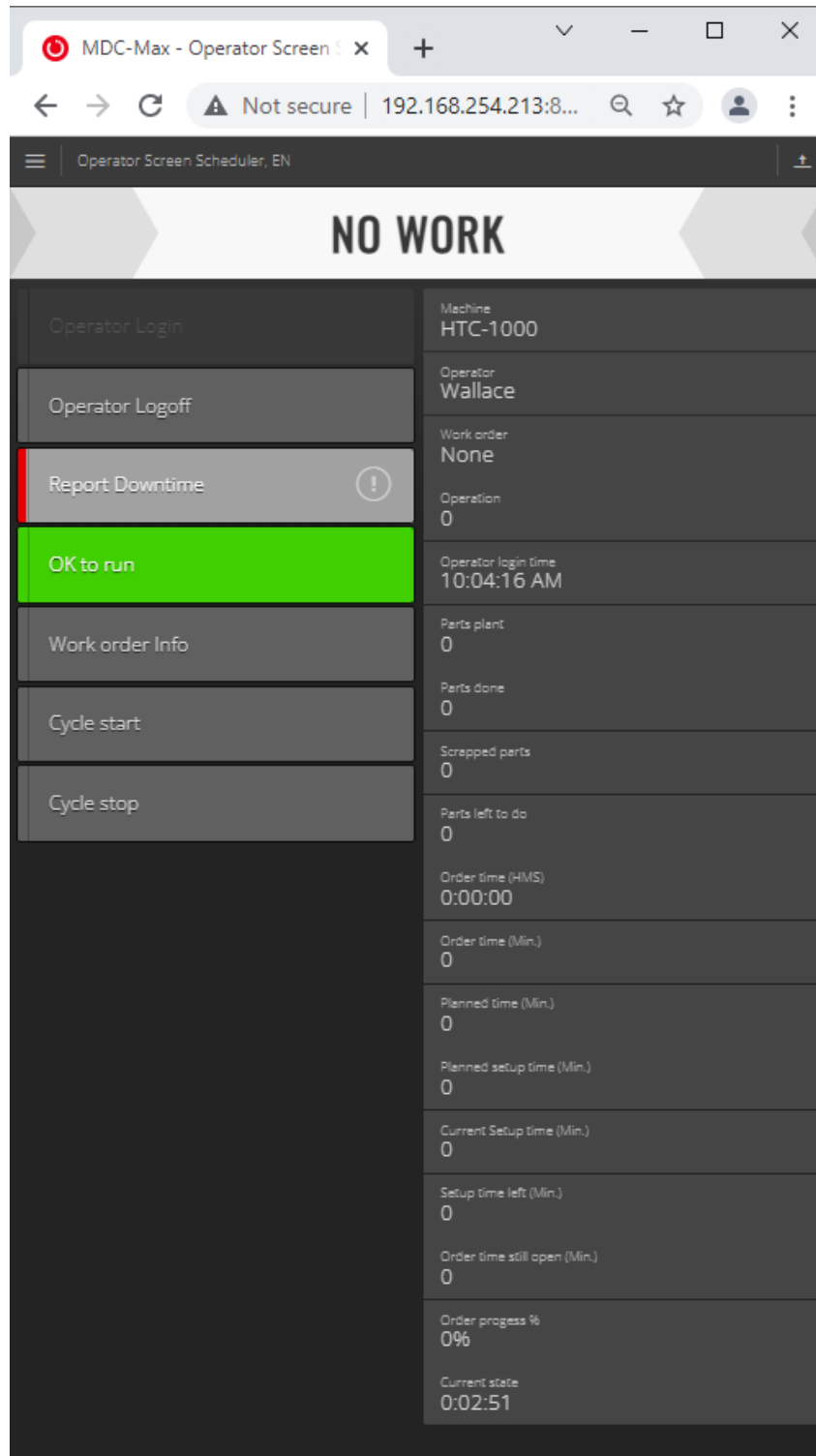
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The following describes how to start a planned job in the scheduler.

The planned job is always started via the operator screen / web client in the browser. Since the operator screen can be designed individually depending on requirements and configuration, the description below is only an example. If you have any questions about the web client you are currently using, please contact the dealer where you purchased your software license.

