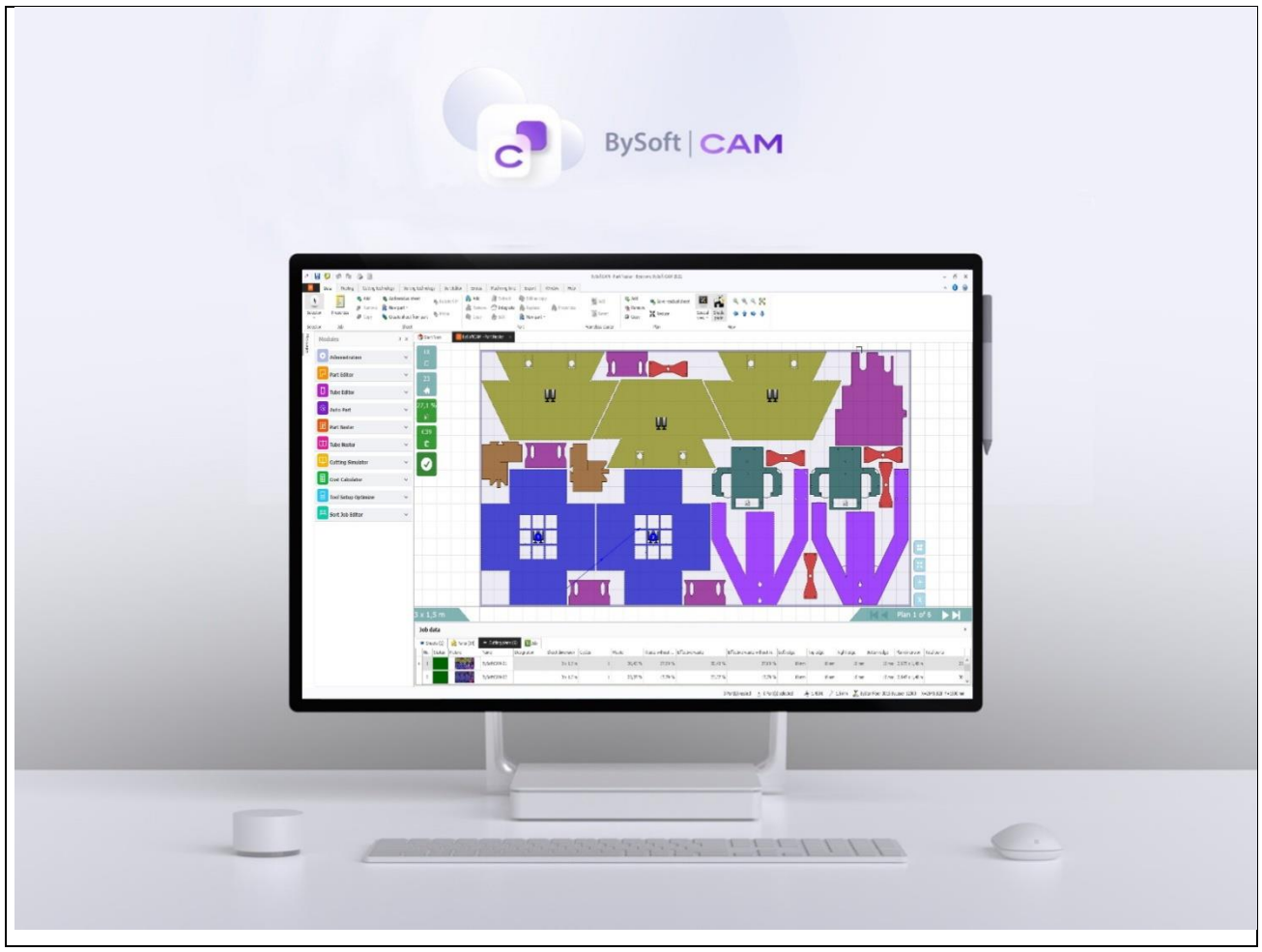
Bystronic Laser AG
Industriestrasse 21
CH-3362 Niederönz
Switzerland

BySoft CAM

Version: 2.0.1 | June 2022



BySoft CAM

Contents

1 General

In the following pages, you will find a description of the new features, enhancements, and improvements implemented in this brand-new version of our BySoft CAM application.

1.1 Available languages

The BySoft CAM application is available in the following languages:

- Chinese (Traditional and Simplified)
- Czech
- Danish
- Dutch
- English
- French
- German
- Hungarian
- Italian
- Japanese
- Korean
- Polish
- Portuguese
- Russian
- Spanish
- Swedish
- Taiwanese
- Turkish
- Vietnamese

1.2 System requirements

1.2.1 BySoft CAM client installation

Operating systems	
Windows 10	64bit 1.2.2
Minimum hardware	
Processor	Intel i5 with 4 cores minimum Intel i7 6 cores recommended
Memory	8GB minimum ≥ 16GB recommended
1.2.3 Graphics card	SolidWorks-certified card and driver http://www.solidworks.com/sw/support/videocardtesting.html
Installation medium	USB2, broadband Internet connection
Screen resolution	1280 x 1024

1.2.4 BySoft CAM Server

Operating systems	
Windows 10	64bit 1.2.5
Windows Server 2012 to 2019	64bit
Minimum hardware	
Processor	Operating system compatible
Memory	8GB minimum
Installation medium	USB2, broadband Internet connection
Screen resolution	1024 x 768

1.3 Installation and update

The installation of BySoft CAM is described in a dedicated installation instructions document.

The update process for BySoft CAM is described in a dedicated update instructions document.

The BySoft CAM installation folder is:

BySoft CAM	[ProgramFiles64Folder]\Bystronic\BySoft CAM\Programmer

The path for the BySoft CAM settings files is:

BySoft CAM	C:\Users\UserName\AppData\Roaming\Bystronic\BySoftCam

2 What is new in version 2.0.1

2.1 Bugfixes

2.1.1 General

- Quick print does not use last printer settings

Some modules did not use last selected printer type on quick printing

2.1.2 Administrator

- Issue with cutting gas selection in different languages

  Repaired localized empty labels of cutting gas in Administrator

2.1.3 Part Editor

- BySoft CAM Locking up when using Copy and Insert

  BySoft CAM ran into an exception (freeze) when Snap option "Snap to Center of Gravity" was activated, and contours were copy/pasted and then moved
- Move help geometry parallel not possible

  "Parallel" button was not available in "Move" command for Lines geometries.
- Quantity of parts is not carried over from auto part into part properties

  The quantity of the component will now be taken into account when creating the part.
- Investigate a solution for tool setup preference without rotated tools and apply if possible
- Bending automation in some cases suggested station with "Rotated" status opposite to the one set as preferred on given process
- ToolCabinet missing in bendpart export

  On bendpart export toolcabinet was not included in export file
- Change error to warning for violations of minimum side length

  The validation test for minimum bend flange length was considered an error instead of a warning
- Bend status not validated when changing geometry

  There was no update of bending validation flags if user changed geometry without switching to Tools tab first.

2.1.4 Part importer

- Auto Labelling: Auto Label is not visible on "Cutting technology" tab

  Auto Labels and Labels were not visible when switching to Cutting Technology tab in Part Editor, now Auto Label is always visible

- Auto Labelling: Some starting positions are incorrectly calculated

  Starting position for Auto Label placement was not always calculated correctly.

- Auto Labelling: Cannot place Auto Label when no cutting tech set on contour

  With no cutting tech on contours, Auto Label was not applied by Part Importer

2.1.5 Part Nester

- Error updating plan although there are no changes on contained parts

  If the edited part does not contain any change, the plan containing this part will not be updated since the part has not changed.

- BySoft Crash during nesting

  From now on, the nesting with multi head in a residual sheet will be created.

- Cluster frames are not inserted according to Settings Manager

  If there are cluster frames set in settings manager they will now be added to a new Part Job with the setting to use the 'Settings manager'.

- Issue with row function and reference geometry

  The preview will be created in any case although the number of copies was one in some dimensions.

- PDF written to wrong path

  PDF Report was written to the path of the cutting machine (instead of the manually chosen path when exporting .bvc)

- Wrong nesting status in PM

  The validation status of a job containing data matrix values will now be correctly calculated.

- Common cut does not work when a job is created from template

  If the part within the template has the common cut property active, the parts added inside the part jobs will now contain this property active too.

- Color not saved on job

  The jobs report of Plan Manager will now be in the same colors as those used for the plan preview.

- Parts cannot be used as sheet

  Parts with free cuts could not be used for creating free form nest sheets. Now free cuts are ignored in this case.

2.1.6 Tool Setup Optimizer

- Wrong tool setup plan created

  When Tool setup recalculation resulted in collision, only Bend sequence was marked red and tool setup tab was green

- Existing tool segments are not correctly taken into account

  Tool setup automation: in some cases, stations' segments distribution is performed like stations are on the same tool setup (shared tool cabinet) even if they are not. It makes some segments not being used on station even though they are available.

2.1.7 Sort Job Editor

- Group sorting does not work as expected

  Improved automatic sort plans with part grouping

- Issue with two wagons on top of each other

  It was not possible to add two Stack Areas of the same type

- Sorting by extra quantity crashes the grid view

  Sorting by extra quantity crashed the grid view

- Rotated sorting machine: Exception when inserting stacks

  There was an exception when inserting stacks on sorting machines that have 180° plan rotation activated

- "Incompatible Rotation" exception when inserting stack (SortingMachine.Rotated180 degrees)

  There was an exception when inserting stack on sorting machines where plan rotation = 180 degrees was activated

- Big part removal without Sort license

  Big part Removal functions were not usable without sorting license, now they are.

2.1.8 Tube Editor

- Tube Part cannot be added to Tube Job

  The tube parts will now be added if the formats are similar.

2.1.9 Tube Nester

- New tube nester job dialogue is incorrect

From now on, the dialogue with the tube job properties will be shown correctly.

2.1.10 Plant Manager

- Issue with jobname in PMC

  The counter will now also be used to create the file name when the option to use the same name as the job is set.

3 What is new in version 2.0.0

3.1 License upgrade

3.1.1 License upgrade to license feature version 2022

Customers that are entitled to receive the current BySoft CAM version 2.0.0 must perform a license upgrade to be able to start the new BySoft CAM version with the 2022 license feature. To be entitled to receive BySoft CAM v2.0.0, customers must have had a valid maintenance contract or have been in their first year of maintenance (= warranty) **on 01.01.2022**.
This is the software version and license feature version dependency:

- Version: 1.x.x -> feature version 1
- Version: 1.2.x -> feature version 2021
- Version: 2.0.0 -> feature version 2022
- Version: 3.0.0 -> feature version 2023

To upgrade the license, the licenses must be revoked and reactivated with the same license code via the Bystronic LMU – License Management Utility. The license code can be found in the BySoft Suite portal (https://sw.bystronic.com) under "My Licenses".
Procedure:

- Close all BySoft CAM programs (if you have Plant Manager in use, the Bystronic CAM Server service must also be stopped)
- Open LMU and go to the "Revocation/Return" tab
- Click "Connect"
- Click "Revoke (Return)"
- Click confirm
- Go to the "Activation" tab
- Insert the license code (Entitlement-ID)
- Click "Connect"
- Click "Activate All" (this will activate all remaining seats) or click "Activate" after having inserted specific seat counts
- Click confirm

3.1.2 New version of Bystronic LMU – License Management Utility

Bystronic recommends use of the latest version of Bystronic LMU, v2.95, which can be downloaded from https://sw.bystronic.com > Software Downloads > BySoft CAM > Bystronic LMU – License Management Utility.
Uninstall the current version, then install the new version. To combine this with the license upgrade (see chapter above), first perform the license upgrade and only then the change of LMU versions.
Do this both on the license server and the clients.

3.2 General

BySoft CAM is the latest generation in the Bystronic CAM product range.

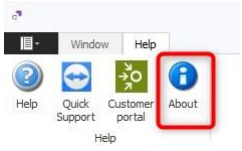
BySoft CAM contains new features, improvements, and enhancements including:

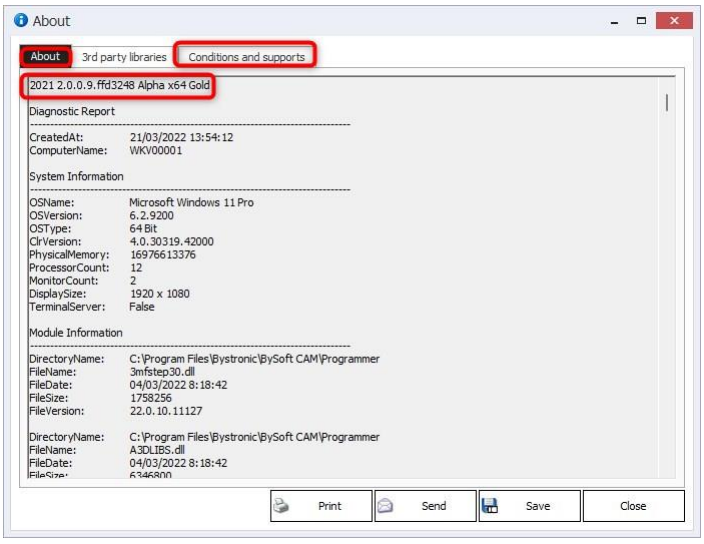
- Tool Station Management
- Box Carrier Management
- Stack stability
- Improvements in k-factor for unfolding
- Improvements in Part Editor and Part Nester

The following chapters describe of the new features, enhancements and improvements that have been implemented in this latest version.

3.2.1 System Information changes

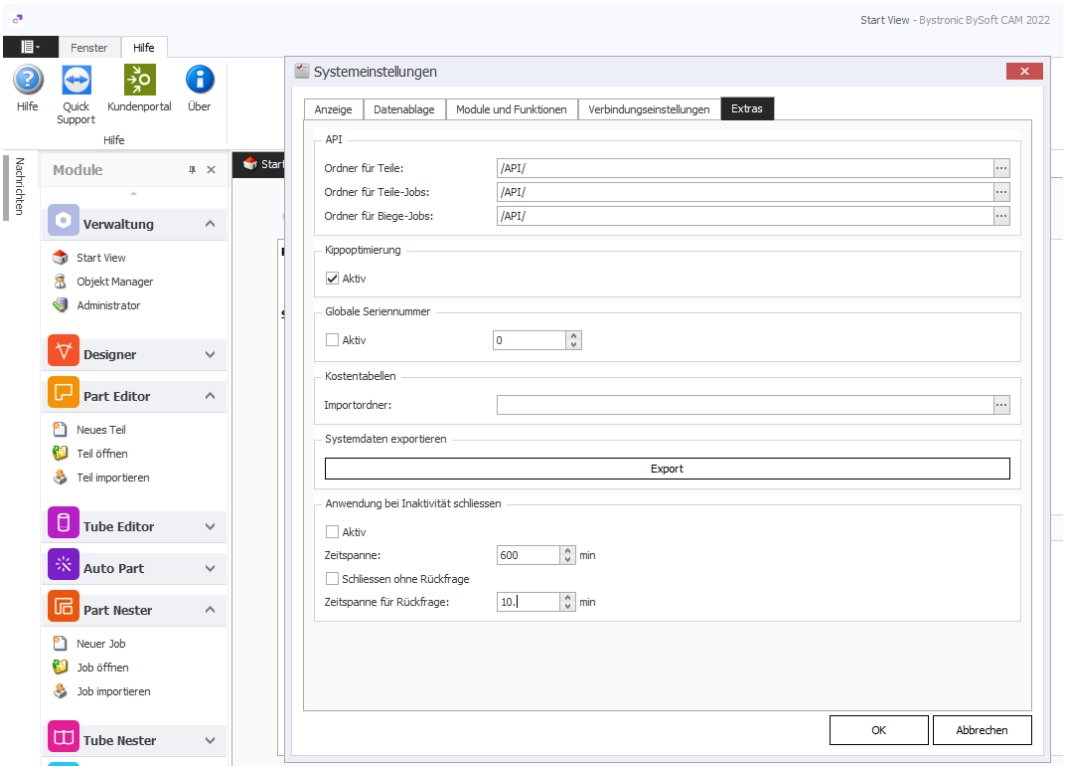
The version information is now displayed in the "About" dialogue in the "About" tab. There is also a new "Terms and conditions" tab where the license information is located.
You can find this information in the following tab:





3.2.2 Timeout function

A timer can now be activated in the BySoft CAM system settings and a time period set. The system will then close BySoft CAM automatically after you have been inactive for that length of time.

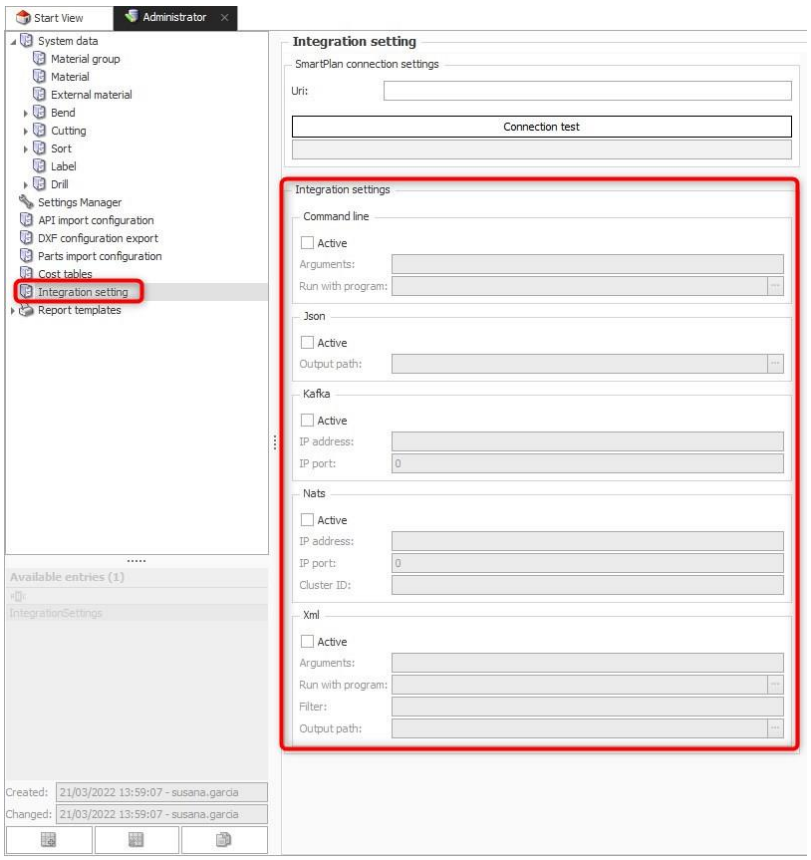

Start View - Bystronic BySoft CAM 2022
Fenster
Hilfe
Hilfe
Quick Support
Kundenportal
Über
Hilfe
Nachrichten
Module
Verwaltung
Start View
Objekt Manager
Administrator
Designer
Part Editor
Neues Teil
Teil öffnen
Teil importieren
Tube Editor
Auto Part
Part Nester
Neuer Job
Job öffnen
Job importieren
Tube Nester
Systemeinstellungen
Anzeige
Datenablage
Module und Funktionen
Verbindungseinstellungen
Extras
API
Ordner für Teile:
/API/
Ordner für Teile-Jobs:
/API/
Ordner für Biege-Jobs:
/API/
Kippoptimierung
Aktiv
Globale Seriennummer
Aktiv
0
Kostentabellen
Importordner:
Systemdaten exportieren
Export
Anwendung bei Inaktivität schliessen
Aktiv
Zeitspanne:
600
min
Schliessen ohne Rückfrage
Zeitspanne für Rückfrage:
10.
min
OK
Abbrechen

3.3 Administrator

3.3.1 BySoft CAM Integration settings

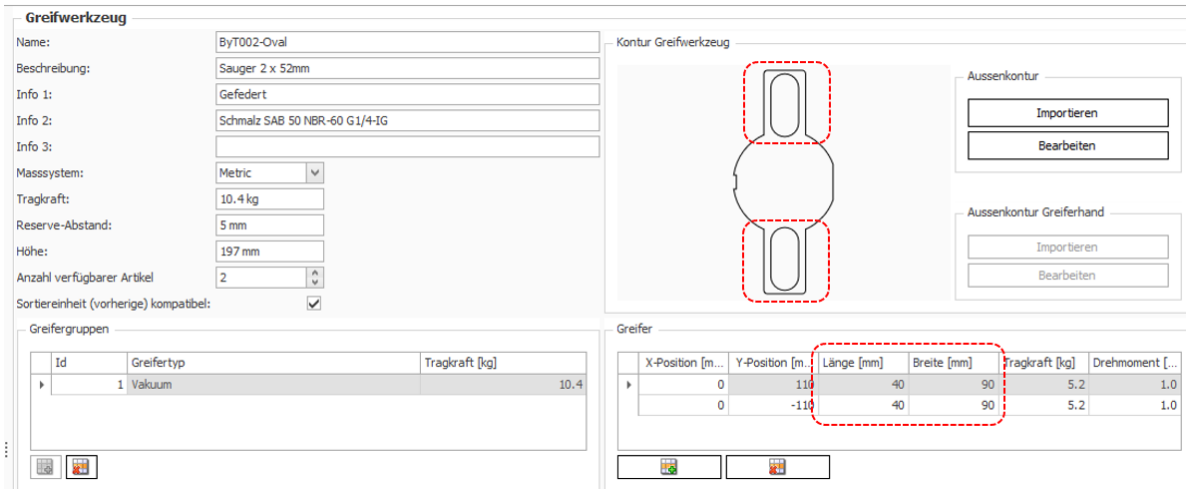
New settings for the integration in BySoft CAM Administrator:

- Add new "Environment Settings" tab in the Administrator Module
- Users can define the URL for the Shop Floor Plan Rest API (at infrastructure level)
- Register the service in Infrastructure
- Add Button to check the connection (for Shop Floor Plan)
- Every BySoft CAM client uses this endpoint to call the Shop Floor Plan API



3.3.2 Support for oval-shaped grippers

Now you can define a gripper tool with an oval-shaped gripper as follows:
Grippers are now defined with Length and Width instead of Radius. When Length or Width is 0, the gripper is considered round with Radius=Max (L,R)/2.

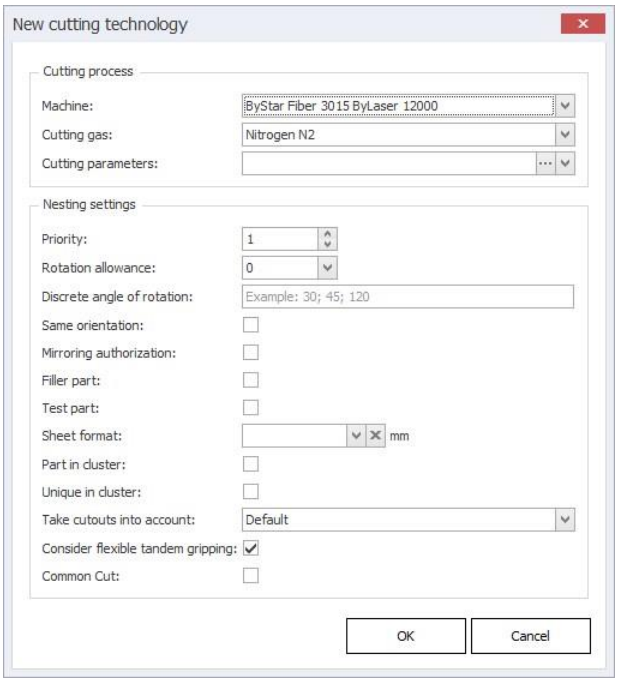


The maximum gripper torque is calculated automatically. The torque of oval grippers depends on the direction to the center of gravity (higher on longer side).

3.3.3 Nesting settings in Settings Manager

The settings that appear in the Cutting Technology tab in Part Editor in the Nesting settings section can be configured by using the Settings Manager parameters.

Here are the Part Editor settings:



And here are the Settings Manager Parameters in Part Editor/Nesting:

3.3.4 New import option for recognizing Chinese characters

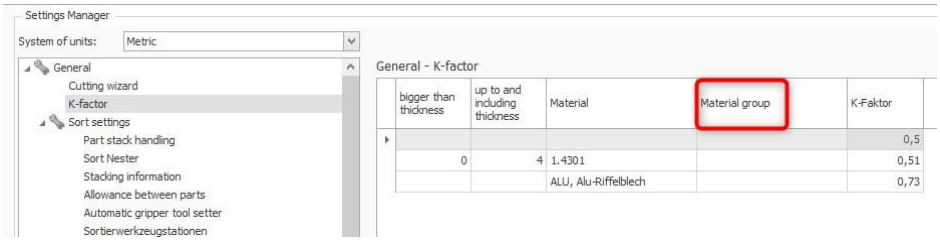
A new automatic recognition of Chinese characters can be activated for the import of Chinese DXF/DWG drawings.
You can find this option in the Administrator module in the Parts import configuration by ticking the option:

3.3.5 Configuring the tool station in the Settings Manager

The tool station for sorting tools can now be configured in the Settings Manager:

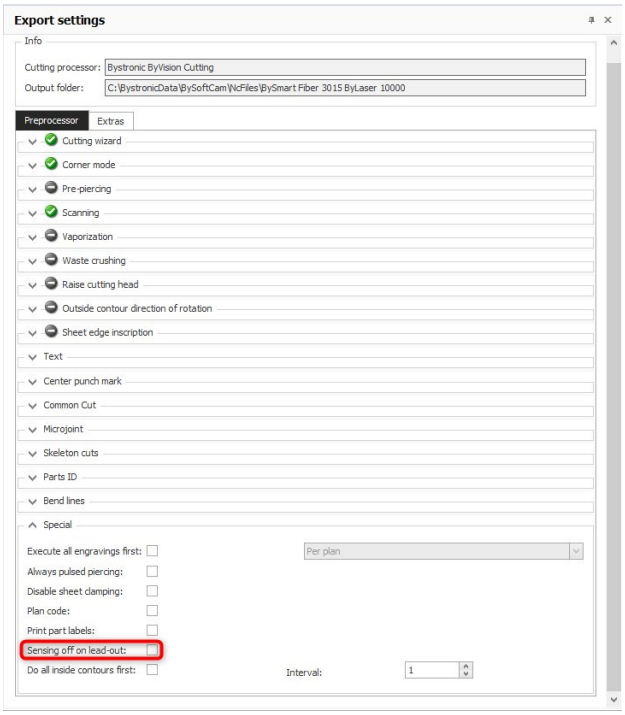
3.3.6 Column added for material groups in the K-factor in the Settings Manager

The K-factor can be defined per material group in the Settings manager, as can be seen in the following image:



3.3.7 New export setting to switch off sensing at lead-out

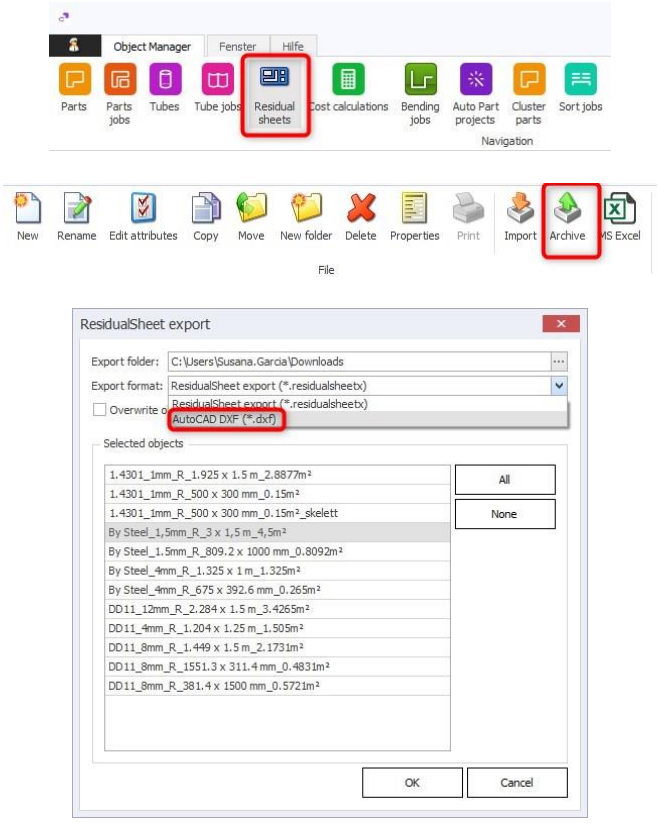
Sensing at lead-out can be deactivated. For this, a new export setting is needed. The parameter can be selected here in Part Nester Module / Export Tab / Export Settings:



3.4 Object Manager

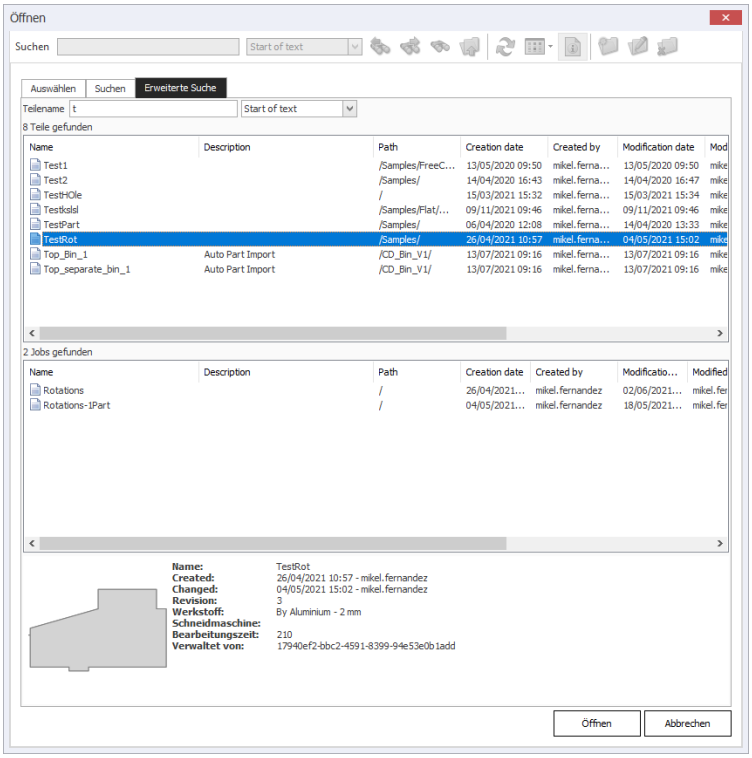
3.4.1 New option to export a remnant to DXF in Object Manager

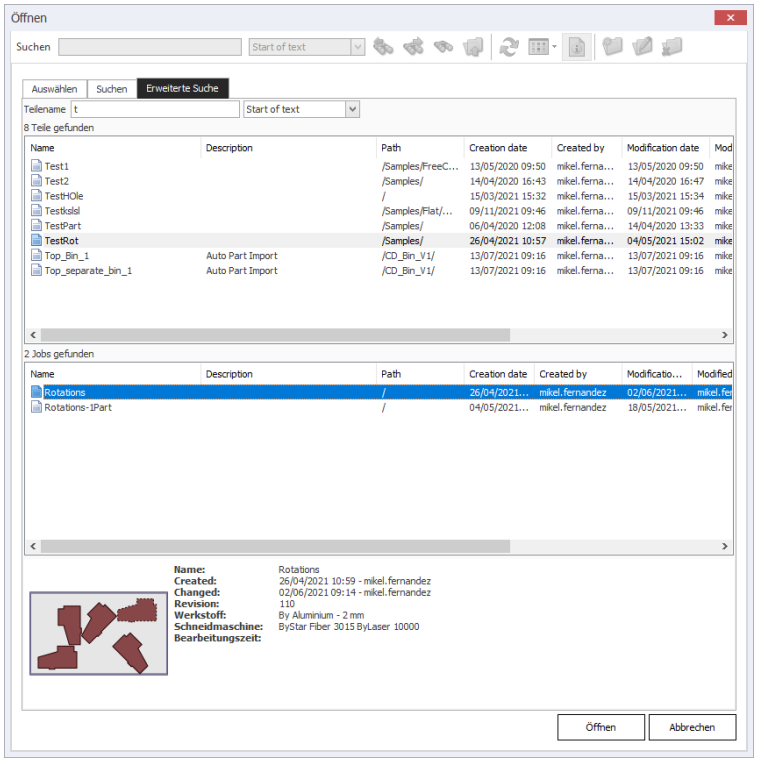
In the Object Manager, select the option for Residual sheets and then select the option Archive. This will provide the options for the Residual Sheet export:



3.4.2 Job or part preview in advanced search

The detail view of the selected element will be shown for the advanced search inside the open dialogue. In this case, the selected element can be a part or a job, so depending on the element, the system will show a part detail or a job detail.


Öffnen
Suchen
Start of text
Auswählen
Suchen
Erweiterte Suche
Teilename
t
Start of text
8 Teile gefunden
Name
Description
Path
Creation date
Created by
Modification date
Test1
/Samples/FreeC...
13/05/2020 09:50
mikel.ferna...
13/05/2020 09:50
Test2
/Samples/
14/04/2020 16:43
mikel.ferna...
14/04/2020 16:47
TestHOle
/
15/03/2021 15:32
mikel.ferna...
15/03/2021 15:34
Testkslsl
/Samples/Flat/...
09/11/2021 09:46
mikel.ferna...
09/11/2021 09:46
TestPart
/Samples/
06/04/2020 12:08
mikel.ferna...
14/04/2020 13:33
TestRot
/Samples/
26/04/2021 10:57
mikel.ferna...
04/05/2021 15:02
Top_Bin_1
Auto Part Import
/CD_Bin_V1/
13/07/2021 09:16
mikel.ferna...
13/07/2021 09:16
Top_separate_bin_1
Auto Part Import
/CD_Bin_V1/
13/07/2021 09:16
mikel.ferna...
13/07/2021 09:16
2 Jobs gefunden
Name
Description
Path
Creation date
Created by
Modificatio...
Rotations
/
26/04/2021...
mikel.fernandez
02/06/2021...
Rotations-1Part
/
04/05/2021...
mikel.fernandez
18/05/2021...
Name: TestRot
Created: 26/04/2021 10:57 - mikel.fernandez
Changed: 04/05/2021 15:02 - mikel.fernandez
Revision: 3
Werkstoff: By Aluminium - 2 mm
Schneidmaschine:
Bearbeitungszeit: 210
Verwaltet von: 17940ef2-bbc2-4591-8399-94e53e0b1add
Öffnen
Abbrechen


Öffnen
Suchen
Start of text
Auswählen
Suchen
Erweiterte Suche
Teilename
t
Start of text
8 Teile gefunden
Name
Description
Path
Creation date
Created by
Modification date
Test1
/Samples/FreeC...
13/05/2020 09:50
mikel.ferna...
13/05/2020 09:50
Test2
/Samples/
14/04/2020 16:43
mikel.ferna...
14/04/2020 16:47
TestHOle
/
15/03/2021 15:32
mikel.ferna...
15/03/2021 15:34
Testkslsl
/Samples/Flat/...
09/11/2021 09:46
mikel.ferna...
09/11/2021 09:46
TestPart
/Samples/
06/04/2020 12:08
mikel.ferna...
14/04/2020 13:33
TestRot
/Samples/
26/04/2021 10:57
mikel.ferna...
04/05/2021 15:02
Top_Bin_1
Auto Part Import
/CD_Bin_V1/
13/07/2021 09:16
mikel.ferna...
13/07/2021 09:16
Top_separate_bin_1
Auto Part Import
/CD_Bin_V1/
13/07/2021 09:16
mikel.ferna...
13/07/2021 09:16
2 Jobs gefunden
Name
Description
Path
Creation date
Created by
Modificatio...
Rotations
/
26/04/2021...
mikel.fernandez
02/06/2021...
Rotations-1Part
/
04/05/2021...
mikel.fernandez
18/05/2021...
Name: Rotations
Created: 26/04/2021 10:59 - mikel.fernandez
Changed: 02/06/2021 09:14 - mikel.fernandez
Revision: 110
Werkstoff: By Aluminium - 2 mm
Schneidmaschine: ByStar Fiber 3015 ByLaser 10000
Bearbeitungszeit:
Öffnen
Abbrechen

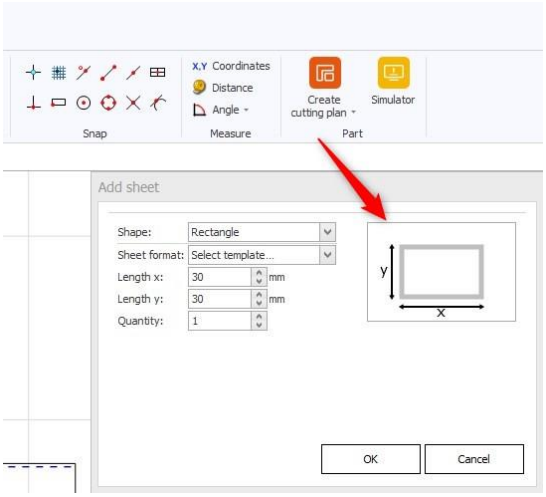
3.5 Part Editor

3.5.1 Choose sheet size on creating cutting plan from part

The behavior of the option 'Create cutting plan' has changed to the following workflow:

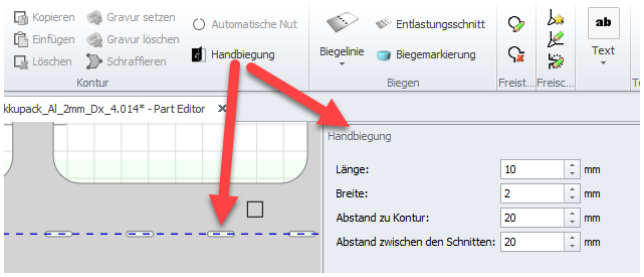
- Once the option is executed, the system shows the window to select the sheet.
- The sheet is a rectangle by default and its dimensions will take the part dimensions plus the defined margins.
- The user can change the sheet dimensions and also the sheet type.
- After confirming the data, the Part Nester module is opened with the selected sheet, and if it is a rectangle with the minimum dimensions to place the part, the part is automatically nested, otherwise it is not.

You can access it in the Cutting technology tab in Part Editor in Create cutting plan/Semi-finished product:



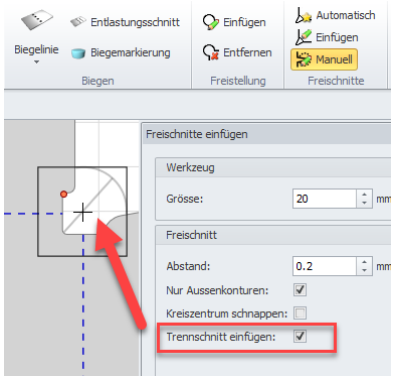
3.5.2 Automatic relief cuts for bend lines

Automatic relief cuts on bending lines for manual bending (with hands, no machine). Relief cuts are intended to weaken the material at the bending line to such an extent that it can be bent by hand.



3.5.3 Destruction cut for cut outs

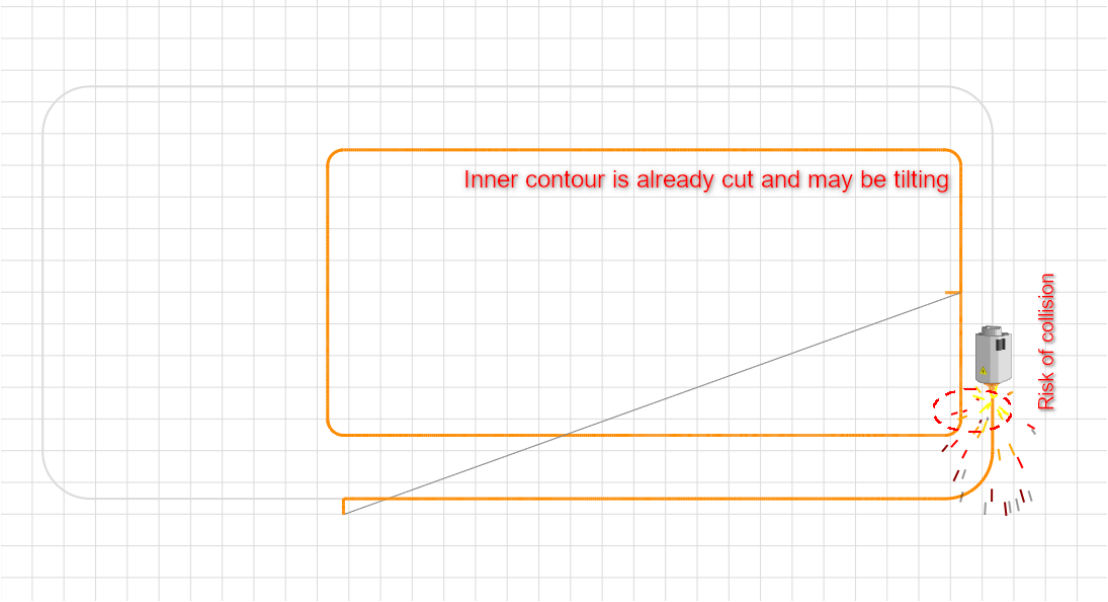
Large free cuts on the corners can now be automatically extended with bisection cut which splits material leftovers into smaller pieces.



3.5.4 Collision prevention

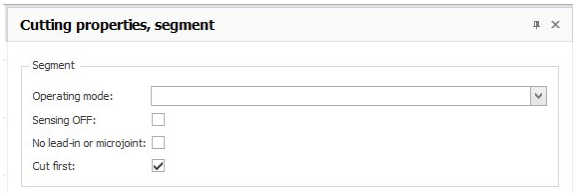
3.5.4.1 New “Cutting First” Attribute

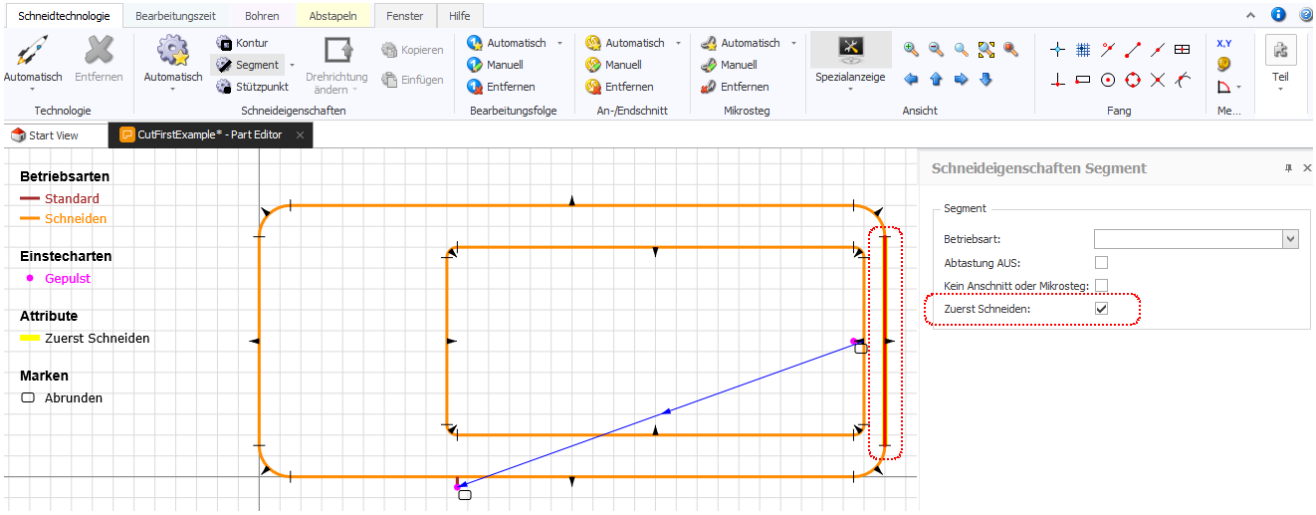
New attribute on segment cutting technology. It indicates that given segment or segments should be cut first. If there are more segments on given contour with this attribute set, all segments should be in sequence (consecutive list). If user places "cut first flag" on segments that are not consecutive, there is an algorithm that fills gaps in segments sequence.
Typical example where the cut first attribute may help to avoid collision is when contours are closely placed:



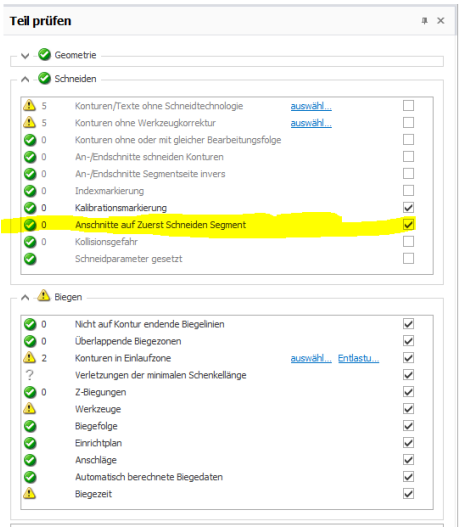
Marking a neighboring segment of the outer contour as “cut first” will generate a pre-cut of the given segment before cutting of the inner contour, thus preventing the cutting head from going over the same area with potentially tilting inner contour.

This option can be selected in the Cutting technology tab, cutting properties/segment and selecting the Cut first option:



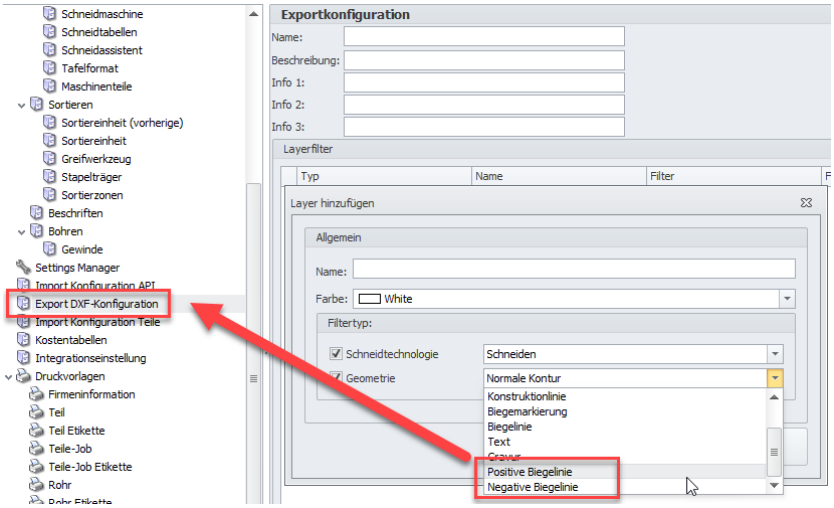


New validation is added to verify if lead-in is placed on cut first segment. It sets a validation error when contour contains cut-first segment(s) and lead-in is not included in one of them.



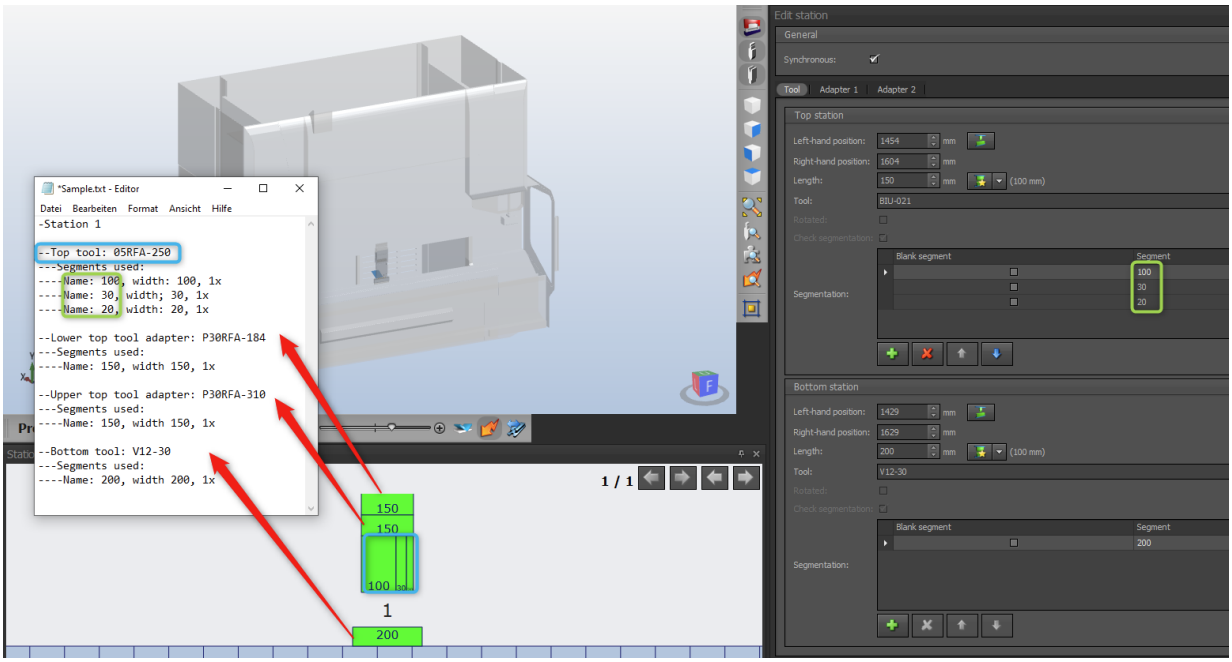
3.5.5 Extension of DXF configuration export

Positive and negative bend line layer definition for DXF export added.