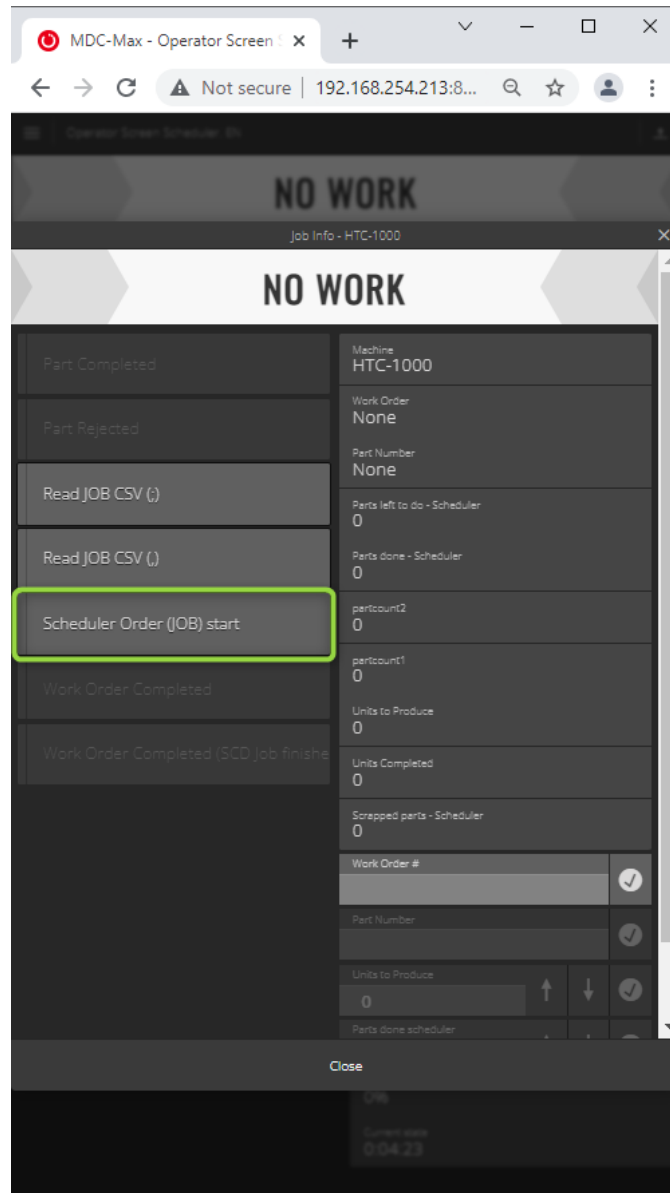
### The Operator Screen

An order is started from the Operator screen. The Operator screen can be configured individually. Below is an example.



Dialog Scheduler Operator screen, Webclient (example).