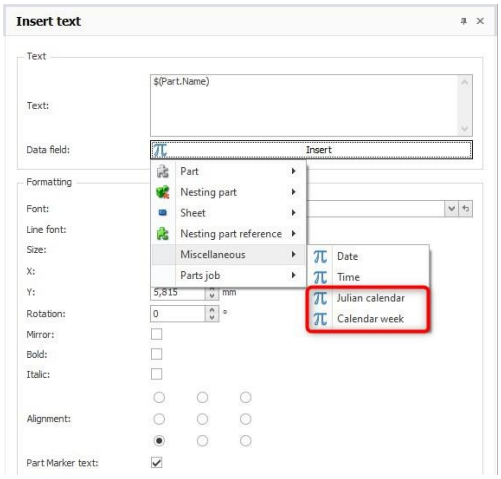
3.5.6 Extension of API Parts/Info

All bend tools related data are now provided in part info when user calls Parts.Info API method:



3.5.7 New date options "Julian date" & "Week of year"

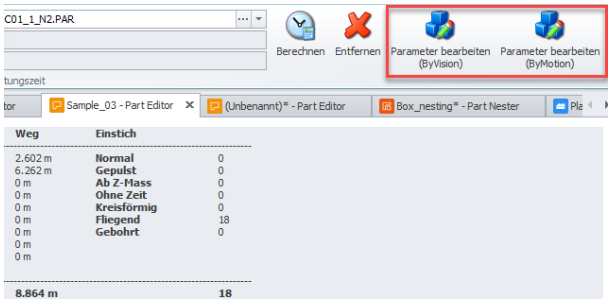
There are two new options, "Julian calendar" and "Calendar week", to insert text.
You can find these options in Part Editor/Geometry/Text/Insert:



3.5.8 ByMotion Parameter Editor access

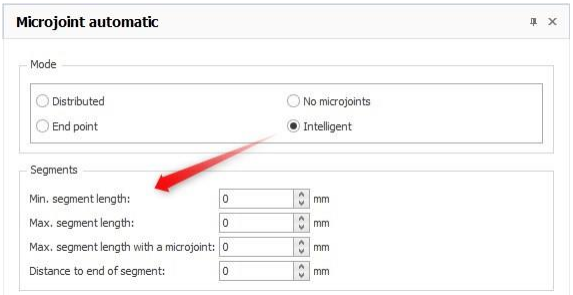
A new button has been added in the Part Editor and in the Part Nester to call the ByMotion Parameter Editor.

The existing button has been renamed "Edit parameters (ByVision)".



3.5.9 New smart option to place micro-joints

New smart mode added in Part Editor and Part Nester to automatically set micro-joints.

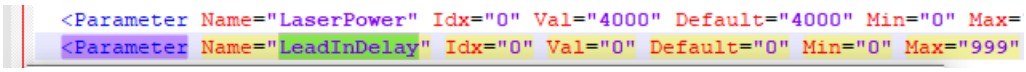


3.5.10 Part and Job status via API

New API functionality added for "Check part" and "CheckPartJob". User can input the GUID/URI (depending on API version) and will get the whole verify part as a result.

3.5.11 New parameter LeadInDelay used in calculation of cutting time

The new parameter "LeadInDelay" is now taken into account in the cutting time calculation.

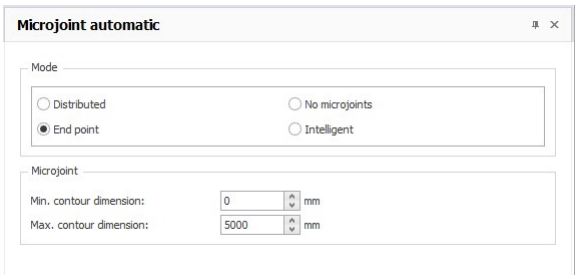


3.5.12 Min/Max value for micro-joint on endpoint

A minimum and maximum contour size when using mode "Endpoint" for micro-joints can be defined:

- Min. contour dimension:
  - Defines the minimum length of a contour as of which micro-joints are placed on the contour.
- Max. contour dimension:
  - Defines the maximum length of a contour up to which micro-joints are placed on the contour.

To do so, select the define values in the below window, in Part Editor/Automatic/Settings/ Microjoint option:



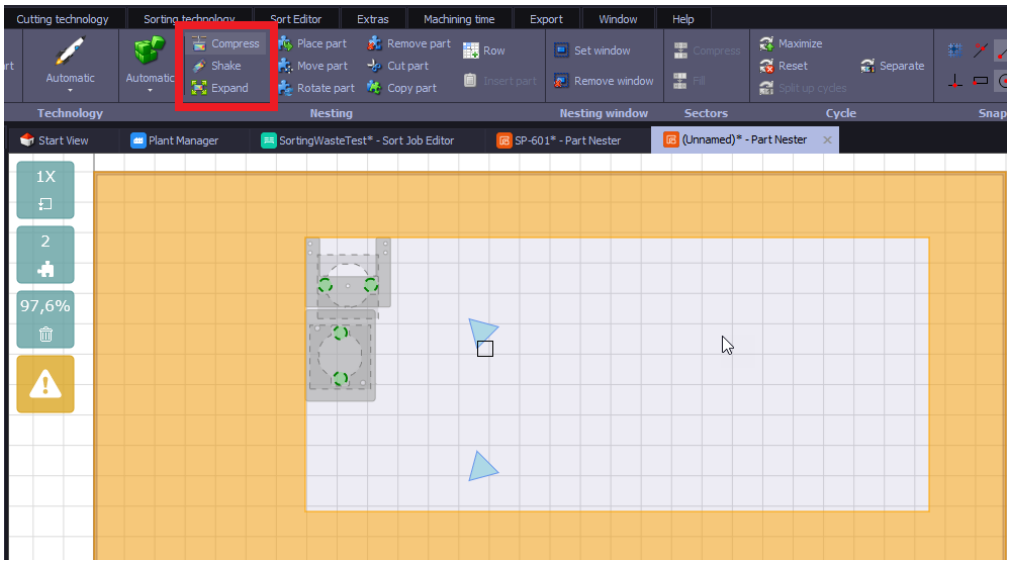
3.5.13 Not possible to open file directly

Direct opening of file associated with BySoft CAM did not work. User had to open BySoft CAM and then open file through it.

3.6 Part Nester

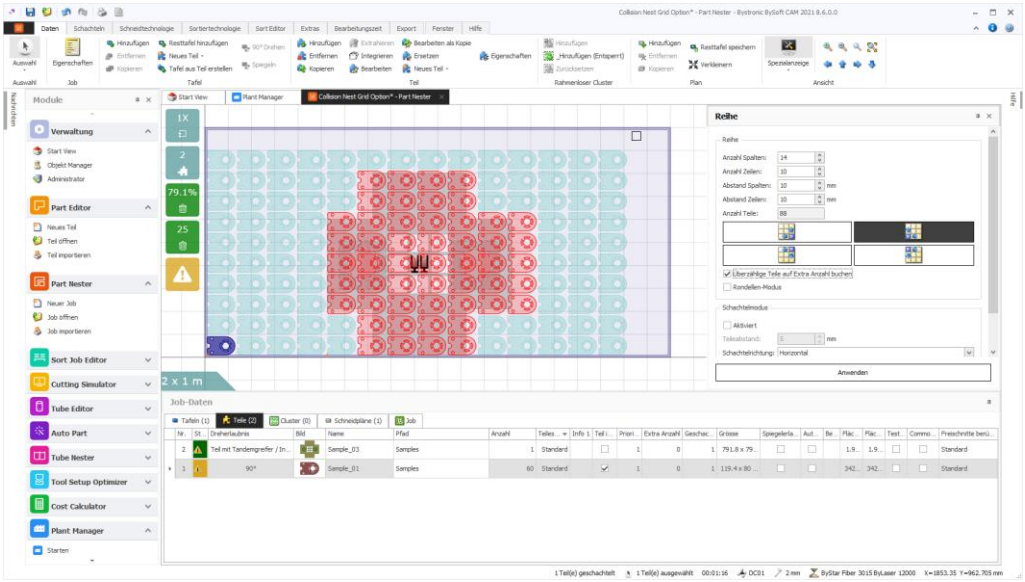
3.6.1 Expand Function in Nesting Window

It is now possible to execute expand, compress, and shake nesting options even though a nesting window is created in the plan.



3.6.2 Prevent collisions when using row nesting

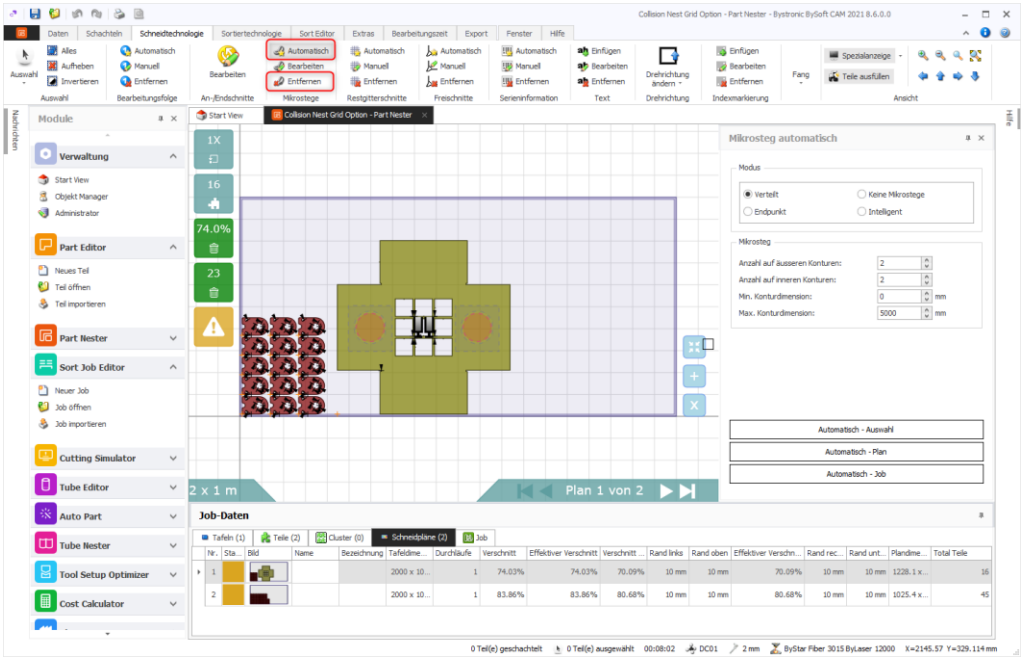
Now by default, copy part checks if it is over an already nested part. If it is, it won't be taken into consideration in the final result.



3.6.3 Automatic micro joints in the Part Nester module

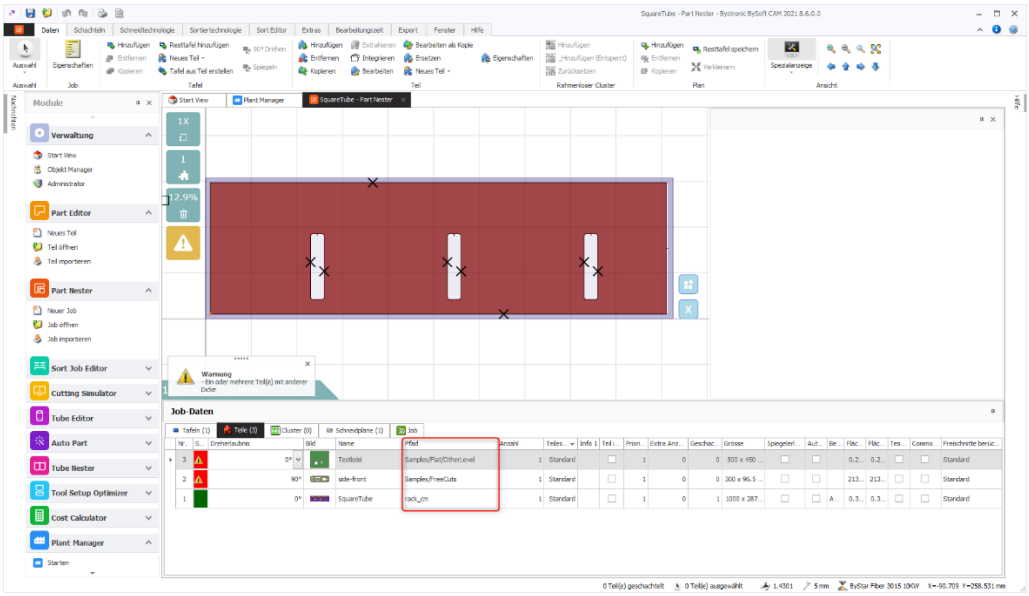
Two new micro joint options have been included in the part nester module. The first one allows insertion of micro joints in the parts of a plan in automatic mode, and the second one removes all micro joints from the whole plan.

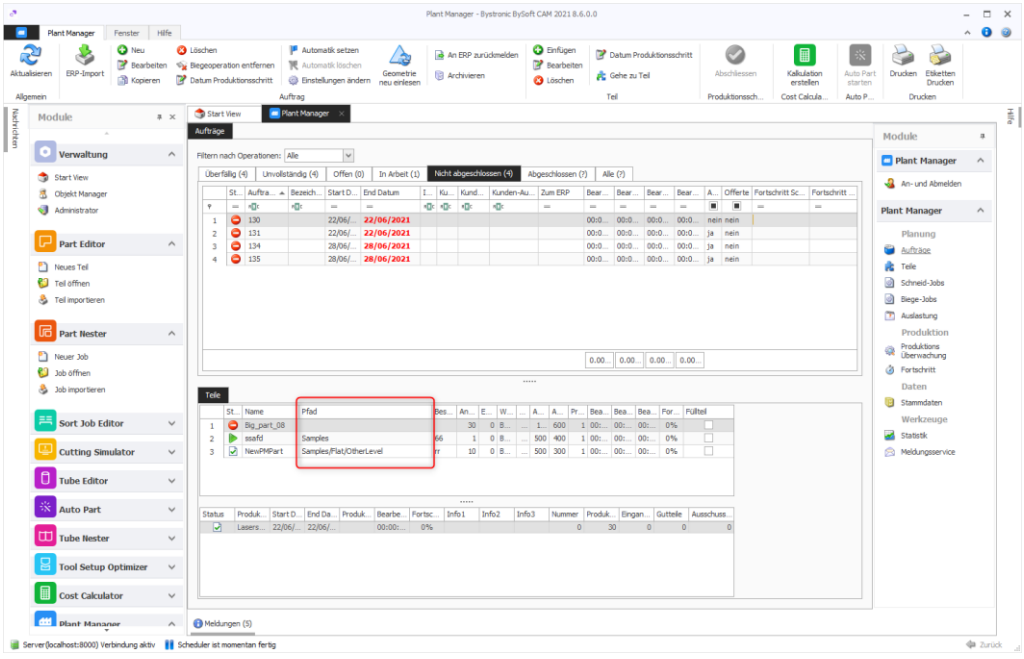
For the first option, it is possible to insert the micro joints over the selected parts, in whole plan or in whole job.

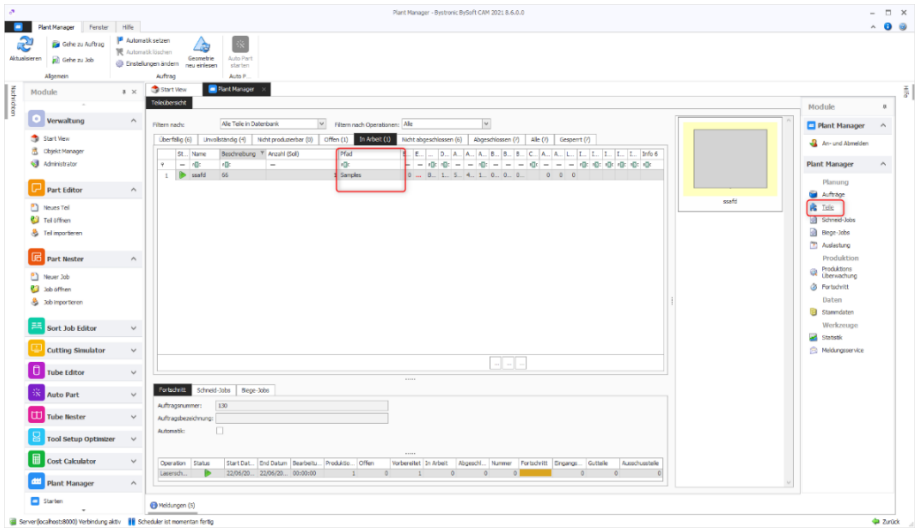


3.6.4 Customer needs the path in the part table

From now on, the part path in the BySoft repository is available in the parts grid of the Part Nester and the Plan Manager Cutting.



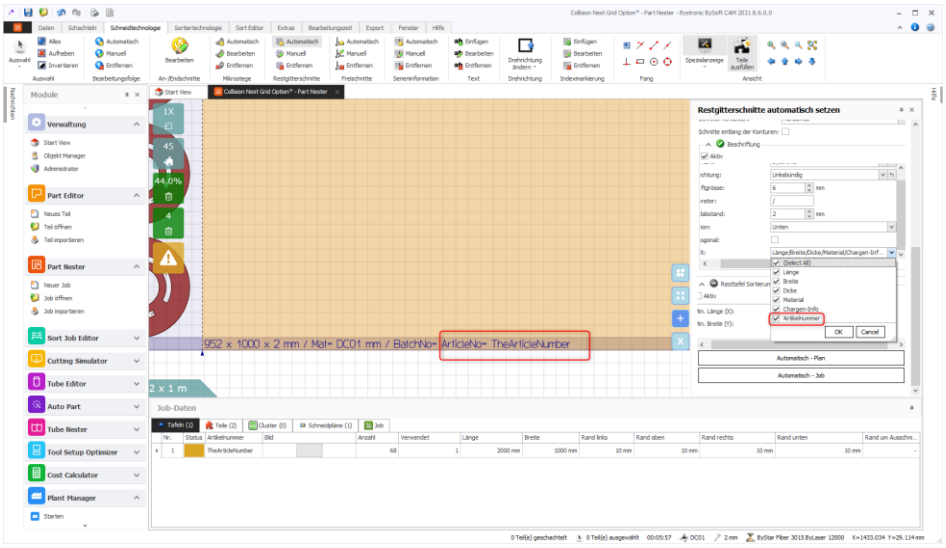




In the Plan Manager the default path is only available for new orders; for existing orders it is necessary to execute the 'Reread the geometry'.

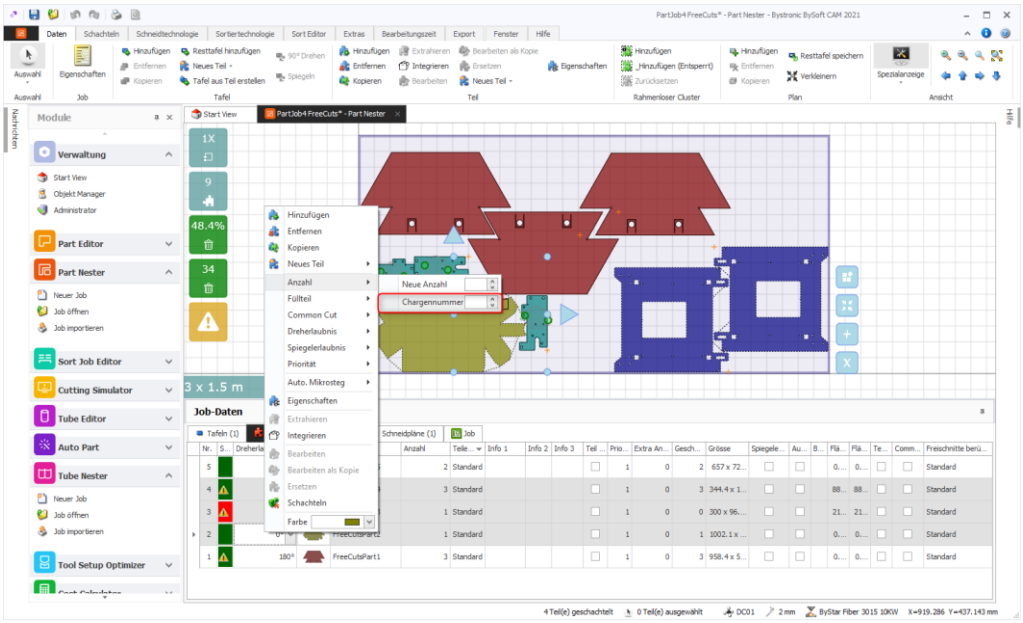
3.6.5 Extension of available options for residual sheet inscription

The 'Article number' will be available to create the inscription text for the residual sheets.



3.6.6 Batch quantity in Part Nester

New option to multiply the quantity of the selected parts has been added to the parts menu. This new option is called 'Batch number'.



3.6.7 Insert data from residual sheets into NCP file

The data from residual sheets is inserted into NCP file.

```
%
(<NcpProgram Version="1.0" Units="Metric">)
(<MaterialInfo Label="1.4301" MaterialCode="1.4301" Thickness="2" FormatType="Sheet" DimX="2000" DimY="1000" Weight="32" Waste
(<ResidualSheet1 SizeX="1040.64383808082" SizeY="719.31588847823" Bottom="0" Left="959.356161919175"/>)
(<ResidualSheet2 SizeX="959.356161919175" SizeY="280.68411152177" Bottom="719.31588847823" Left="0"/>)
(<ResidualSheet3 SizeX="1040.64383808082" SizeY="280.68411152177" Bottom="719.31588847823" Left="959.356161919175"/>)
(<ProcessInfo CutTechnology="Laser" ProcessGas="N2" Clamping="True"/>)
(<Plan JobCode="TestResttafeln">)
N1G29X843.153928Y639.039234P1H1A1
N2G52X527.832354Y427.963347L1C0
N3X-10Y-10L2
N4G99
(</Plan>)
(<Part PartCode="Biegeteil" OrderNo="Biegeteil1" Debit="1">)
N5G28X315.321574Y211.075887L1P1
N6G0X0Y0
N7G10S0
N8G42
N9G1X20M14M4
(<Contour>)
N10X315.321574
```

3.6.8 Priority for sheets

The property 'Priority' has been included in the sheet information. This new property lets the user prioritize the use of some specific sheets before other ones.

It is possible to show this field in the sheet grid in the 'Part Nester' module, as shown in the following image:

The automatic nesting will take this new property into account in order to group the sheets by priority, and for each group will execute the multi nesting with the remaining parts.

The lower the value of the sheet, starting at one, the higher the priority. By default, the priority of a sheet is one.

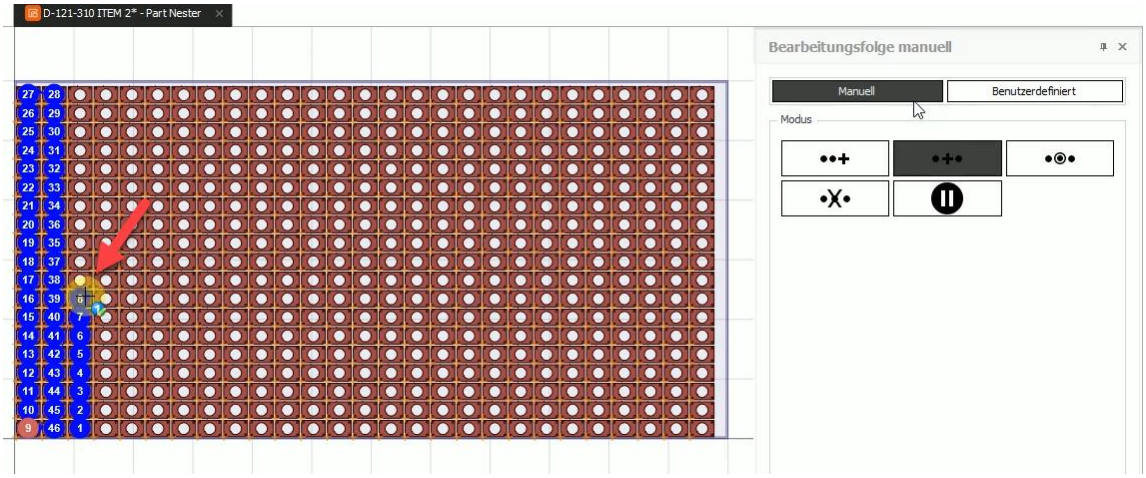
3.6.9 Add more remnant info while exporting to BVC

BySoft CAM provides more information to BySoft Shop Floor in the BVC file:

- Remnant identification.
- Remnant quantity.
- Image of the remnant.
- Dxf file for the remnant.

3.6.10 Set machining sequence by hovering over parts

To help the user define the sequence in a plan, it is now possible to set the sequence while the mouse is moving the parts if the left button of the mouse is pressed. The new behavior is applied for the options to append, insert, and delete. Finally, for the append and insert option, the sequence order is only set if the part does not yet have any order assigned.



3.6.11 Extension of Import parts from clipboard

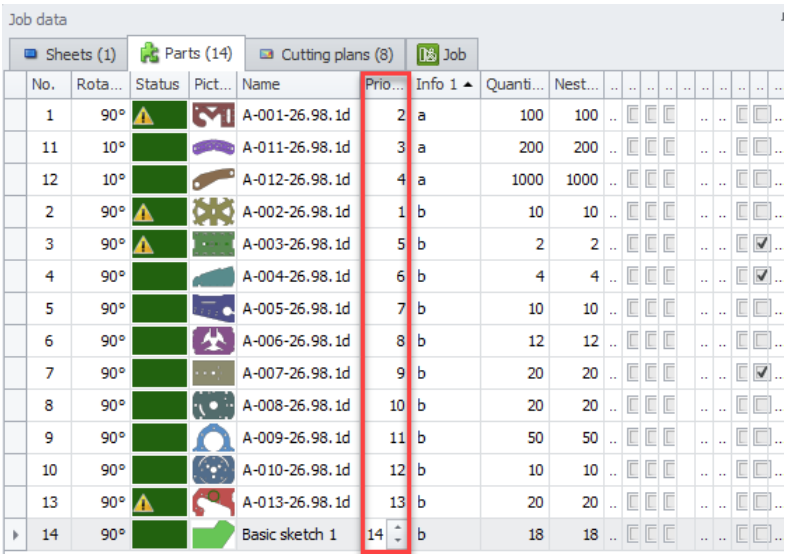
It is now possible to assign a default value in the excel data to draw the parts using that color. The hexadecimal string of the color must be defined in column seven. If the string contains an invalid or empty value, the system will ignore the set value.

This new functionality works for both the option to import from clipboard as well as for the option to import from file.

	A	B	C	D	E	F	G
1	**Name**	**Qty**	**Order Information**	**UserInfo1**	**UserInfo2**	**UserInfo3**	**Color**
2	BR1803	3	Dennison_21m2519_PB5601-976	BIN: 3-D-FLAT (B:528)	0|1|212519|21113|0|209116|##	info3	#ffa52a2a
3	BR18728	4	Dennison_21m2517_CS18850-998	BIN: 1 (B:528)	0|1|212517|21111|0|209061|##	info3	#ff008000
4	BR18728	4	Dennison_21m2527_CS18850-946	BIN: 4 (B:528)	0|1|212527|21121|0|209164|##	info3	#ff0000ff
5	BR50212	4	Dennison_21m2529_SL50205-100	BIN: 6-D-FLAT (B:528)	0|1|212529|21123|0|209233|##	info3	#ff404040
6	BR50219	1	Dennison_21m2529_SL50205-100	BIN: 6 (B:528)	0|1|212529|21123|0|209241|##	info3	#ff404040
7	BR50225	2	Dennison_21m2529_SL50205-100	BIN: 6 (B:528)	0|1|212529|21123|0|209246|##	info3	#ff404040
8	BR5095	12	Dennison_21m2519_PB5601-976	BIN: 3 (B:528)	0|1|212519|21113|0|209129|##	info3	#ffa52a2a
9	BR7766	6	Dennison_21m2519_PB5601-976	BIN: 3 (B:528)	0|1|212519|21113|0|209135|##	info3	#ffa52a2a

3.6.12 Group Nesting and Priority

It is now possible to prioritize parts inside a nesting group.



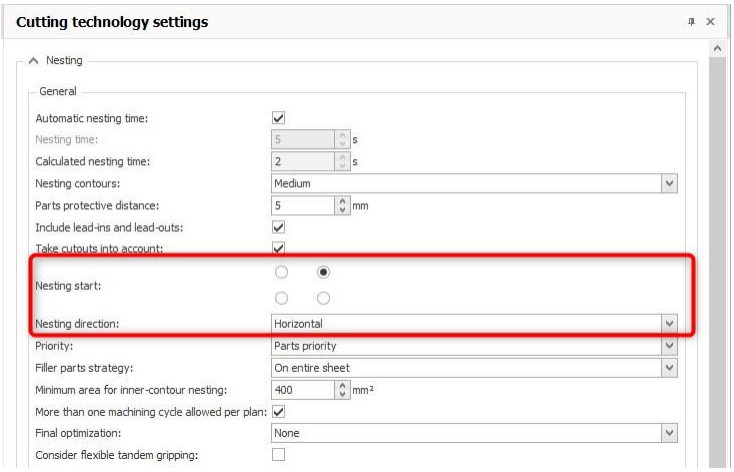
3.6.13 Combine nesting directions

The options regarding the nesting directions have been increased. Up until now, the system offered four options:

- From left to right.
- From right to left.
- From top to bottom.
- From bottom to top.

An extension of these options with another four options has now been included.

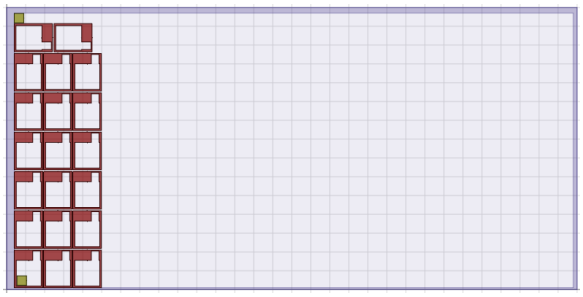
With the new options it could be difficult for the user with only one combo, so the nesting settings dialogue has been modified as shown in the next image:



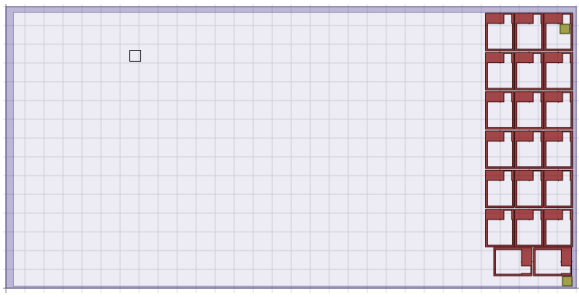
As can be seen, there are now two fields that relate to the nesting direction. The first one is the start corner and the second one is the direction, which can be either vertical or horizontal.

The following images show all the options:

Left bottom corner and vertical

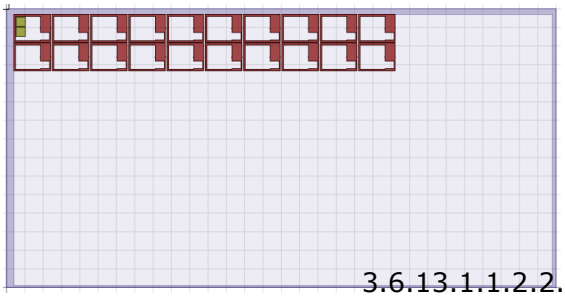


3.6.13.1.1.1 Right top corner and vertical



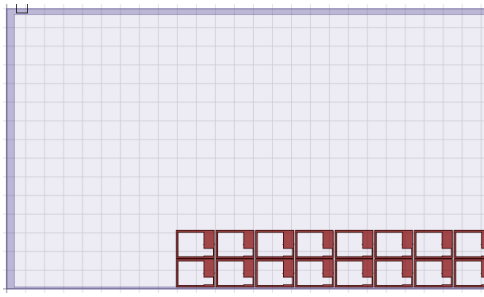
3.6.13.1.1.2

3.6.13.1.1.2.1 Left top corner and horizontal



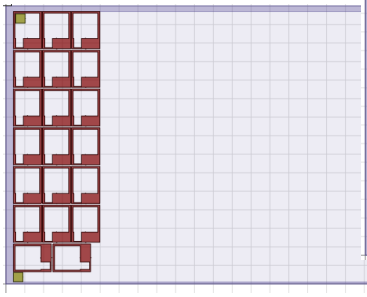
3.6.13.1.1.2.2

3.6.13.1.1.2.2.1 Right bottom corner and horizontal

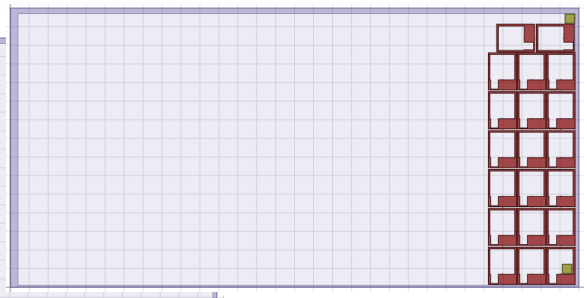


3.6.13.1.1.2.2.2

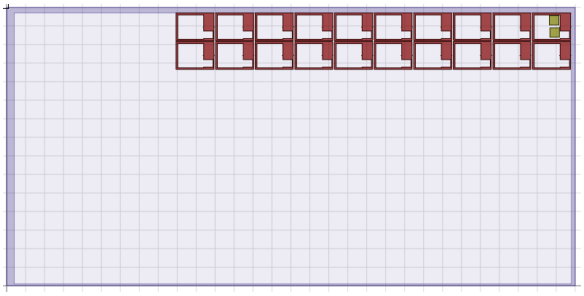
3.6.13.1.1.2.2.2.1 Left top corner and vertical



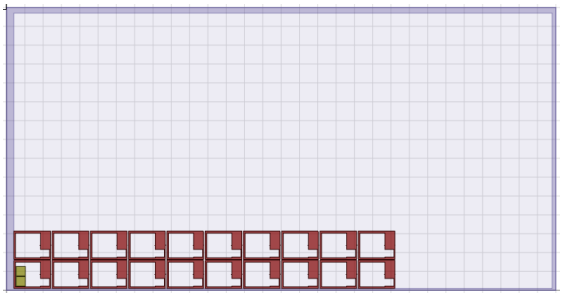
3.6.13.1.1.2.2.2.2 Right bottom corner and vertical



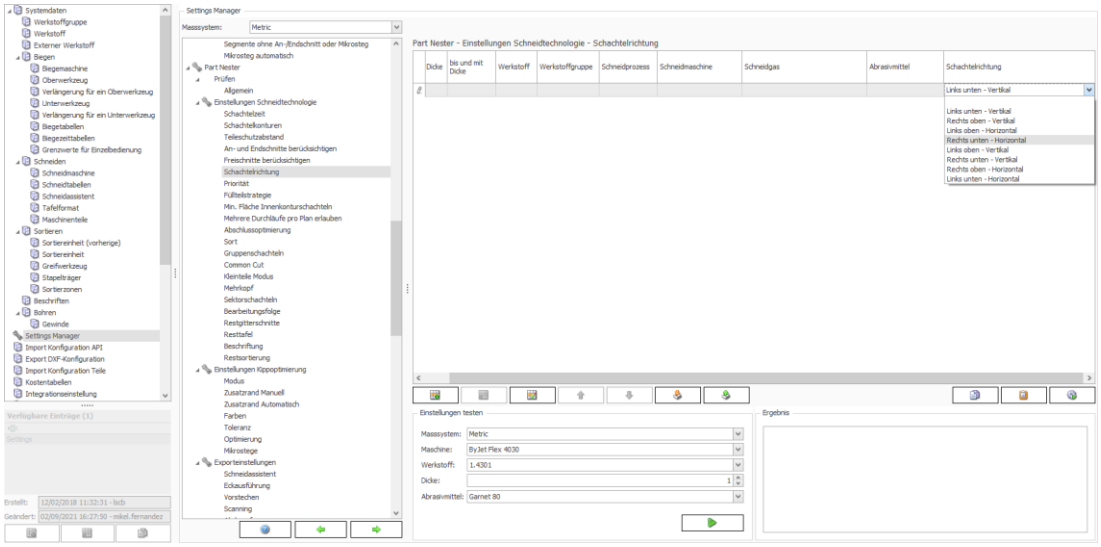
Right top corner and horizontal



Left bottom corner and horizontal



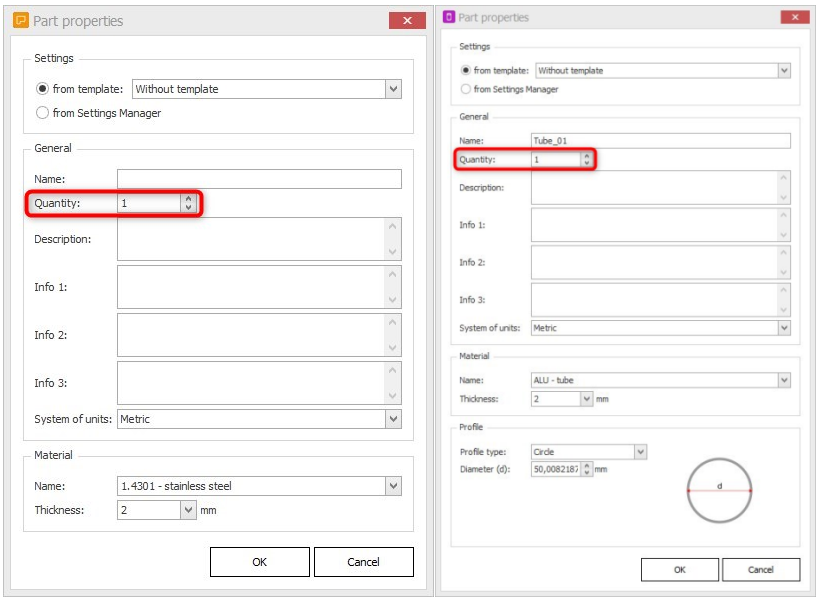
In the Setting manager of the Administrator module, the options are shown in a single combo:



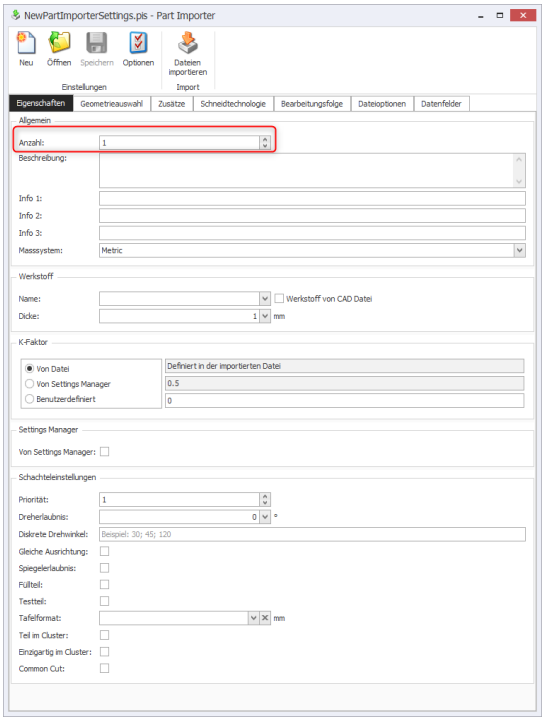
3.6.14 Nesting quantity on part level

The user will be able to define the nesting part quantity for parts and for tube parts. This quantity will be used each time that the part is added within a Part Job.

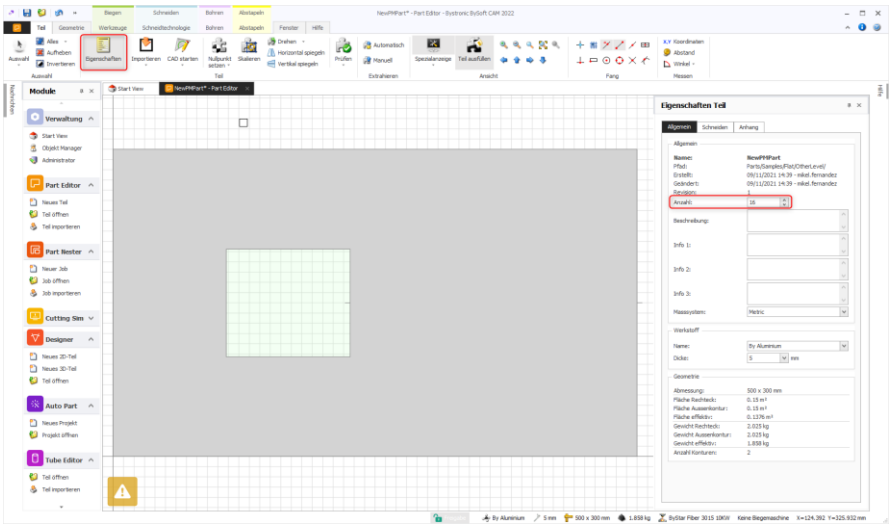
If a new part is added or a new tube part is imported, a new field to define the part quantity will be shown:

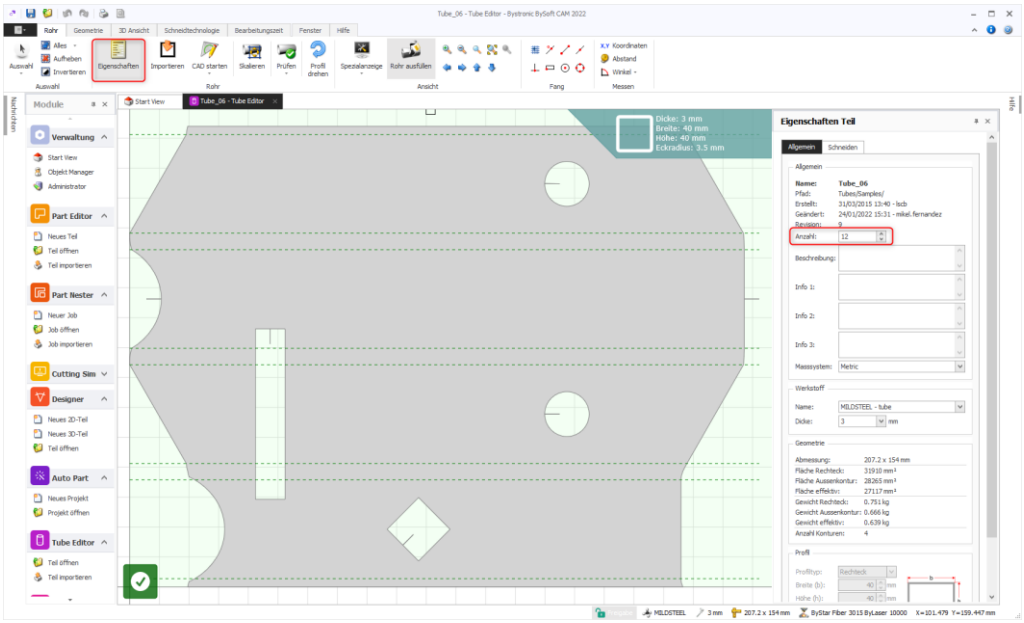


Also, it is possible to define a default quantity for the parts imported with the Part Importer application:

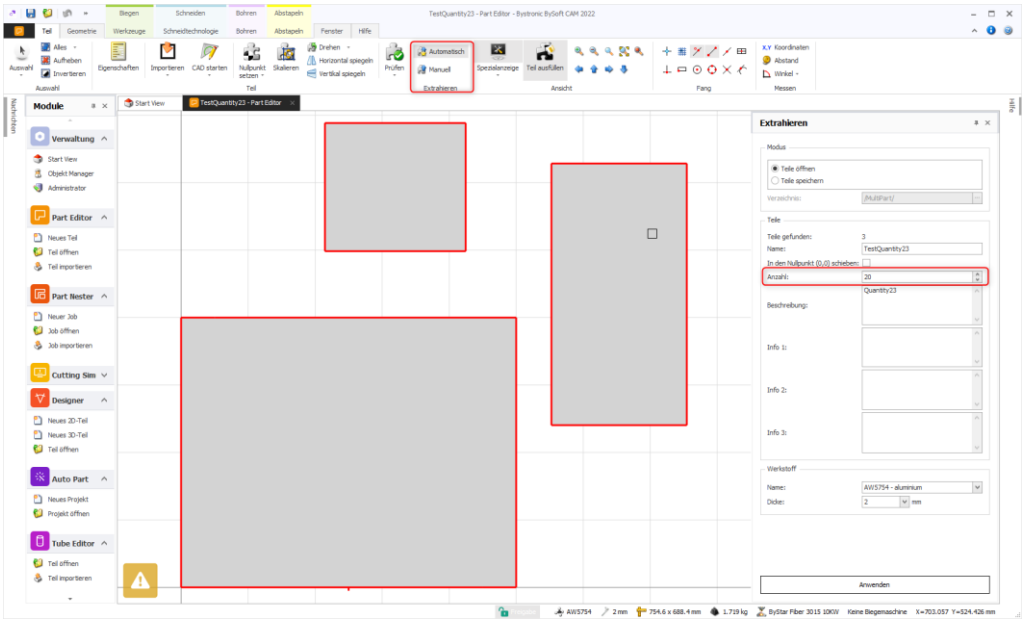


It will be possible to change this value from the Part Editor module and the Tube Editor module using the properties option:



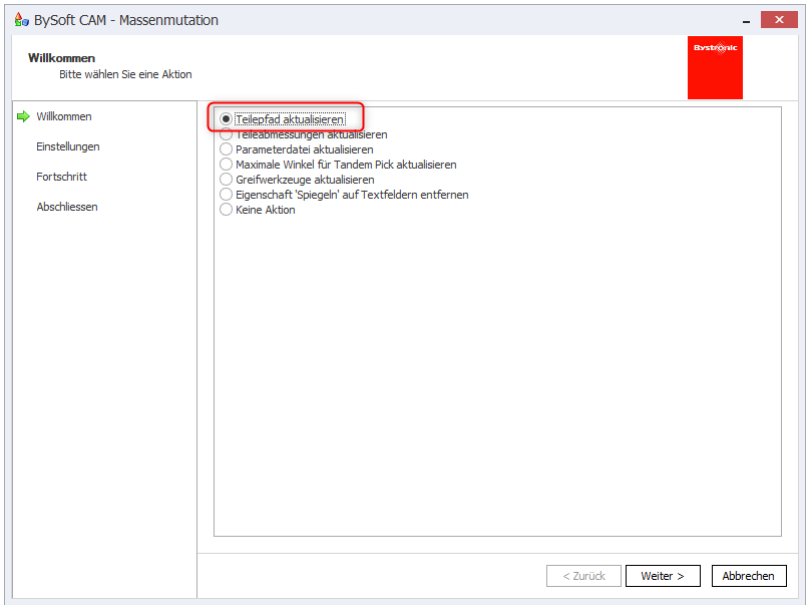


And finally, the option to extract the distinct parts from a file with multiple parts will offer a new field to set the quantity to nest.



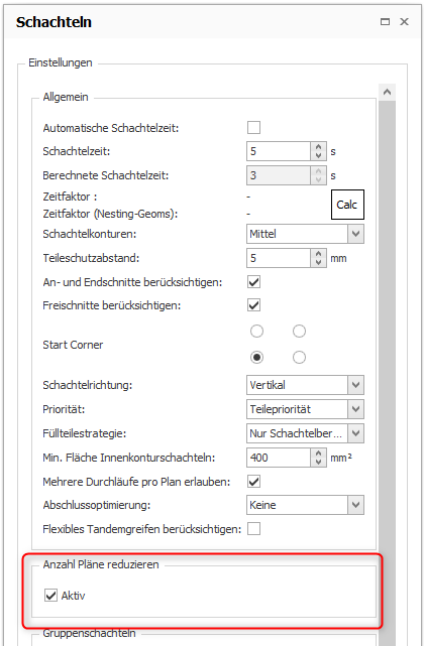
3.6.15 Include update of part path in Batch processing app

New option to update the path of the parts has been included in the "Batch processing" tool.



3.6.16 Reduce the number of plans

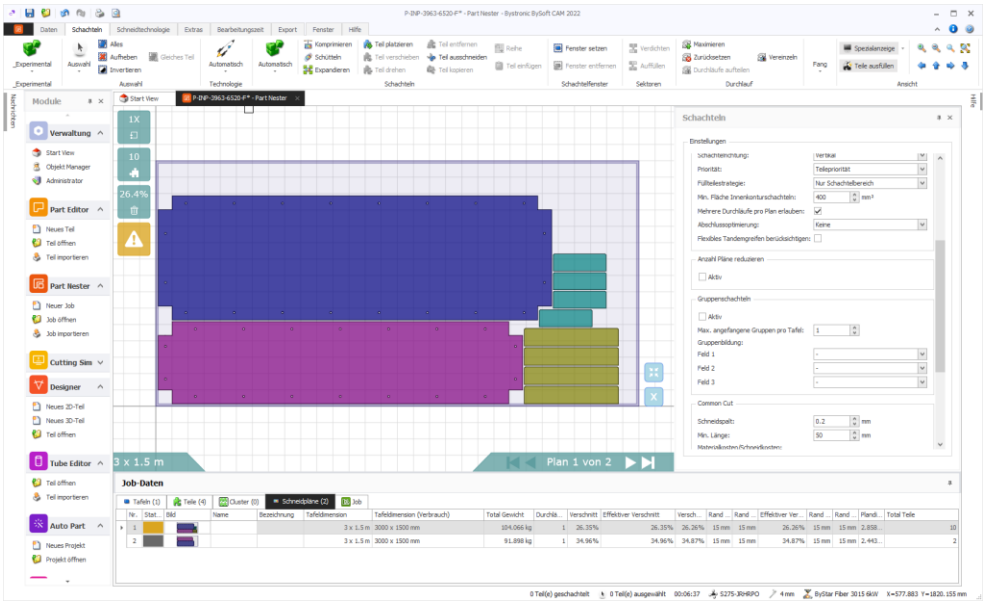
Sometimes the best nesting solution is not the solution with most efficient nesting. Sometimes there are other factors that can increase the cost of a job. One of these is related to the extra cost that is incurred when the layout of a plan is different because it could generate more displacements in the warehouse, and another is issues that the customer wants to avoid.