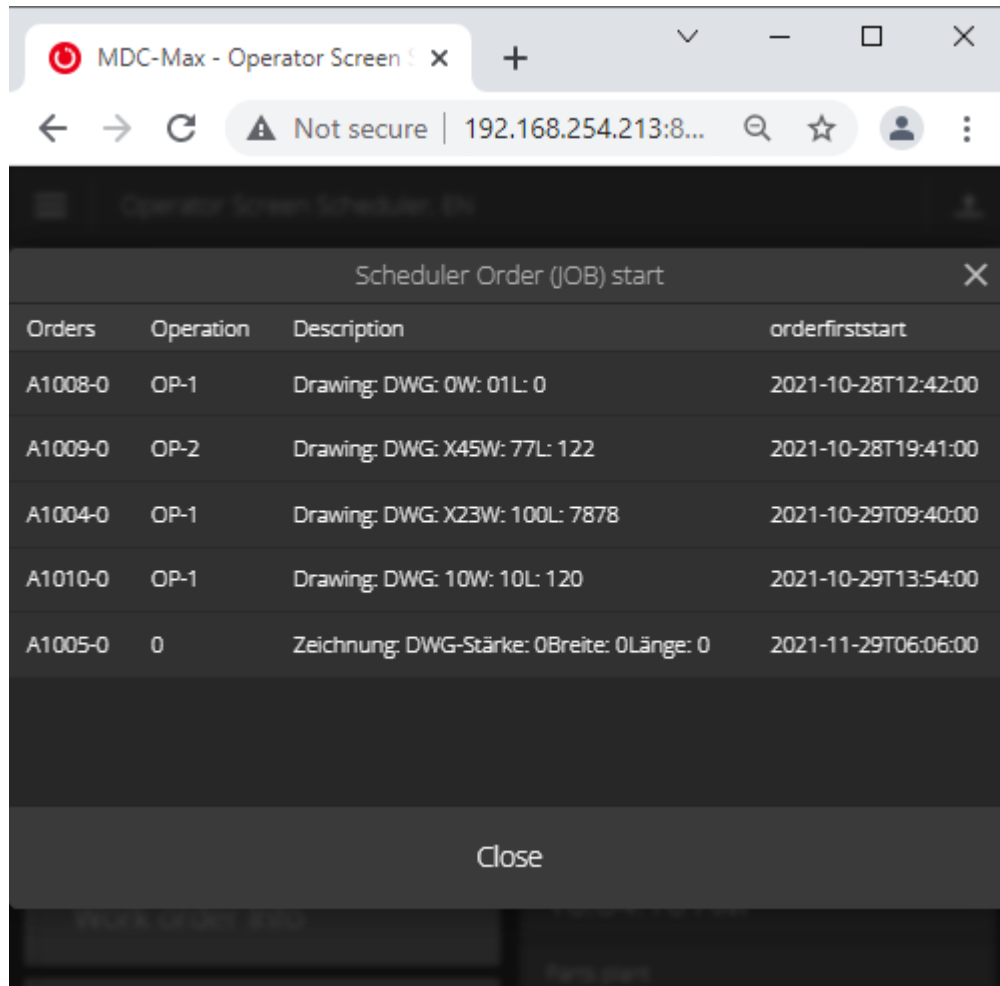
Display (example) - Operator screen of the machine HTC-1000 opened in the browser with user Bob logged in, query can now be made using the **Word order info** button to receive planned orders for these machines. The following web client dialog appears:



Dialog, Webclient, Start work order (example).

## Start work order (operation)

Click on "Scheduler Order (JOB) start" to request the current order list. This opens a list of the jobs that have been planned:



Orders	Operation	Description	orderfirststart
A1008-0	OP-1	Drawing: DWG: 0W: 01L: 0	2021-10-28T12:42:00
A1009-0	OP-2	Drawing: DWG: X45W: 77L: 122	2021-10-28T19:41:00
A1004-0	OP-1	Drawing: DWG: X23W: 100L: 7878	2021-10-29T09:40:00
A1010-0	OP-1	Drawing: DWG: 10W: 10L: 120	2021-10-29T13:54:00
A1005-0	0	Zeichnung: DWG-Stärke: 0Breite: 0Länge: 0	2021-11-29T06:06:00

Dialog, Webclient, Start Word order, Show order list (example).

Click on the relevant job to start it.

Note: The jobs are listed in such a way that the job currently to be started is displayed first in the list (see figure below).

The screenshot shows the CIMCO Scheduler software interface. On the left, a Gantt chart displays machine status for HTC-1000 (NO WORK), HTC-2000 (RUNNING), HTC-3000 (RUNNING), and HTC-4000 (Offline). The main area shows a detailed view of a job with operations A1008-0 and A1009-0. A dialog box titled "Scheduler Order (JOB) start" is open, showing a table of orders. The first row is highlighted.

Order	Operation	Description	orderfirststart
A1008-0	OP-1	Drawing: DWG: 0W: 01L: 0	2021-10-28T12:42:00
A1009-0	OP-2	Drawing: DWG: X45W: 77L: 122	2021-10-28T19:41:00
A1004-0	OP-1	Drawing: DWG: X23W: 100L: 7878	2021-10-29T09:40:00
A1010-0	OP-1	Drawing: DWG: 10W: 10L: 120	2021-10-29T13:54:00
A1005-0	0	Zeichnung: DWG:Stärke: 0Breite: 0Länge: 0	2021-11-29T06:06:00

Below the dialog box, the "Orders" section shows a table with columns: Order-No., Name, Pos.-No., Scheduled %, Amount (Ready), Scheduled time, Calculated time, Delivery Date, and Machines. The first row is highlighted.