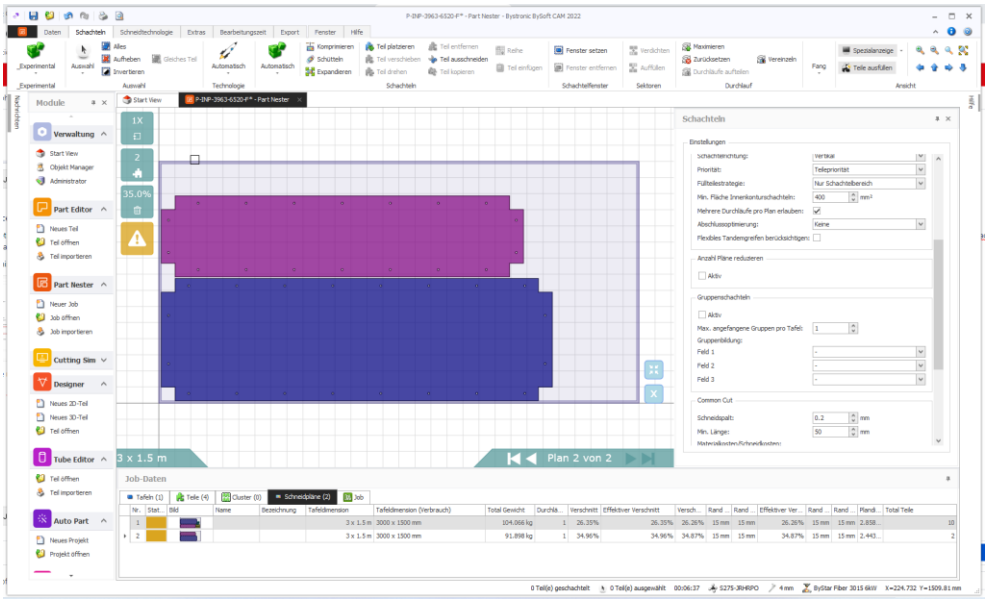


For this reason, a new option is added in the nesting setting to search for a solution that reduces the number of different plans.

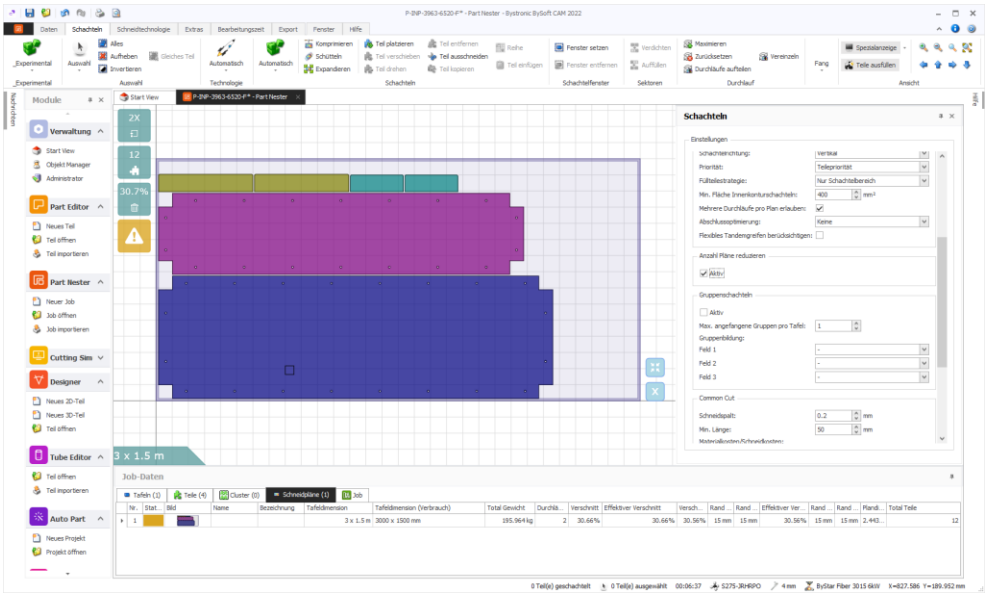
The next two images show the difference between an execution without the new option and with it:

Reduce number of plans: Unchecked





Reduce number of plans: Checked

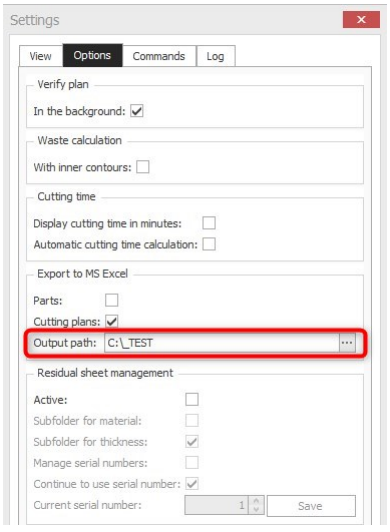


3.6.17 Define path for "Export to MS Excel"

A path for the export file can now be specified in the export options for an Excel file.

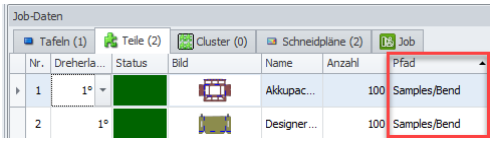
If no path is specified, the export works as before, and the Excel file is written to the cutting plan directory.

This parameter can be found in Part Nester/Settings/Options



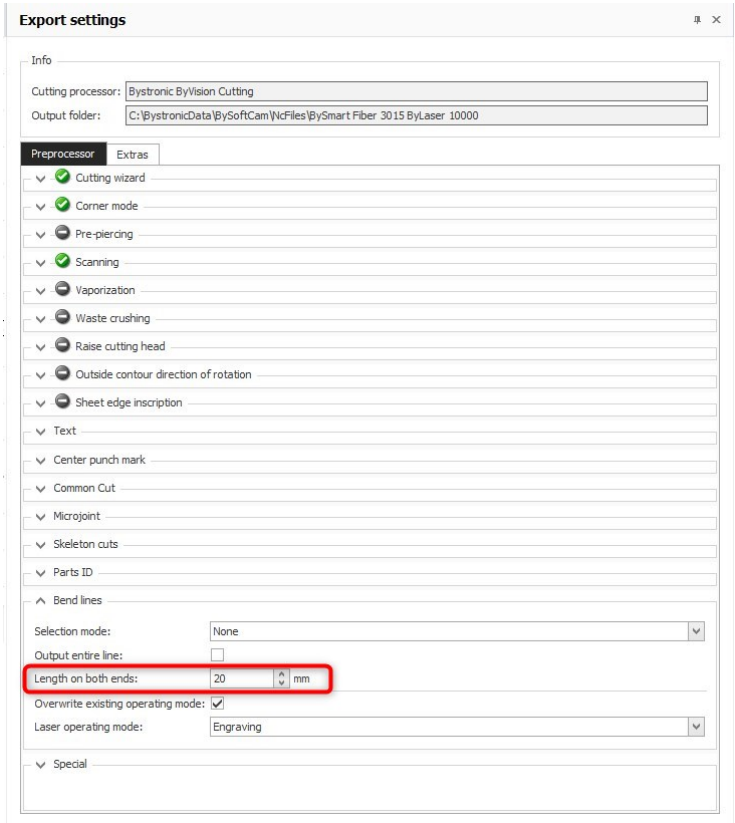
3.6.18 Displaying part in the part master

The path of a part in the part master is now displayed in the "Parts" tab in the Part Nester and in the Plant Manager.



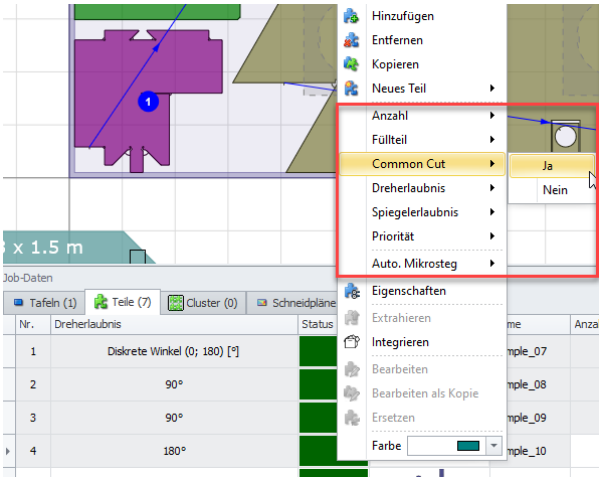
3.6.19 Engrave bend-line only on start and end

In the postprocessor, engraving of bend lines can only be set at the start and end points. This option can be found in Part Nester/Export/Export Settings tab:



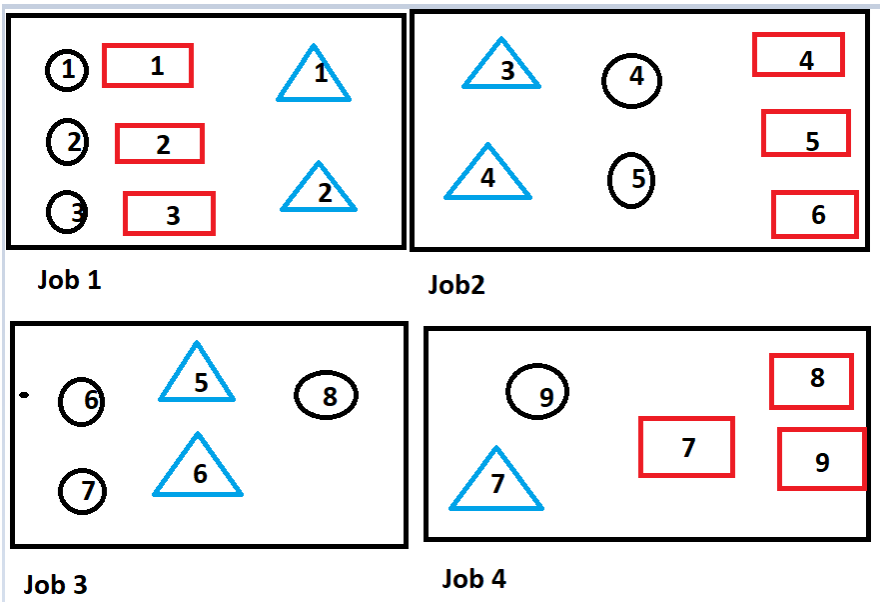
3.6.20 Apply changes to several parts at once

Now several parts can be selected and a new value assigned to the parts.

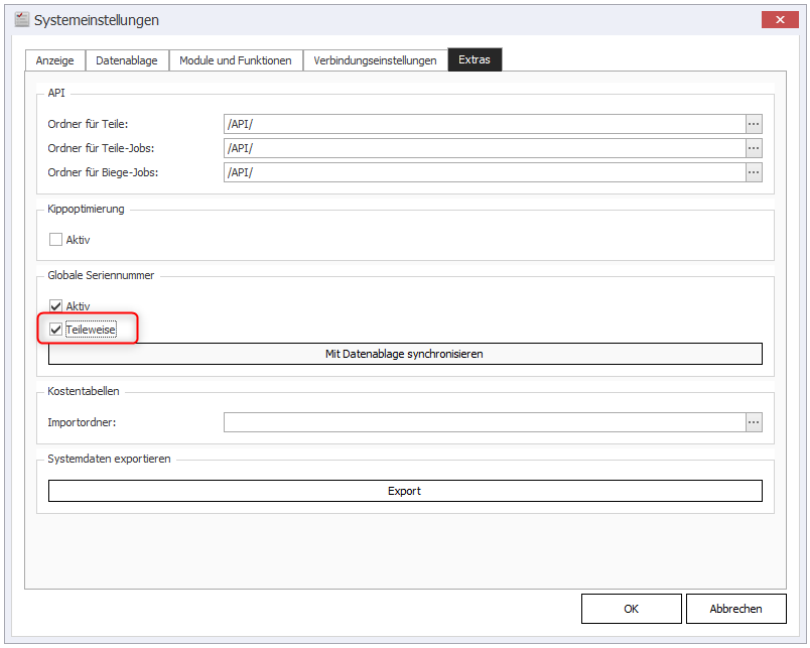


3.6.21 Global serial number per part

The option to use a global number as a serial number for the parts has been extended to be able to assign a different global serial number to each part. This means that each part within the Data Storage will have its own field to manage the serial number. Two parts in the same plan can be given the same serial number, but the same part in different plans or job must be given different serial numbers.

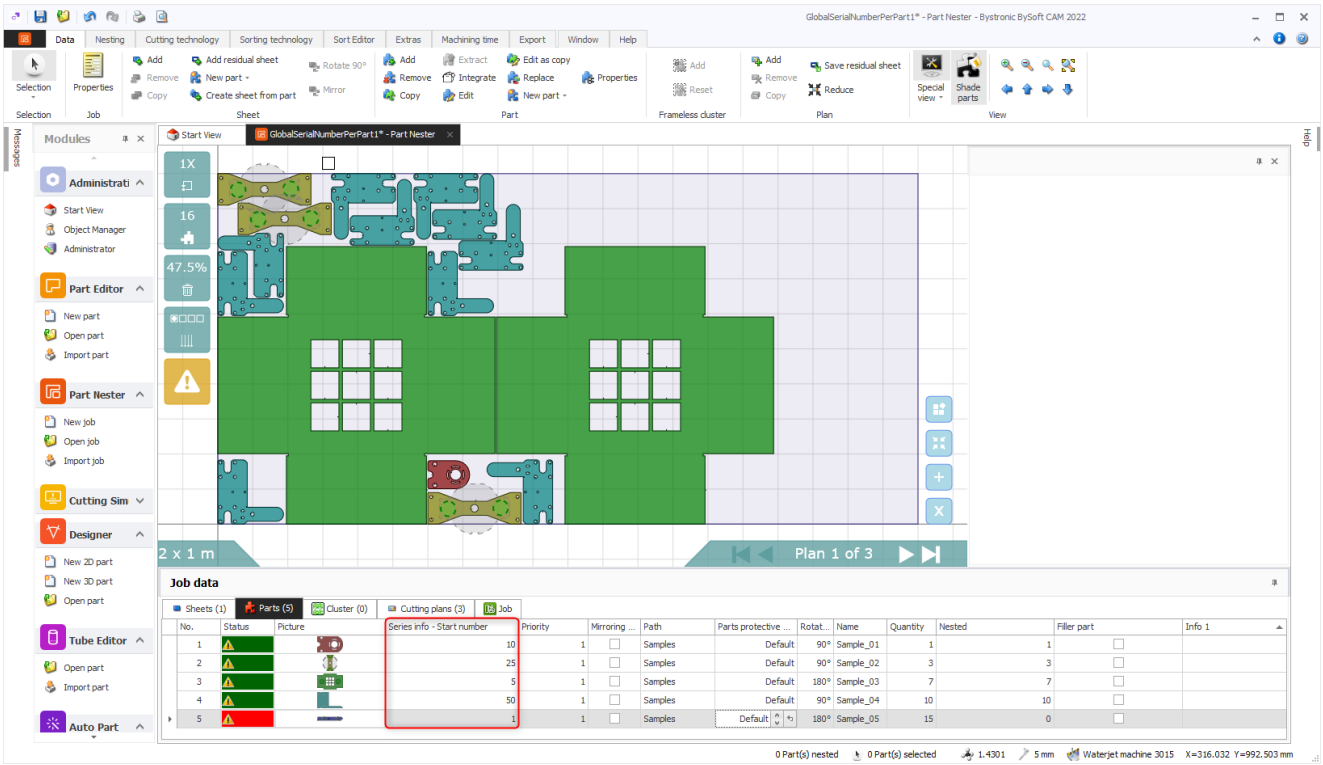


To activate this option, a new parameter has been included in the general system settings as shown in the next image:



Apart from that, a new option called 'Synchronize with Data Storage' has been included. This option relates to how these relations between the parts and their serial number is stored. This relationship is stored in a dedicated file and if a part is removed from the Data Storage, the system will not remove the part from this file automatically. This option allows those parts to be deleted from the file.

In addition, to allow the current value for each part to be managed, it is possible to use the column 'Serial info - Start number' for this purpose. The system will show the next global serial number of each part and if the value is changed the value will be updated in the file.

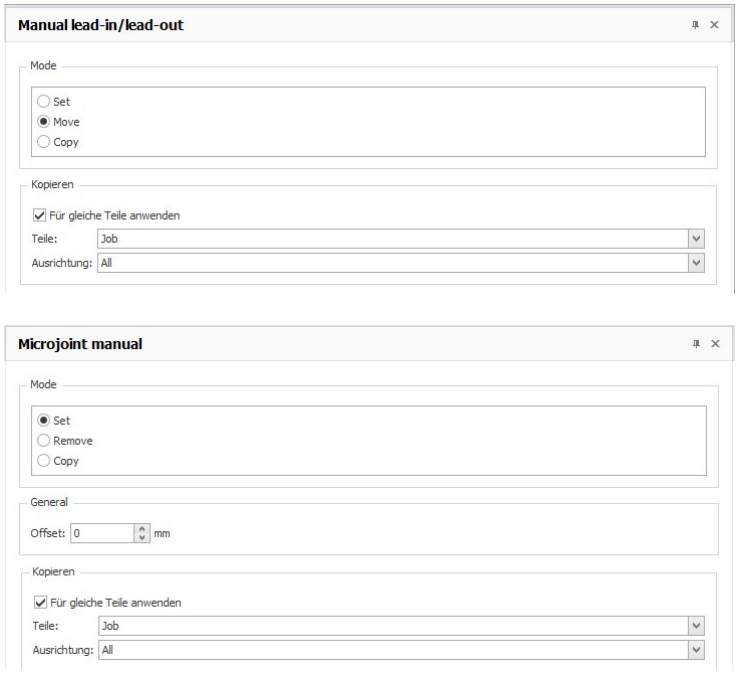


3.6.22 Option to apply lead in-out and micro-joints options to several parts

The manual options regarding the lead in-out and micro-joints have been improved to simplify the number of actions that a user needs to execute to obtain the final solution.

When a user wants to modify the lead in-out of a part on the plan, the user must modify it in one part and then copy it to the other identical parts in the plan or in all the plans. It means that the user has to execute two options to obtain the desired functionality.

For this reason, a new option has been included in the options to edit the lead in-out and micro-joints to copy the modification to the rest of the parts at the same time that the change is applied to the original part.



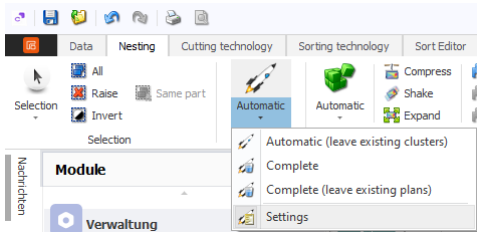
3.6.23 Set part color via ERP import

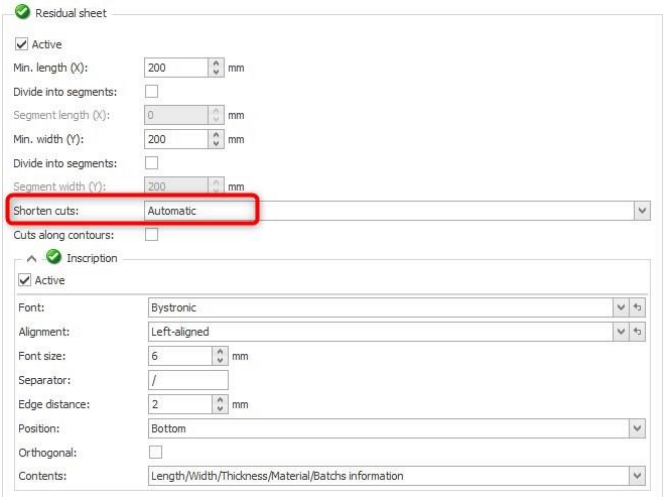
It is now possible to define the color that the system will use in the Part Nester module. Using the tag 'COLOR', the user will be able to include a string with the hexadecimal code of the color. Also, this value can be a well-known color name, for example 'Blue'.

```
<ProductionStrategy>MaterialAdministrationOrder</ProductionStrategy>
<Automatic>True</Automatic>
<Customer>Dennison</Customer>
<CustomerNumber>1</CustomerNumber>
   <Parts>
        <ErpPart>
              <BysoftCode>BR1803</BysoftCode>
              <Label>PLATE OVER KINGPIN LT.WT</Label>
              <Debit>3</Debit>
              <MaterialCode>S355</MaterialCode>
              <Thickness>8</Thickness>
              <RotationAllowance>AnyAngle</RotationAllowance>
              <Info1>Dennison_21m2519_PB5601-976</Info1>
              <Info2>BIN: 3-D-FLAT (B: 528)</Info2>
              <Info3>S355-50A</Info3>
              <Info4>0|1|212519|21113|0|209116|##</Info4>
              <Color>#ffa52a2a</Color>
               <ProductionSteps>
                 <ErpProductionStep>
                      <ProductionStepType>LaserCutting</ProductionStepType>
                      <StartDate>2021-11-01T08:00:00</StartDate>
                      <TargetDate>2021-11-08T08:00:00</TargetDate>
                 </ErpProductionStep>
               </ProductionSteps>
        </ErpPart>
        <ErpPart>
              <BysoftCode>BR18728</BysoftCode>
```

3.6.24 Residual sheet cuts identical to in Bysoft 6

Residual cuts on a job can be shortened as was possible in Bysoft 6, for which there is a new "Automatic" option in the Nesting settings, as can be seen in the following window:





3.7 Auto Part / Part Importer

3.7.1 Permitted import formats

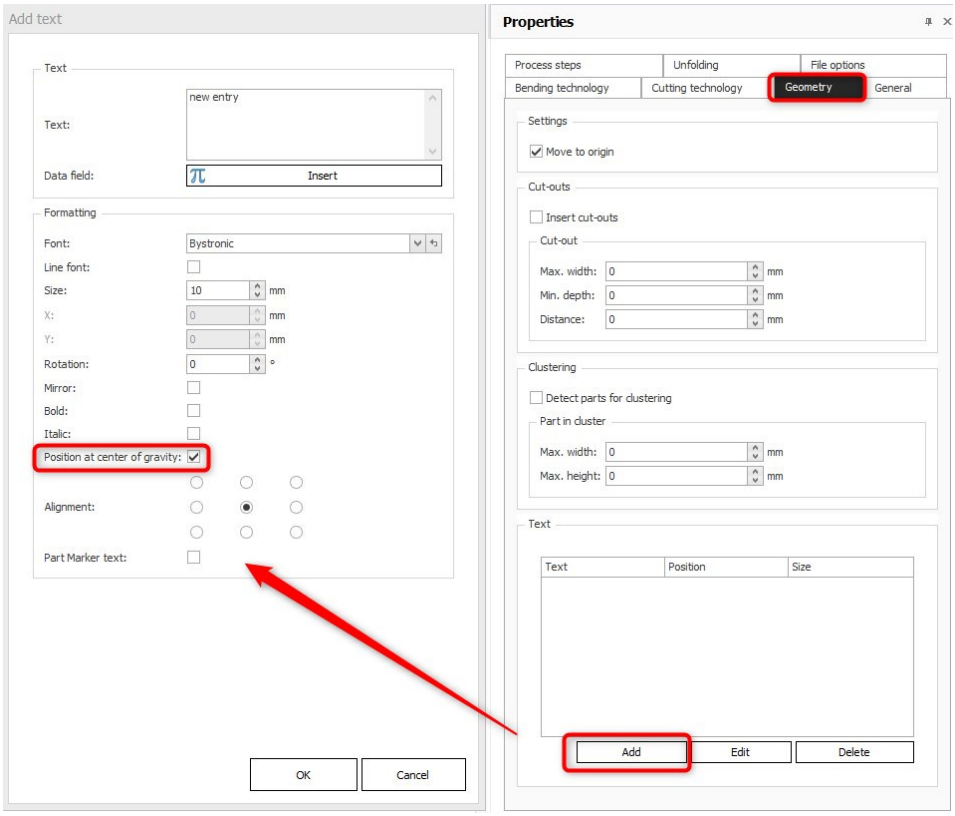
This is the list of permitted import formats on BySoft CAM V2.0.0:

Importer	Type	Extensions	Versions	Limitations
ACIS	3D	*.sat	Up to 2020	3.7.2
Autodesk Inventor	3D	*.iam, *.ipt	Up to 2022	The color redefinition that is available in Inventor Representations is not supported. Default representations are not supported.
Catia V4	3D	*.dlv, *.exp, *.model, *.session	Up to 4.2.5	3.7.3
Catia V5	3D	*.catdrawing, *.catpart, *.catproduct, *.catshape, *.cgm	Up to V5_6R2021	Density on linked materials is not supported. Density is not retrieved on prototyped parts with different densities.
Catia V6 / 3DExperience	3D	*.3dxml	Up to V5-6 R2019 (R29)	No support for multiple sections views.
Dwg	2D	*.dwg	2018-2019 (AC1032)	3.7.4
Dxf	2D	*.dxf	AC1014	3.7.5
IFC	3D	*.ifc	IFC2x Editions 2, 3 and 4	3.7.6
IGES	3D	*.iges, *.igs	5.1, 5.2, 5.3	Group associativity is not supported (IGES Type 402).
Parasolid	3D	*.x_b, *.x_t, *.xmt, *.xmt_txt	Up to 34	3.7.7

Importer	Type	Extensions	Versions	Limitations
PRC	3D	*.prc	All Versions	3.7.8
Pro/Engineer Creo	3D	*.asm, *.neu, *.prt.*, *.xas, *.xpr	Pro/Engineer 19.0 to Creo 8.0	3.7.9
SolidWorks	3D	*.sldasm, *.sldprt	From 97 up to 2021	3.7.10
Solid Edge	3D	*.asm, *.par, *.pwd, *.psm	V19 - 20, ST - ST10, 2021	3.7.11
STEP	3D	*.stp, *.step	AP 203 E1/E2, AP 214, AP 242	Support for STEP AP 242 is included, however, it will not be officially supported until the specification is ratified.
Unigraphics/NX	3D	*.prt	V11 to v18 NX to NX12 NX1847 Series to NX1980 Series	3.7.12
VDA-FS	3D	*.vda	V1.0 and V2.0	3.7.13

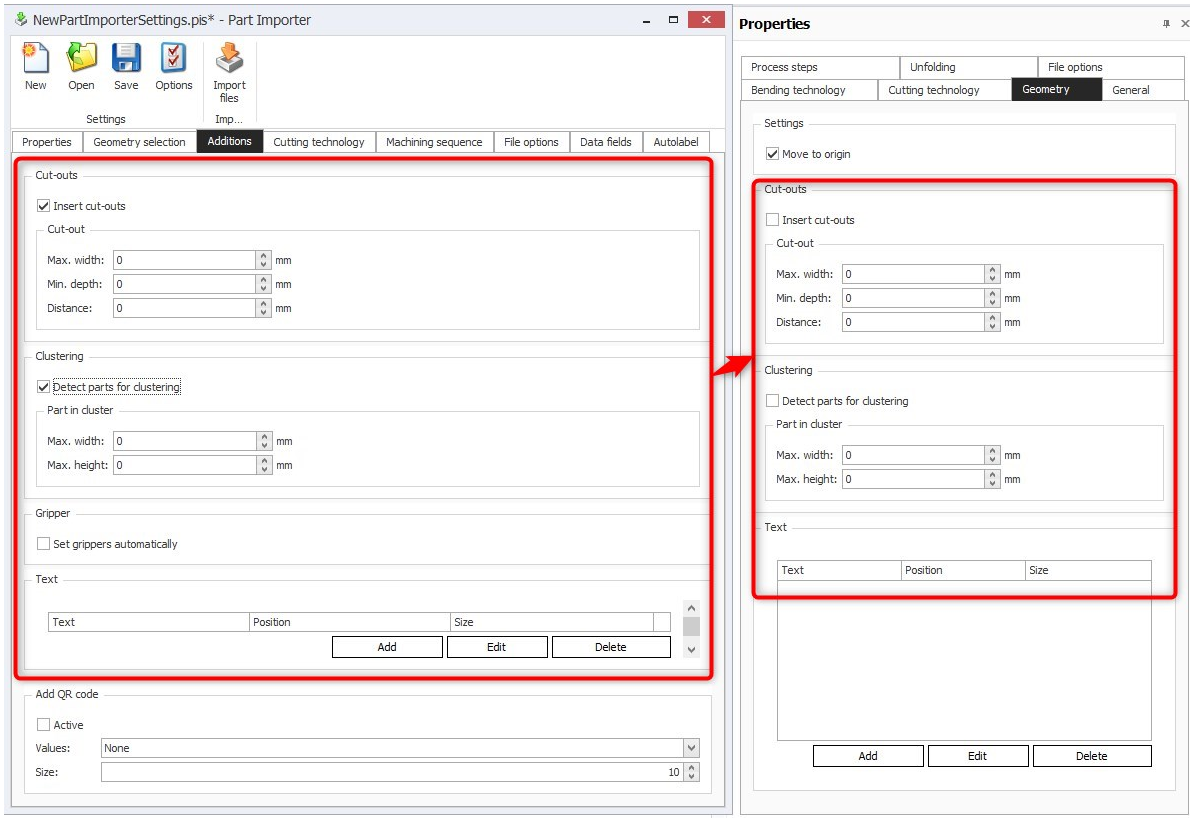
3.7.14 Place text in center of gravity

Auto Part and Part Importer have the option to define a new way of placing text. Instead of specific coordinates, the user can define the part's center of gravity as the insertion point:



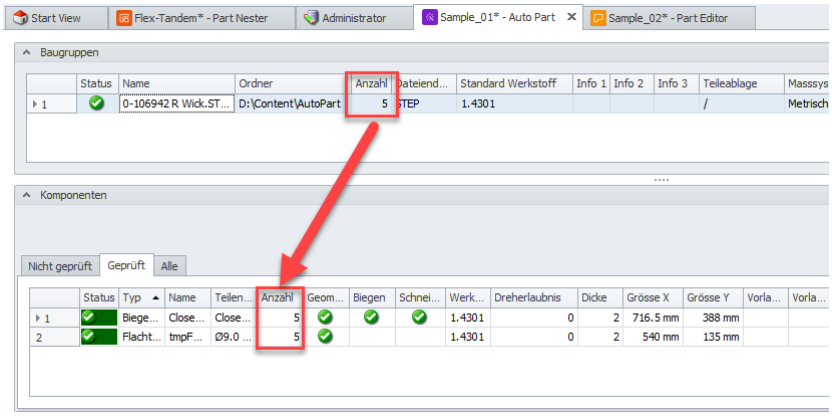
3.7.15 Same Addition options for Part Importer and Auto Part

Unification of available options in Auto Part and Part Importer. Part Importer extended with QR code (as was already available in Auto Part). Auto Part extended with cut-outs, clustering, and text (as was already available in Part Importer).



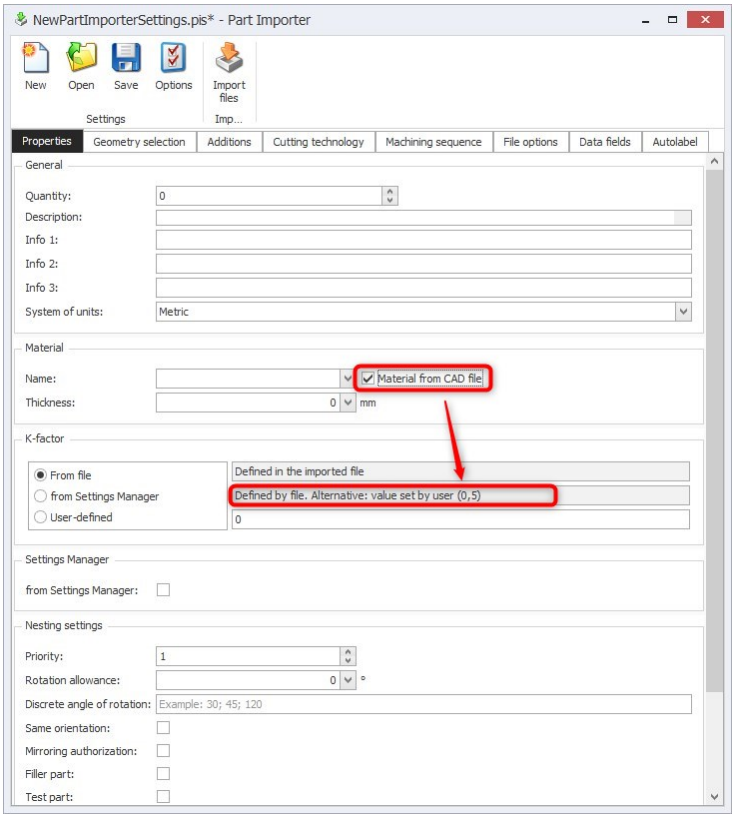
3.7.16 Auto Part - Quantity for assemblies

It is now possible to enter a component multiplicator at assembly level, helpful for several plans in the same nesting. If a given part is to be produced ten times on a sheet, and five sheets are wanted, the component will have a multiplicator of ten, and the user can at assembly level multiply it by five.



3.7.17 Part Importer - Use k-factor based on CAD material

Changes to "From settings manager" k-factor behavior. If "Material from CAD file" checkbox is ticked, k-factor is calculated based on material/thickness from the file.



3.7.18 Auto Part - Use k-factor based on CAD material

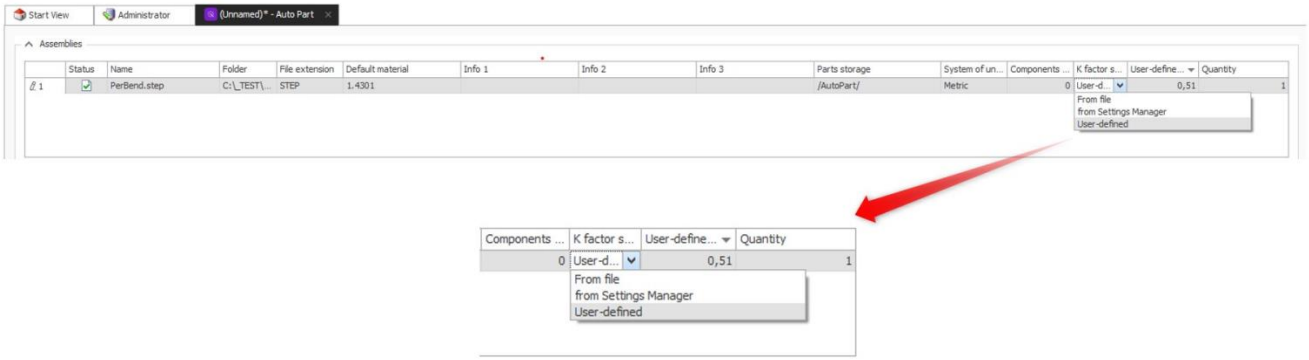
This is used when a user wants to be able to tell the software to look for k-factor in the Settings Manager based on material/thickness found in the CAD file and not the one defined in Auto Part.

Instead of showing three columns for k-factor in the assembly grid, we show a dropdown and one column "User defined k-factor":

- The dropdown contains the three options:
  - From file
  - From Settings Manager
  - User defined
- The user can select which option should be used for the specific assembly.
- There will be no display of the value used; the user can only see the value on the component detail.

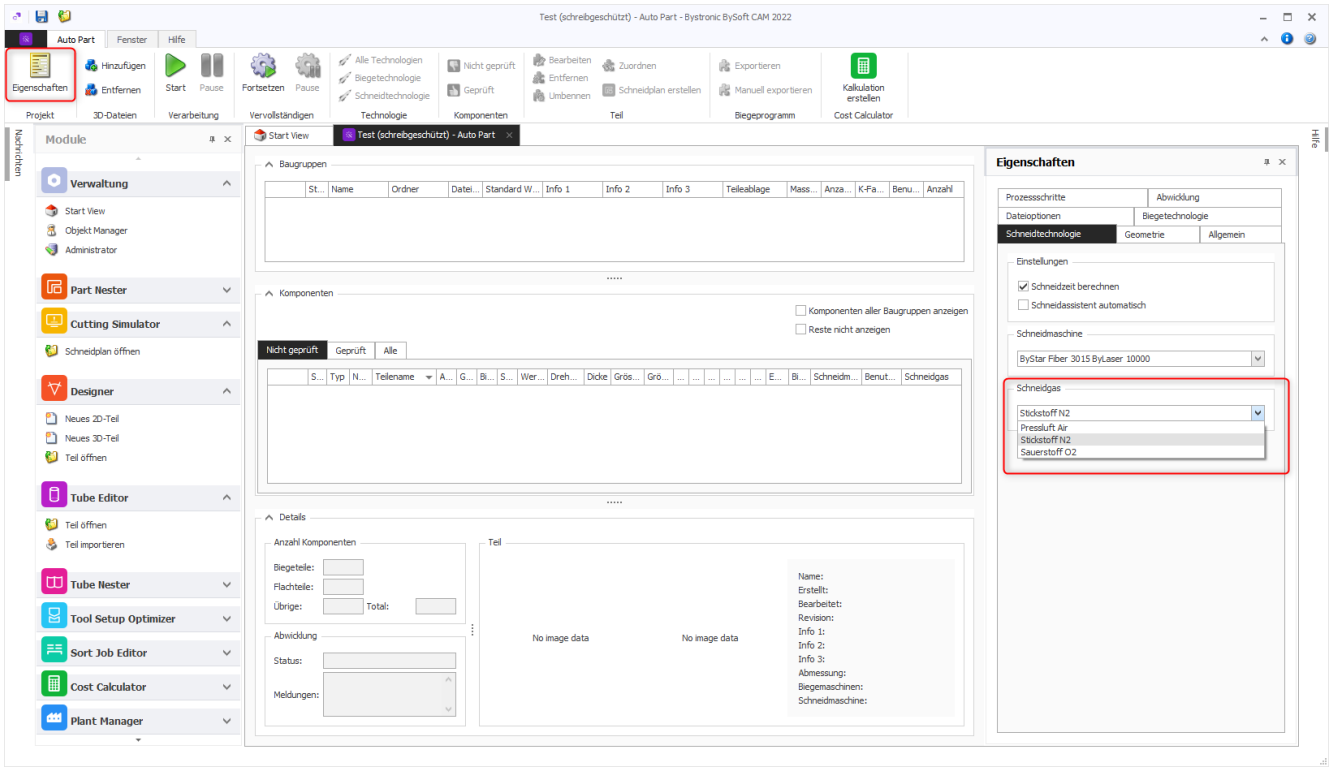
Use material from CAD file:

- When using this option, the k-factor value "From Settings Manager" must be defined by the values found for material and thickness.
- If there is no material found on the part, the value will be based on the selected default material for the assembly and the thickness found of the component.



3.7.19 Add cutting gas type in project properties in Auto Part module

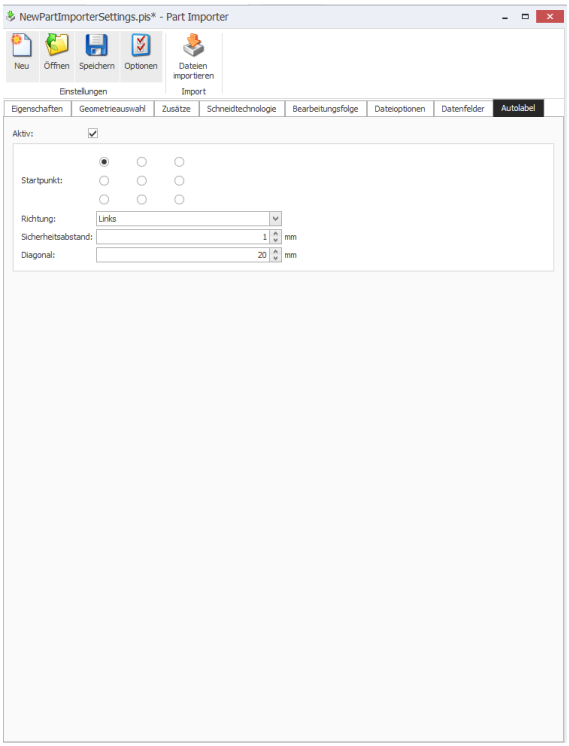
In order to allow the parts nesting settings to be initialized with the values of the settings manager, the cutting gas type must be defined. To allow for this, in the project properties it is now possible to define a cutting gas type to use once a part is created from an assembly:



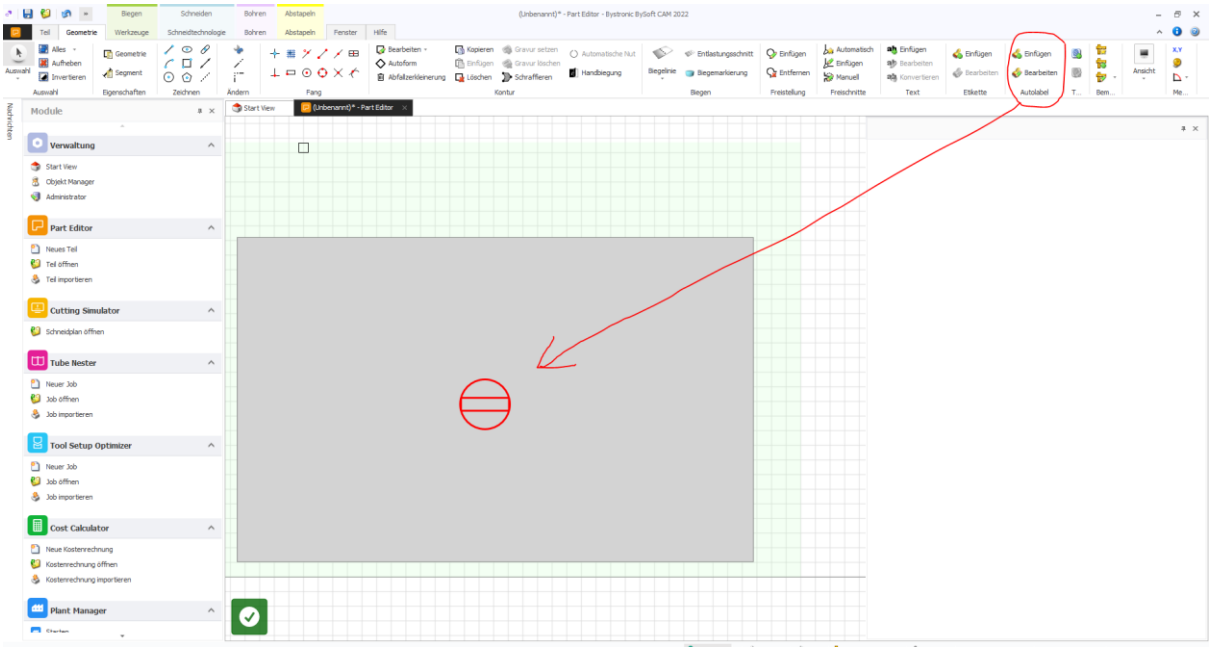
As the image shows, a new components list column has been included to show the current cutting gas type, which the user can change.

3.7.20 Automatic labelling system (option protected)

New tab with all required parameters added to PartImporter.



New buttons for manual Add/Edit autolabel in PartEditor. Visual representation of AutoLabel is a Circle with a horizontal rectangle in it.



Entry in PartImporter log if placing AutoLabel fails:

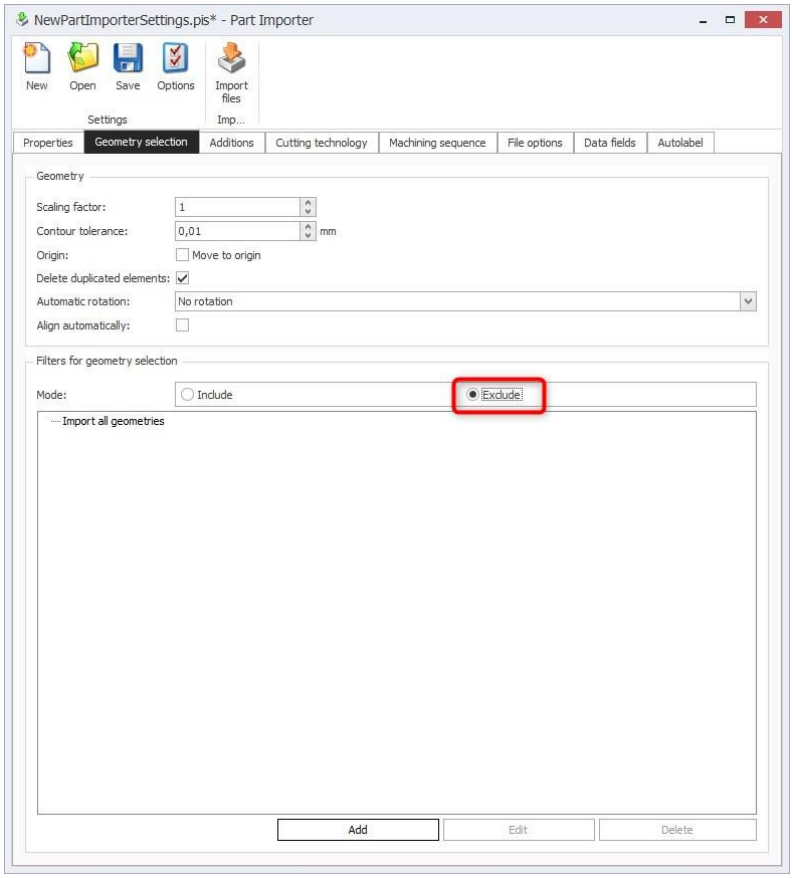
```
[09.02.2022, 21:54.40] ERROR: Placing AutoLabel failed for part C:\Users\pilo\Downloads\stepbend_import.dxf
```

The availability of functions depends on license. The feature **bsc_custom_autolabel** must be active in the license to allow access to autolabel related options in both PartEditor and PartImporter.

3.7.21 Blacklist for Part Importer

A radio button group has been added to select whether given list is inclusive or exclusive (i.e. whitelist and blacklist). Depending on selection, the same list works as a list of allowed or denied layers/blocks etc.

Please note that the "Add geometry filter" dialogue is much smaller for a blacklist. This is because it does not make sense to set any properties related to cutting technology, as they won't be set anyway.

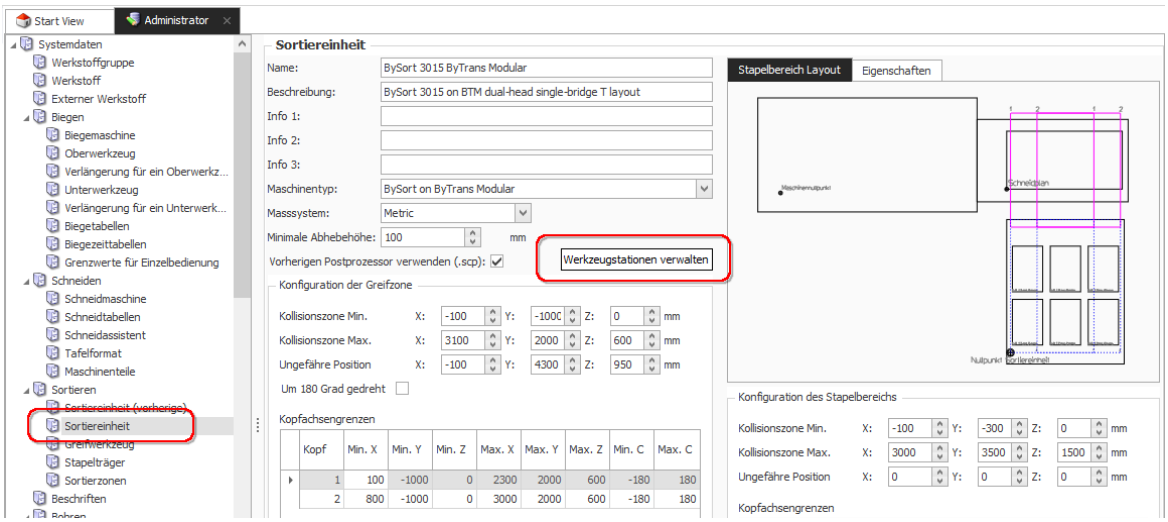


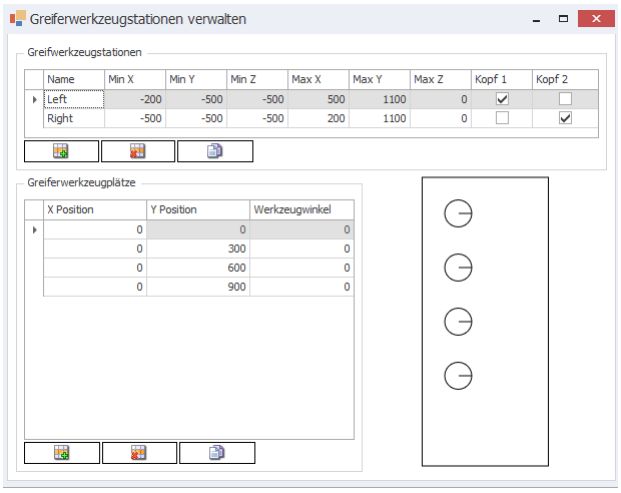
3.8 Sort Editor

3.8.1 Tool Station Management

BySoft CAM sorting now includes explicit management of sorting tool stations (instead of maximum number of simultaneously usable tools per sorting job).