Order-No.	Name	Pos.-No.	Scheduled %	Amount (Ready)	Scheduled time	Calculated time	Delivery Date	Machines
070520212	OP1	1	0	0	0 D 0 Hours 0 M	0 D 7 Hours 40 M	27-10-2021	;HTC-3000;
070520212	OP2	3	0	0	0 D 0 Hours 0 M	0 D 11 Hours 0 M	27-10-2021	;HTC-4000;
A3100	OP-1	0	0	0	0 D 0 Hours 0 M	0 D 4 Hours 14 M	13-11-2021	;HTC-1000;
A3100	OP-2	1	0	0	0 D 0 Hours 0 M	0 D 1 Hours 22 M	13-11-2021	;HTC-2000;
A4401	0	0	0	0	0 T 22 S 4 M	16-11-2021	;HTC-4000;	
A9001	0	0	0	0	0 T 10 S 15 M	02-11-2021	;VTC300-C1;	
A9100	0	0	0	0	0 T 7 S 22 M	19-11-2021	;VTC300-C1;	

Dialog, Scheduler, Webclient, start word order, show list (example).

Now click on the job to be started in the list.



MDC-Max - Operator Screen S x +

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Operator Screen Scheduler, EN

# SETUP

Operator Login	Machine HTC-1000
Operator Logoff	Operator Wallace
<b>Report Downtime</b> !	Work order A1008-0
OK to run	Operation OP-1
Work order Info	Operator login time 10:04:16 AM
Cycle start	Parts plant 90
Cycle stop	Parts done 0
	Scrapped parts 0
	Parts left to do 90
	Order time (HMS) 0:03:29
	Order time (Min.) 3
	Planned time (Min.) 413
	Planned setup time (Min.) 103
	Current Setup time (Min.) 0
	Setup time left (Min.) 103
	Order time still open (Min.) 410
	Order progress % 1%
	Current state 0:00:06

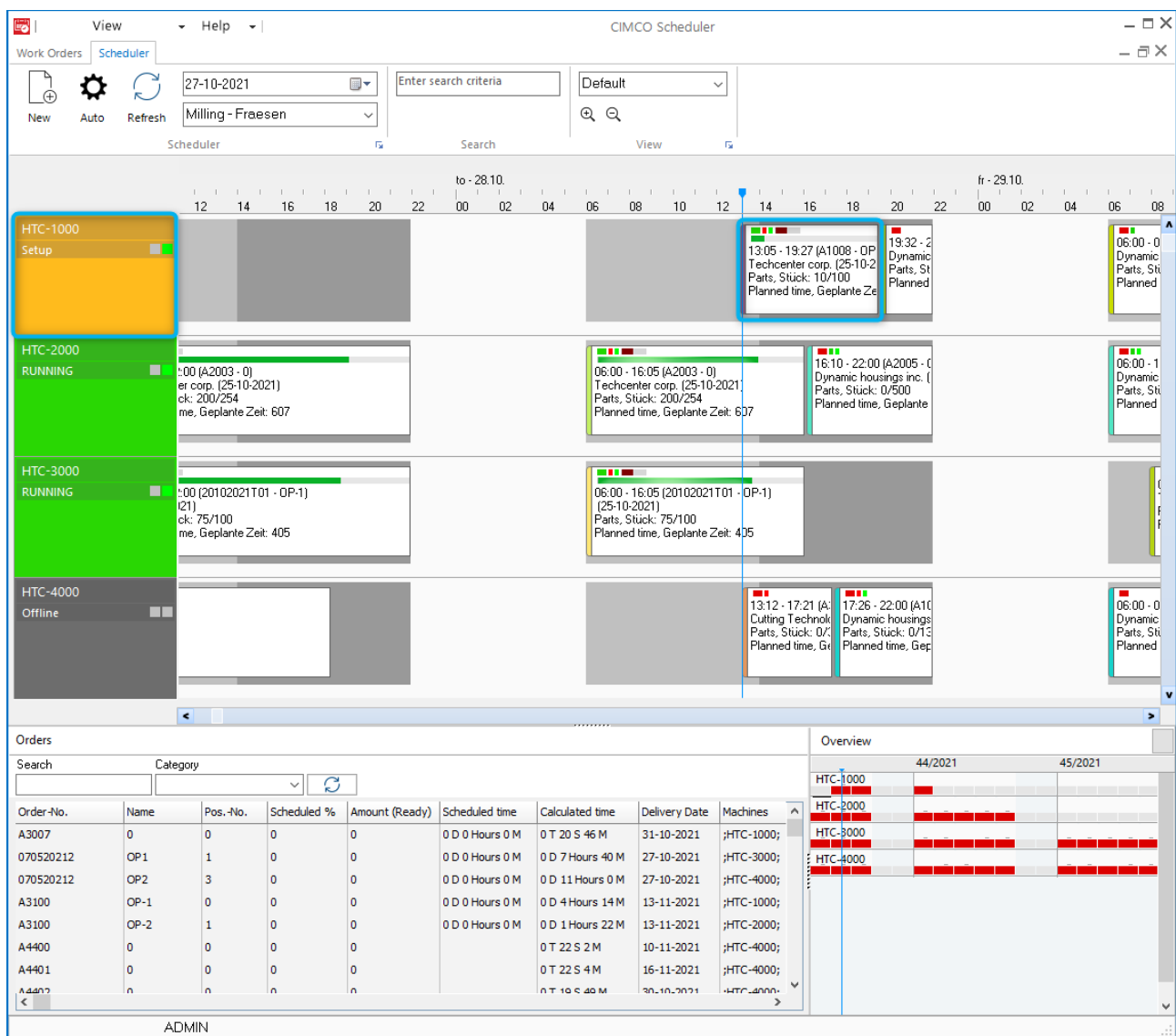
## Dialog Scheduler Operator Screen "Order started" (example).