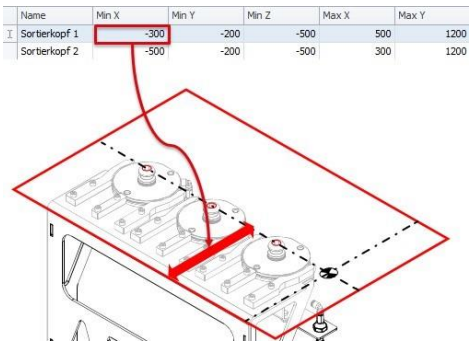
Initial configurations of tool stations are accessible via Sorting unit administration view.



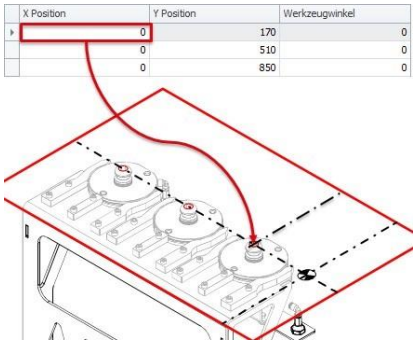


Exact tool locations with space dimensions should be entered in this panel. The station is described as a global free space 3D box (which corresponds to free space under the tool holder place – figure a) and positions of each individual tool slot (figure b):

a)



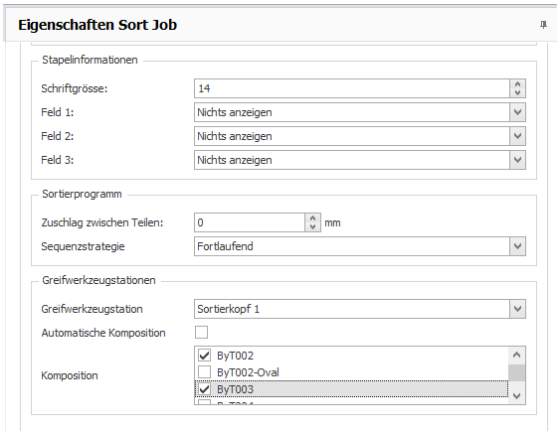
b)



The settings panel of the Sort Editor now includes the option to explicitly manage tool stations.

BySoft CAM will use the available space dimensions in order find a tool set which matches the tool station. For example, a bigger tool will be placed in such a way as to maximize the space for other tools to also fit.

When creating sort job, there is a new setting allowing management of tool station composition with two options – automatic and manual override.



Automatic is the default setting. When activated, tool station will be filled automatically and according to the tool station's free space and dimensions of the tools.

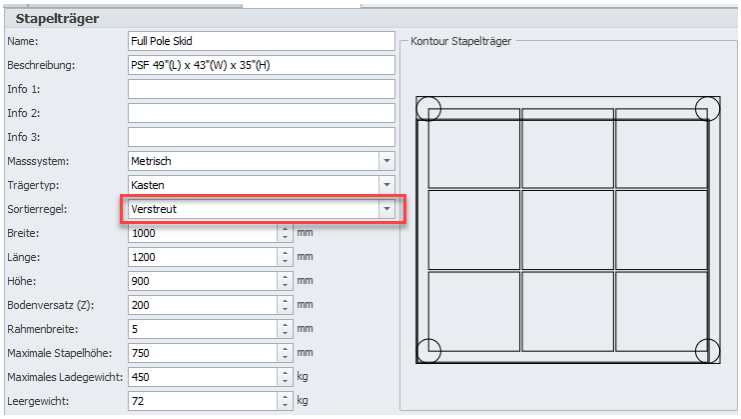
Manual option forces BySoft CAM to use specific tools in tool stations (for example in case when there is only one physical unit of a tool and it must be installed in one of the tool stations). Tool dimensions are always checked by BySoft CAM to generate a feasible solution.

When the manual option is selected and there is still space remaining in a tool station, BySoft CAM may automatically complete the installation with more tools if required.

3.8.2 Box Carrier

It is possible to sort parts scattered in a box/container by dropping the parts from a certain height.

Furthermore, in the Administrator module of BySoft CAM, the box container can be defined and assigned to the new sorting unit.

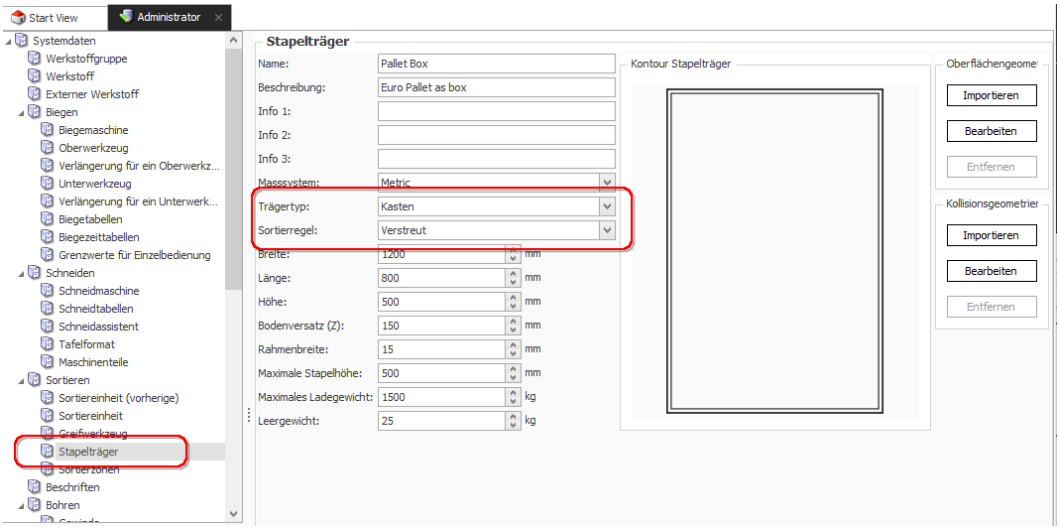


- Full pole skid

- Half-pole skid

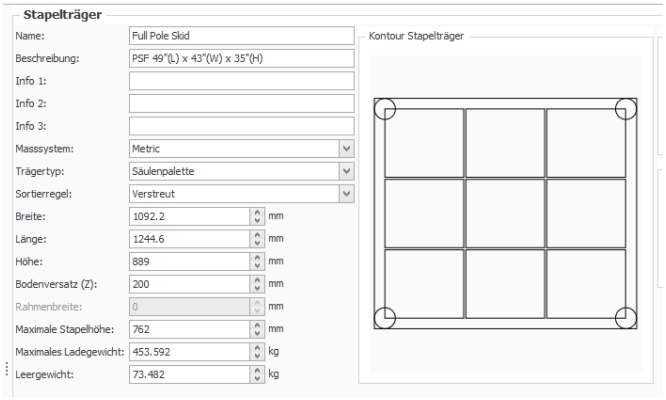
Boxes, or more precisely bulk sorting containers – as opposed to stacked sorting, are now supported in BySoft CAM.

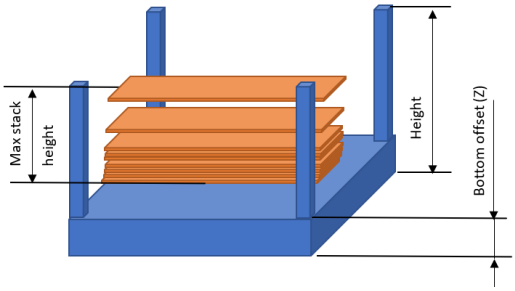
These containers can be set up using Administrator application -> Stack carriers.



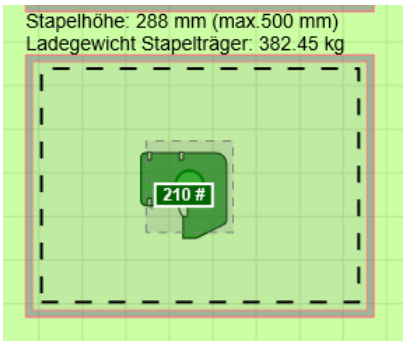
The "Scattered" sorting rule means that instead of forming stacks in such containers, the sorting system will fill the container by distributed dropping of the parts.

The second type of bulk sorting carriers is "poled pallets". Those are typically pallets or skids with pillars and used for long parts.



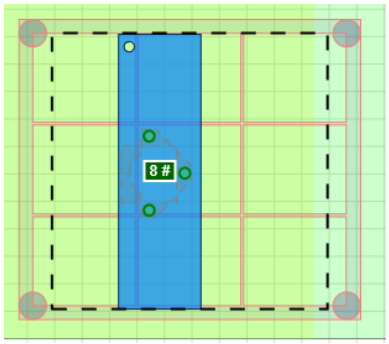


When bulk sorting storage is used in a sorting job, BySoft CAM will generate a sorting program where parts will be dropped randomly inside the dropping perimeter (estimated automatically according to container dimensions and shown with dashed lines).



It is not possible to mix stacked and bulk sorting in the same container. Mixing distinct parts in the same bulk container (box) is allowed. Approximate height of bulk storage is estimated according to geometrical properties of the parts.

In case of poled containers, random dropping is done in the direction where the part has the smallest dimension (width).



In the example, the parts will be distributed from left to right between pillars.

3.8.2.1 Automatic sorting into boxes and known limitations

Create part job or sort job using a sorting machine with configured stack area containing boxes.

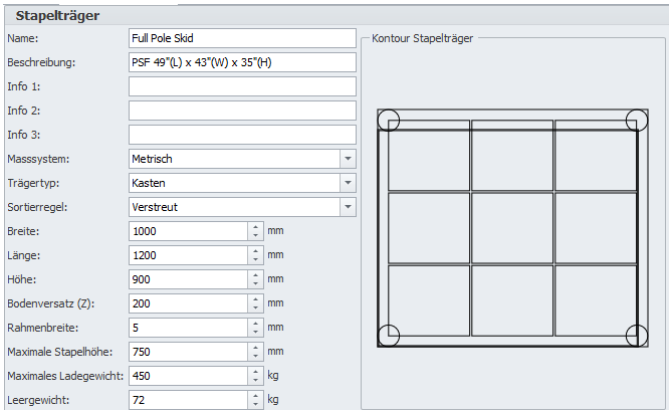
Change the sort part properties by activating sorting into boxes. Note: it is not necessary to update properties on all cutting plans for the same sorted part.

Click automatic rocket button to nest parts into boxes.

The algorithm tries to distribute weight equally by distributing all parts in all existing boxes. The grouping criteria are not currently considered when nesting into boxes. This limitation will be removed in future versions.

3.8.2.2 Implemented stacking support geometries in Administrator

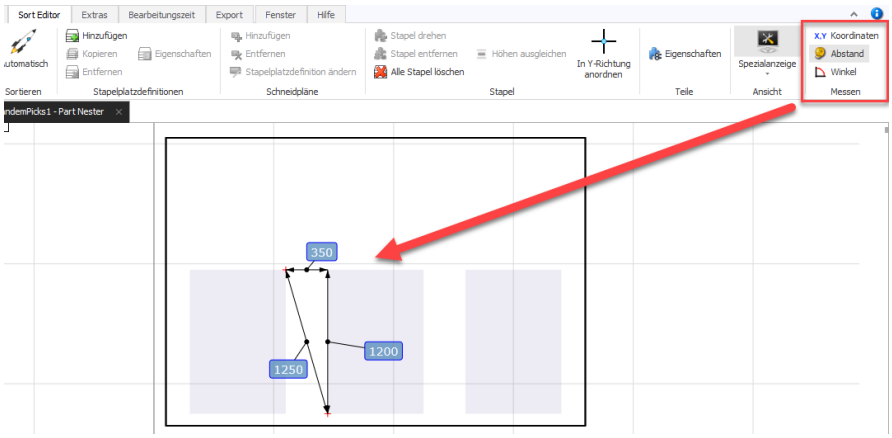
New "Full Pole Skid" stacking support implemented in the Administrator.



3.8.3 Measure distance in sort editor

The point, distance and angle measure options are now available in the sort editor tab in the Part Nester module, as well as in Sort Job Editor.

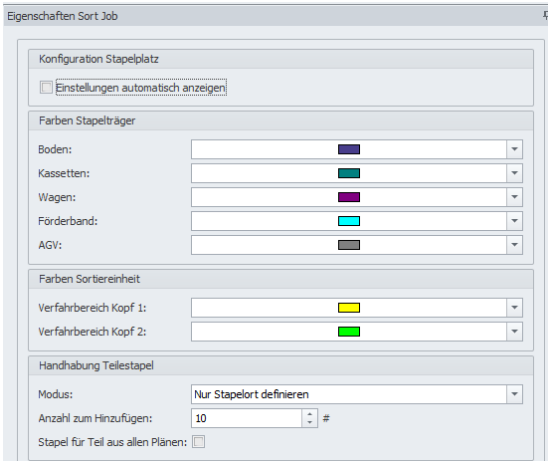
The user can snap the current point with the geometry used in the sorting (Stack carriers, areas, etc.).

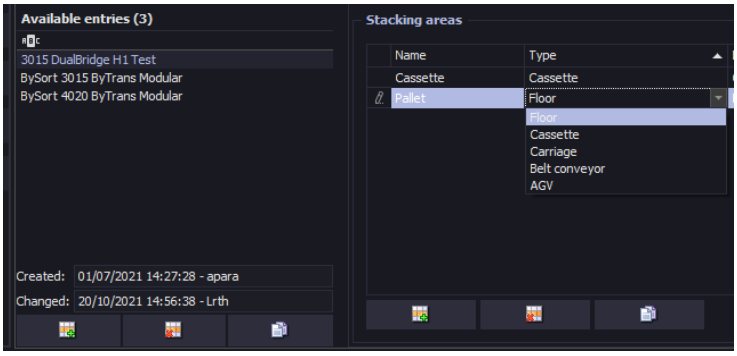


3.8.4 Support for multiple Stack Areas of the same type

Support for the new Types (Floor / Cassette / Wagon / Conveyor / AGV) as defined in the Sorting Machine V2:

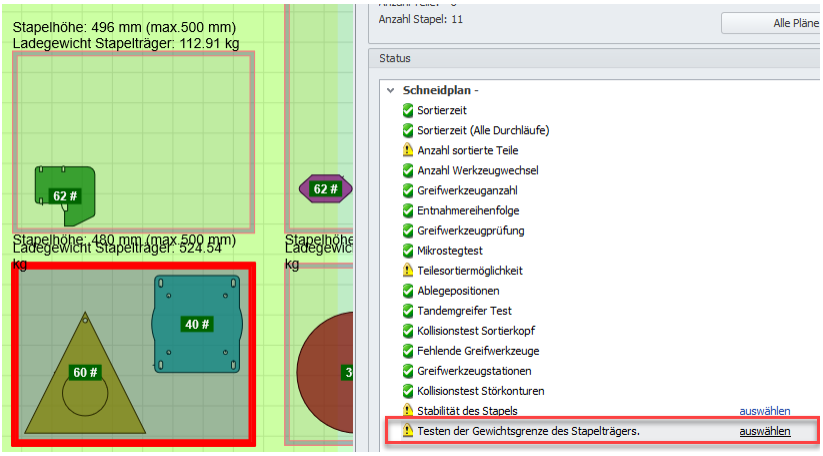
- In the Sort Settings, additional Colors for conveyor and AGV are available.
- "Palette" has been renamed to "Floor" (Floor color is used for palette carriers in V1 scenario).
- This color is used for drawing respective carriers on the screen (or in report).





3.8.5 Carriers Maximum loading weight warning

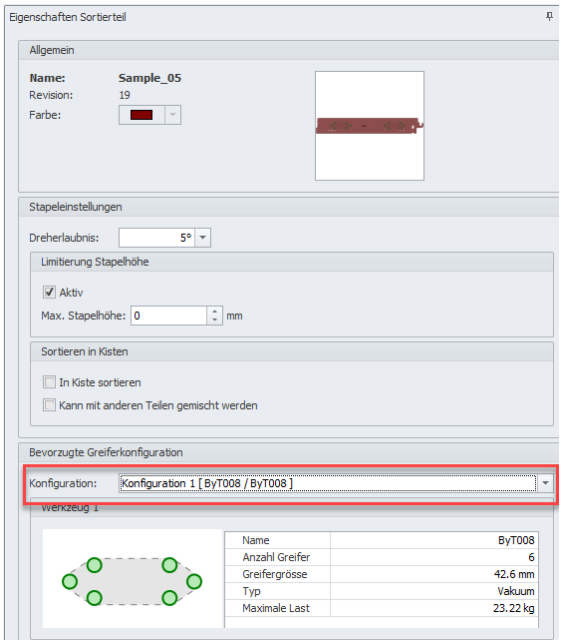
New warning added to test for the weight limit of the stacking beam.



3.8.6 Preferred gripper configuration

The properties of a sort part allow the preferred gripper configuration for the selected part to be determined. This can reduce tool changes by using the same grippers in the sorting plan.

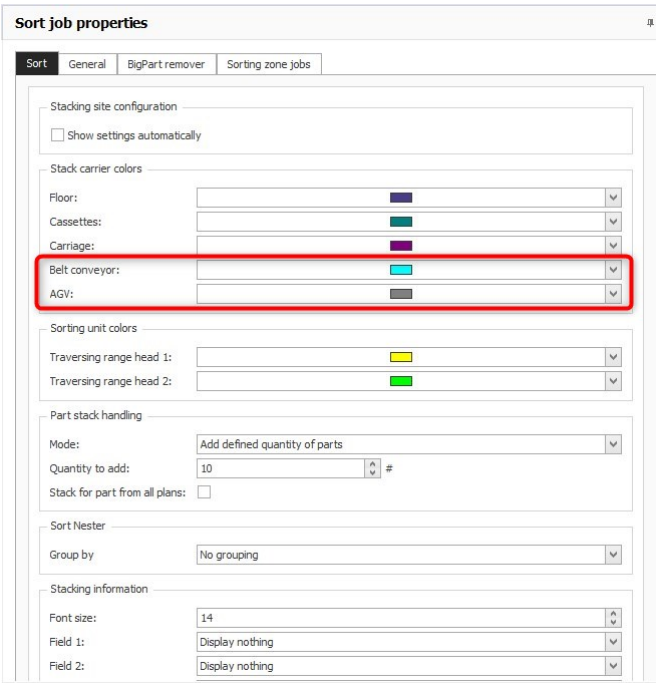
It can also be used to determine the preferred tool for tandem gripping on a large part.



Support for multiple StackAreas of the same type in Sort

For the new generation of sorting machines, two new types of place zones are now supported:

- Conveyor
- AGV

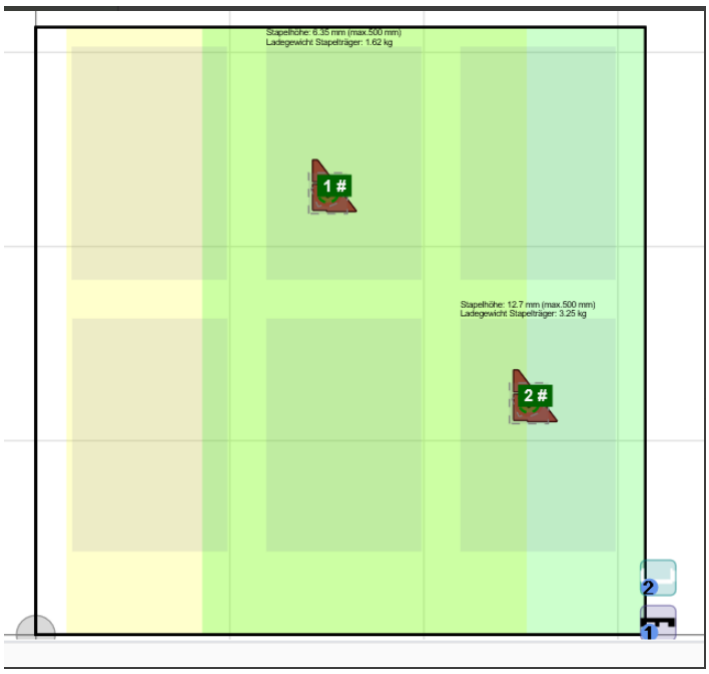


The UI now supports multiple stack carrier for different place zones (using the new sorting machine) in one layer. The navigation is still done with the click object (bottom right of the group)

A stack carrier group always consists of carriers that are non-overlapping. If there are overlapping carriers, multiple groups are automatically generated.

Also groups with different types of carriers (e.g. "Floor" plus "AGV") are possible. The group type will be "Mixed" in this case.

(The example below shows an active "Floor" group as well as a "Cassette" group in the background - can be activated via click object).



3.8.7 Use pre-defined loading alignment

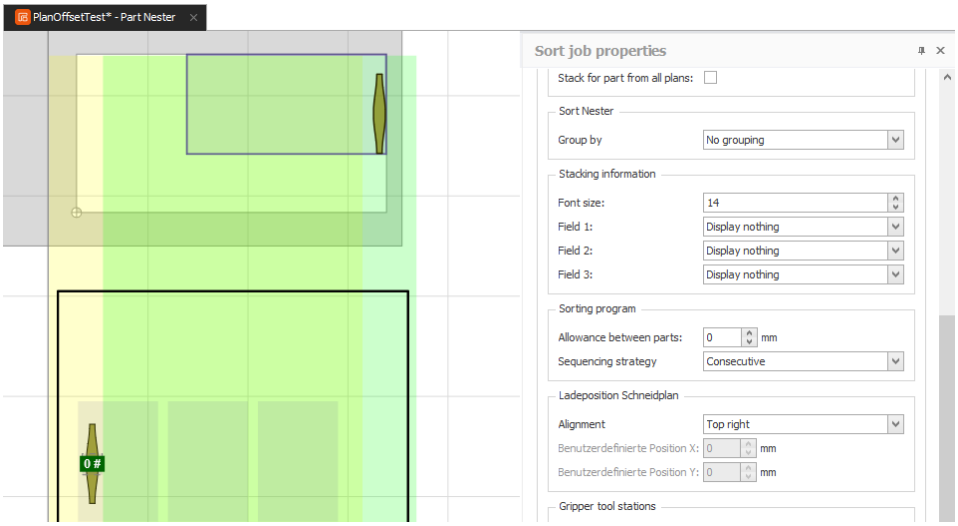
When the anchor point for small sheet loading is not located at the closest left corner (from the screen orientation point of view, where zero point of the cutting machine is located), the alignment can be changed.

Create a part job with a cutting plan of a smaller format (for example two meters by one).

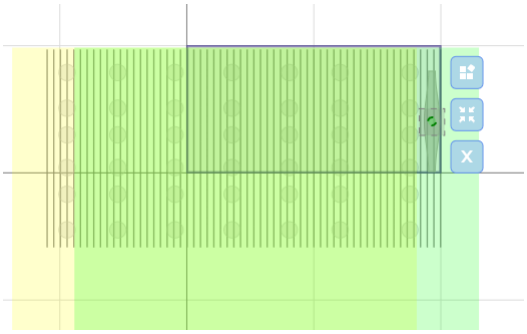
Navigate to sort editor and select the properties command.

Chose an alignment which corresponds to the physical loading position (in our example, top-right).

In our example we have explicitly put a part which is only reachable by head two for picking and by head one for placing. This makes sorting impossible in the case where the loading offset is top-right.