Display of the operator screen after the job has started (example). In our example, the operator also specified a reason for downtime after the start (Setup).

Note, depending on the configuration of the operator screen, reasons for downtime can also be specified. In the right column, key data of the order are displayed and partly handled dynamically and in real time (number of items, order time, progress, delivery date, etc.).

Please ask your dealer for more information.

Display of the scheduler after the job has started (blue frame):



Dialog: Display of the scheduler after the job has started:

At the top of the planning board, machine HTC-1000, the started order 'A' is displayed (blue frame). The job status indicator is green.

Example MDC Dashboard, display of scheduler-related data:

ORDER							
Order progres - PARTS							
Machine	Order	Parts Planned	Parts left	Bad parts	Parts produced	Parts produced parts %	
HTC-1000	A10003-0	554	404	0	150	27%	OFFLINE
HTC-2000	A20003-0	92	67	0	25	27%	OFFLINE
HTC-3000	A30006-0	193	188	0	5	3%	OFFLINE
HTC-4000	A4000-0	567	567	0	0	0%	OFFLINE
Order progres - TIME							
Machine	Order	Planned time (Min.)	Timer JOB running	Time left (Min.)	Time left (Hours.)	Time left (Days.)	Order time %
HTC-1000	A10003-0	2111	0:09:01	2101.98	35.03	1.46	0% OFFLINE
HTC-2000	A20003-0	334	0:06:21	327.65	5.46	0.23	2% OFFLINE
HTC-3000	A30006-0	310	0:02:41	307.32	5.12	0.21	1% OFFLINE
HTC-4000	A4000-0	791	0:17:00	774.00	12.90	0.54	2% OFFLINE
Order progres - TIME, setup							
Machine	Order	Planned setup time (Min.)	Planned setup time (Hours.)	Setup time (Min.)	Setup time left (Min.)		
HTC-1000	A10003-0	219	4	5	214		OFFLINE
HTC-2000	A20003-0	150	3	6	144		OFFLINE
HTC-3000	A30006-0	201	3	3	199		OFFLINE
HTC-4000	A4000-0	234	4	8	226		OFFLINE
Delivery							
Machine	Order	Delivery date	Time left to delivery (Min.)	Time left to delivery (Hours.)	Time left to delivery (Days.)		
HTC-1000	A10003-0	24-06-2021	20973	349.54	14.56		OFFLINE
HTC-2000	A20003-0	22-06-2021	18093	301.54	12.56		OFFLINE
HTC-3000	A30006-0	13-06-2021	5133	85.54	3.56		OFFLINE
HTC-4000	A4000-0	28-06-2021	26733	445.54	18.56		OFFLINE

Dialog, MDC Dashboard, display of scheduler-related data (example).

## About MDC integration

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The scheduler is integrated in MDC. This has the advantage that production data (real-time data / history data) can also be used in MDC modules such as live screen, dashboard, and reports (and of course in the operator screen).

However, it is important to understand that the scheduler does NOT need an MDC connection to the CNC machine but can use it. An actual MDC connection with machine signals requires the corresponding MDC software license.