The plan offset changes. This is reflected in both the Sort Editor view (as in the previous figure) and the Nesting view (the following figure):



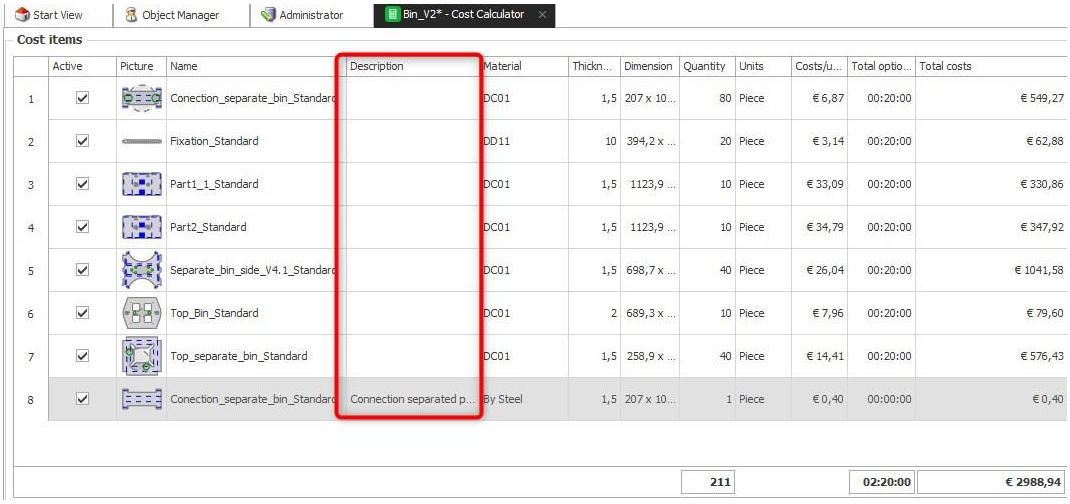
Changing the offset impacts the following functions:

- Reachability check for sorting heads
- Big part removal
- Cutting grate offset
- Tilt prevention calculation

3.9 Cost Calculator

3.9.1 Add Description column

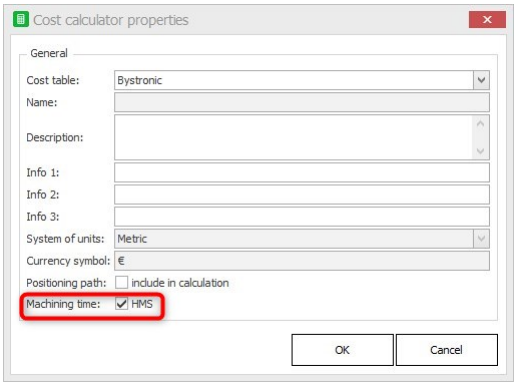
The "Description" column for parts was added to the Cost Calculator.



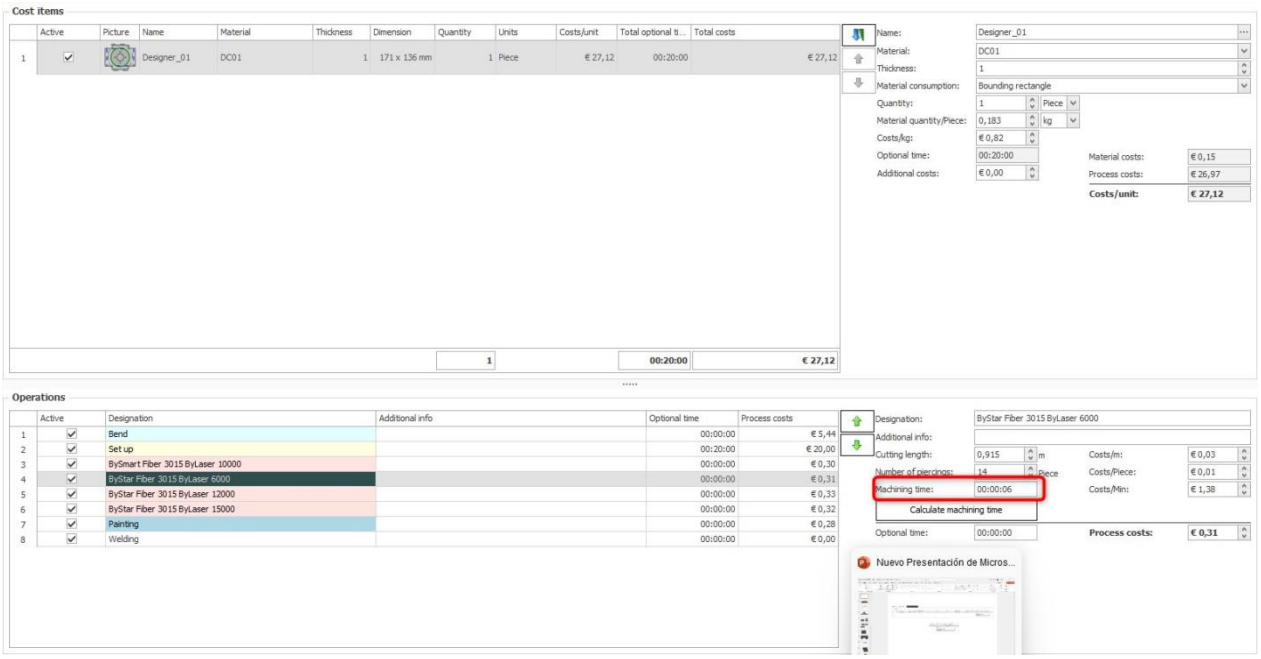
3.9.2 Show cutting time in HMS in Cost Calculator

You can show the cutting time in HMS in Cost Calculator instead of the minute value.

To do this, select the HMS option in the Cost Calculator properties:



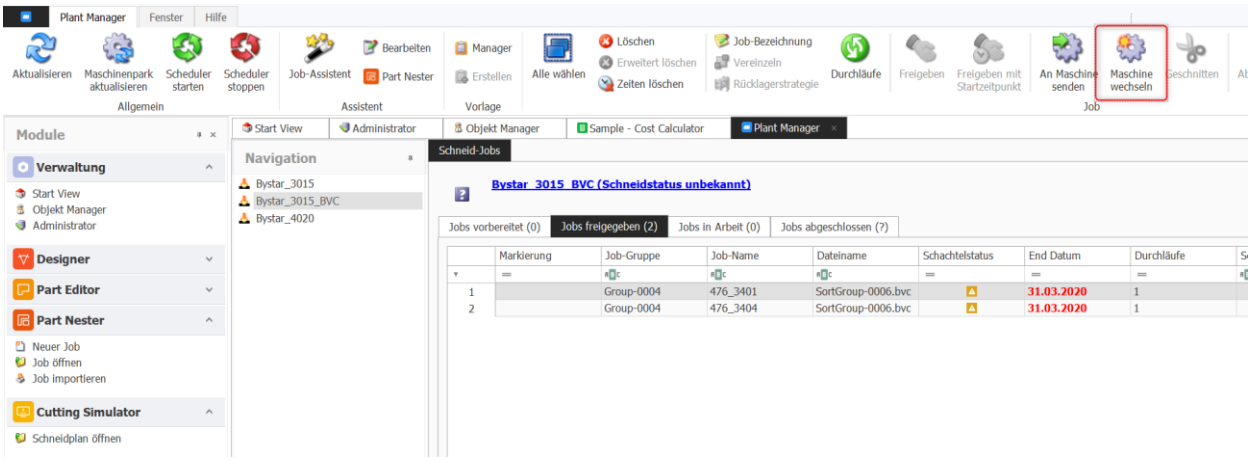
This will then display the time in the following manner:


Cost items
Active
Picture
Name
Material
Thickness
Dimension
Quantity
Units
Costs/unit
Total optional ti...
Total costs
1
Designer_01
DC01
1
171 x 136 mm
1 Piece
€ 27,12
00:20:00
€ 27,12
1
00:20:00
€ 27,12
Name:
Designer_01
Material:
DC01
Thickness:
1
Material consumption:
Bounding rectangle
Quantity:
1
Piece
Material quantity/Piece:
0,183
kg
Costs/kg:
€ 0,82
Optional time:
00:20:00
Additional costs:
€ 0,00
Material costs:
€ 0,15
Process costs:
€ 26,97
Costs/unit:
€ 27,12
Operations
Active
Designation
Additional info
Optional time
Process costs
1 Bend 00:00:00 € 5,44
2 Set up 00:20:00 € 20,00
3 BySmart Fiber 3015 ByLaser 10000 00:00:00 € 0,30
4 ByStar Fiber 3015 ByLaser 6000 00:00:00 € 0,31
5 ByStar Fiber 3015 ByLaser 12000 00:00:00 € 0,33
6 ByStar Fiber 3015 ByLaser 15000 00:00:00 € 0,32
7 Painting 00:00:00 € 0,28
8 Welding 00:00:00 € 0,00
Designation:
ByStar Fiber 3015 ByLaser 6000
Additional info:
Cutting length:
0,915
m
Costs/m:
€ 0,03
Number of piercings:
14
Piece
Costs/Piece:
€ 0,01
Machining time:
00:00:06
Costs/Min:
€ 1,38
Calculate machining time
Optional time:
00:00:00
Process costs:
€ 0,31
Nuevo Presentación de Micros...

3.10 Plant Manager

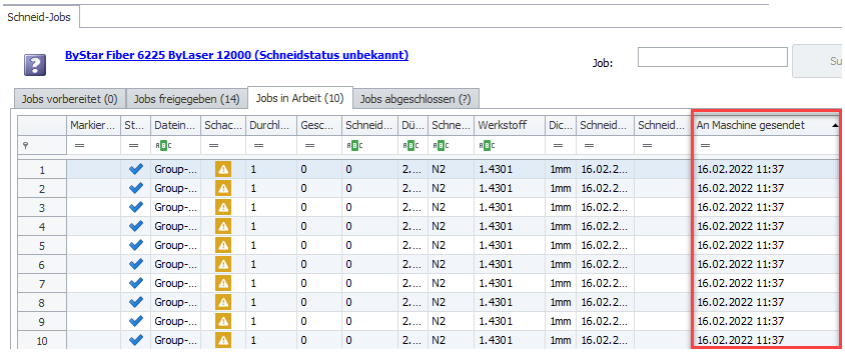
3.10.1 Add "Change Machine" to Ribbon

The Change Machine function has been added to the Job ribbon.



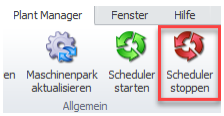
3.10.2 Show "send to machine" time on jobs in progress

A new column "Sent to machine" has been added to the "Jobs in progress" tab. This column indicates the time when the job was sent to the machine.



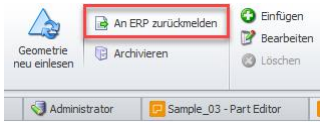
3.10.3 Stop Scheduler function as new icon in menus

The "Stop Scheduler" function can now be executed directly in the menu bar in the Cutting Jobs module via a new icon.



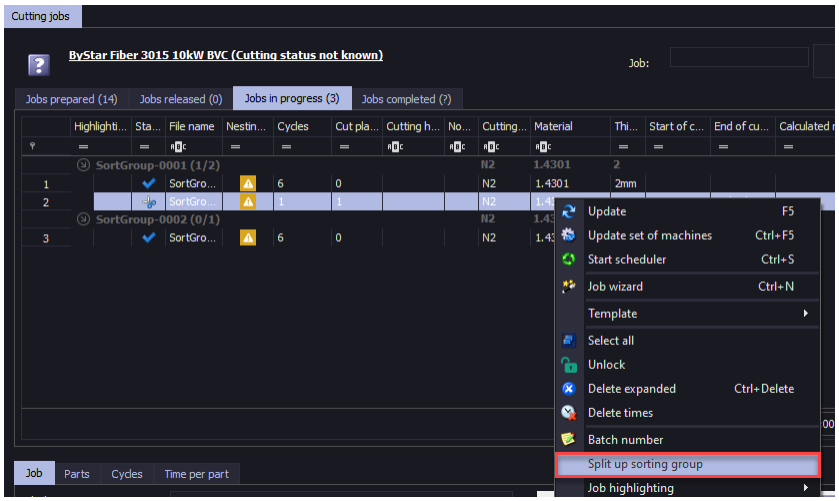
3.10.4 Advanced feedback to the ERP

The effective weight of the part is written to the ERP export file.



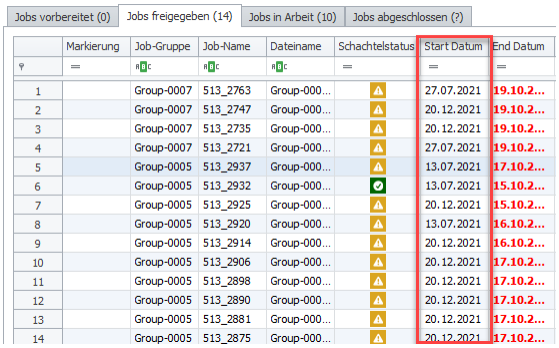
3.10.5 New "Split sorting group" function

The orders are split into cut and uncut orders. This allows an order of a sorting group to be closed without all orders of the sorting group having been processed.



3.10.6 Start Date Column in Jobs Prepared and Job Released

In the Cutting Jobs module, the "Start date" column has been added to the tabs in "Jobs prepared" and "Job released".



3.10.7 More tags for waste in job export XML

The 'total effective waste of all the job' and 'the total effective waste without considering the inner contours of the parts' have been included in the cutting jobs in Plan Manager. This information will be exported with the tool when exporting a cutting job to xml.

```
<?xml version="1.0" encoding="Windows-1252"?>
<JobExportData xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <Guid>37a6bfa2-f610-4d07-8d63-f54e9ad6ad5e</Guid>
  <Name>074_13147</Name>
  <TotalParts>58</TotalParts>
  <TotalTime>0</TotalTime>
  <CycleCounts>1</CycleCounts>
  <CutPlansCount>0</CutPlansCount>
  <Waste>0.7138160098738231</Waste>
  <EffectiveWaste>0.351955315227365</EffectiveWaste>
  <TargetWasteValue>0</TargetWasteValue>
  <TotalPlansEffectiveWaste>0.36048271148864397</TotalPlansEffectiveWaste>
  <TotalPlansEffectiveWasteWithoutInnerContours>0.351955315227365</TotalPlansEffectiveWasteWithoutInnerContours>
  <JobState>Prepared</JobState>
  <Machine>
    <Guid>17940ef2-bbc2-4591-8399-94e53e0b1add</Guid>
    <Name>ByStar Fiber 3015 ByLaser 10000</Name>
    <Label>ByStar Fiber 3015 ByLaser 10000</Label>
    <Type>ByStar Fiber 8025</Type>
  </Machine>
  <Material>
    <Guid>14ac8654-16d9-4ec6-bb22-9b433bf524c6</Guid>
    <Name>1.4301</Name>
    <Label>stainless steel</Label>
    <Info1>1.4301</Info1>
  </Material>
  <Sheets>
    <Sheet>
      <JobStateTime>2022-02-16T16:33:00</JobStateTime>
```

4 Bug fixes

4.1 CAD Designer

- Hoops CAD Exchanger does not find all parts
  The output is just one part that contains all parts.

- Error appears at importing step file

- Designer Launcher not available in system settings
  Designer module was listed red although license was fine and module could be opened without a problem.

- Bend line lost on transfer
  Bend line is transferred back.

4.2 Object Manager

- Export to MS Excel in Object Manager failed

4.3 Administrator

- Default setting for micro-joints without Settings Manager are set to "Distributed"

4.4 Part Editor

- Remove micro-joints left segment marks on contour
  Removal of micro-joint now also removes corresponding vertex if such vertex can be removed without changing geometry.
  When micro-joint is removed, underlying vertex is now also removed if it has no influence on geometry shape - in such case, vertex was most probably placed specifically for micro-joint and can be removed.

- Error on importing IPT file
  An error appears when importing an attached IPT file into BySoft CAM.

- Change texts in CAD settings in Part Editor
  The name BySoft CAM is changed to BySoft CAD in the Part Editor settings window.

- Error when using label
  Label functionality (Part Editor-> Geometry) was available for user even though there were no label settings in Administrator.

- Lead-in is set directly on the contour
  The lead-in was incorrectly placed directly on the contour in exceptional cases.

- Issue with Place Lead-In in Corner Option

If the "Place Bleed in Corner" option is enabled and a straight bleed is set, the angle of the bleed is set to 0°.

- STL exportation as binary file
  There are STL viewers that are correctly presenting some STL files. When the STL file contains more than one body, the viewer only presents the first one.
- Crash after undoing set cutting technology
- Crash when manually defining the removal sequence
- Change to Technology in Part Editor results in an exception error
- Mirrored Text is exported with incorrect position
- Bend lines are different in CadCamServices and BySoft CAM
- Importing ByStep-File (out of customer-part) leads to an exception
- Part Editor Undo functions incorrectly
- Uri in the DXF on part export
- Remove micro-joints left segment marks on contour
  Micro-joint's removal now also removes underlying vertex, if it does not affect contour's shape.
- Use of Backguage for bending a pre-bend
- Bending information: tool selection
  After importing a bending job and changing the bending machine, it was not possible to select the lower bending tools out of the attached tool cabinet. Only the embedded one was available. This has been corrected.
- Rounding applied irrespective of setting
  Even though the rounding is not set on the contour and the export settings are set to "use selection", the contour is rounded.
- Different calculated cutting times
  It was observed that the cutting times were calculated differently in the Cost Calculator to the Part Nester. This has been resolved.
- Import IPT cad files - errors
- The check vacuum suction cup should not lie on a contour
  The vacuum part of the gripper overlaid the inner contour when placing the gripper automatically.
- No cut outs for cluster parts
  When importing parts with PartImporter and applying setting "Used as cluster part", freecuts were potentially applied at the same time. Now freecuts are not applied in such a case.
- Wrong DWG import

When importing attached file into Part Editor, some of the sheets are combined together, resulting in a wrong geometry of the part. Now all possible configurations are imported and opened separately.

- Error on create new part
  Creation of new part failed if settings manager bending validation rule had bending machine set .

- Mirrored Text cannot be selected in the Part Editor
  Mirrored text with Bystronic font could be selected only if user clicked in place where original (not mirrored) text would be displayed.

- The program freezes when repositioning the backstops

- File cannot be imported due to extension with capital letters

- Importing Inventor-file failed with exception

- STP file loads forever
  The file is now imported.

- Lead-In passes through part
  A check is now made to see if the start point of a lead-in is inside a contour to avoid this situation.

- Add quantity to DXF specification
  Now the quantity can be set when importing NC files.

- Issue with extension using capital letters
  Depending on the extension of a file, it was not possible to import it with Part Importer. ".step" works, ".STEP" did not work. Now it is working properly.

4.5 Sort Job Editor

- Sort Job Editor Memory Usage Problems

- Various sort bugfixes

- Potential crash (endless loop) when processing part jobs willingly impossible to sort

- No common cut when exporting from the Sort Job Editor
  When exporting cutting plans from Sort Job Editor, common cut was not considered.

- Wrong sorting results during simulation

- Pallets are no longer displayed as soon as stacks are placed on them

- Unnecessarily confusing information in the sorting result dialogue

- When automatically stacking, not all-round parts are sorted

- Sort plan nests does not consider target stacking area

BySoft CAM

- Overwriting the existing grippers does not work properly
- The Plan view is lost when manually removing grippers
- Importing NCP files with many parts takes too much time
- Cutting Process is not correctly adapted when removing Jobs
  There was an exception error when removing a job in the Sort Job Editor for which sorted plans already existed and trying to add new jobs/plans to sort.
- Sort Job can no longer be opened
  Sort Jobs could no longer be loaded. Also, there were cases where waste parts suddenly disappeared when loading a sort Job.
- Rotation allowance of parts/stacks cannot be changed
  In Sort Job Editor, it was not possible to change the rotation allowance of stacks in the grid view.
- Incorrect stack display for mirrored parts
- Automatic gripper function does not consider magazine size
- Sorting technology available although it is disabled
- Sort Editor - error message not visible
  Sort check command view was blocked and unusable after the "Check all Sort Plans" button was used on the command view.
- SortJobEditor - measurement system change
  In SortJobEditor and SortEditor, the sorting plans and plan graphics was incorrect when changing the measurement system.
- Tool Station Management - Text changes
- SortJobEditor - crash on save
- SortJobEditor - sort report disappearing
- Gripper tool stations - shared tool stations tool taken twice
- Sorting Technology tab is still visible when sorting feature is deactivated
  Tab SortingTechnology was visible in PartNester even though the sorting feature was deactivated.
- IPT file does not import
- Sort jobs can no longer be opened
  There are Sort Jobs which could no longer be opened and showed different error messages. This has been corrected.
- Impossible to set stack quantity limit
  It was not possible to set quantity limits on stacks in SortEditor / SortJobEditor. Now the limit is applied.

- Carriers not drawn when machine is changed
  Carriers where not drawn in Part Nester when cutting machine is changed (on which a new type of sorting machine is set).

- Post-processor does not signal overloaded grippers if they are set for individual parts.
  Report overloaded gripper.

- Box carrier edition. Switching from metric to imperial

- Box carrier nesting does not nest part

- Poled skid container - possible to place part with collision

- BySort does not recognize sorted residual grid
  Now sorted residual grids are recognized and the sort job can be loaded on to the machine.

4.6 Tube Editor

- Wrong help text for Tube editor

4.7 Part Nester

- Low performance when activating support grate
  Low graphic performance when activating support grate.

- Error during automatic setting of the removal sequence
  After updating BySoft CAM to 1.1.0, an error occurred when setting the automatic removal order.

- Crash during manual Common Cut nesting with free cuts

- Micro-joint missing after saving
  When adding micro-joints to a plan and then saving it, when opening the plan again, the micro-joints have disappeared.

- No change of the cutting technology possible
  When editing a part from the Part Nester, the machine or cutting gas could not be changed.

- Contours are incorrectly converted to center punch marks on export

- Missing "Fill part" function in the "Data" menu

- Error with deleted parts
  When opening a job in which a part was previously deleted in the Object Manager, an exception error is displayed.

- Cut-outs are placed inside of neighboring part in case of Common Cut

- Path of part is not shown when part has no material

BySoft CAM

- Row function not available for inner contour nesting

- Part Nester: Errors with deleted Parts
  There was an exception when part jobs were loaded that contained parts which had been removed from the system.

- Crash when moving parts

- Print PDF no longer possible
  There was an error when printing pdf reports in Part Nester.

- Error on nesting
  The nesting now correctly calculates with those parameters.

- Reopening a job shows asterisks although there are no changes
  The PartJobs showed an asterisk (job changed) when opening the job even though there was no change. Now it is working correctly.

- Issue with piercing on common cut
  All expected pierce-ins are pulsed.

- Common Cut edge is cut twice

- Crash when copying micro joints from part with no micro-joints
  The option to copy the microjoints will now always be executed.

- Parts Overlapped when using Cutting Plan Editor

- Automatic micro joints in cluster nesting
  The system now correctly checks whether a part is inside another part within a cluster in order to also assign the micro-joints in the inner contours.

- Issue with waste crushing and all inner contours first

- Problem with format and auto-rocket
  Now the rocket button works fine regardless of the parts and settings.

- Grey oue overcut value
  The overcut field will now be disabled within the common cut export settings if the safety distance is equal to zero, and also the safety distance will be limited with a minimum value equal to the value of the overcut.

- Overlapping Parts with manual nesting
  The parts will now be nested with the correct distance.

- Part Nester: Crash when calculating Machining Time
  Machining Time will be calculated

- Row function within a part works incorrectly

- Nesting with Row does not work
  The row calculations will now be correctly calculated in all situations.

- Software hanging & spontaneous closing

The time calculation now works correctly.

4.8 Tube Nester

- Error in BySoft Retro Skin
  If the BySoft Retro skin is chosen, the window of the new job in Tube Nester has a white part.

- Waste Crushing not always applied
  Waste crushing is not always executed properly. If there are two parts with waste crushing and another part is placed into the waste of one of the waste crushing parts, the waste crushing will be omitted on both parts, although for one it still executed properly. Now working correctly.

- Lead-in for off-cut should not be in corner
  When adding an offcut to a tubejob, the lead-in for this offcut is often placed in the corner, this should never be the case. Lead-in is placed correctly.

- Tube Nester. Wrong control element
  PartNester and TubeNester now have the same control elements.

4.9 Auto Part

- Auto Part does not work in BySoft CAM the same way as it does in BySoft 7
  When processing an assembly in BySoft CAM, only one part is taken from the assembly and not all parts.

- Error importing a large assembly
  Hoops Wrapper generates an error when importing an attached file as an assembly.

- Tooltips of "Remove part" function shows BySoft 7 instead of CAM

- BySoft CAM - Auto Part - Incorrect Defaults
  Auto Part did not properly load Nesting Settings from Settings Manager.

- No adding of PRT.X files to Auto Part is possible

- Text is not imported correctly via Auto Part

- Error when using Auto Part in BySoft CAM
  The Auto Part Module had unnecessary requirement for designer license

- ToolTips show BySoft 7 instead of CAM

- BySoft CAM - SolidEdge Import of version 2021 files

- Grey out k-factor value K-factor field is disabled if checkbox "Use default k-factor" is not ticked
  Additionally, fixed bug where no change on Unfolding tab was recognized by app as change in Auto Part project (no asterisk next to project's name).

- BySoft CAD designer incorrectly named

- Scaling issue with Auto Part

- Rotation allowance not updated
  The main part properties, modified in the part editor, will now be updated in the component. In addition, the user can define the default cutting gas type when the components have been added.

- Assembly containing no importable components is not imported
  From now on, if the unfolding of an assembly component is not possible, the import will continue and an entry with the wrong component will be included in the components grid.

- Part importer not adding grippers automatically
  The gripper tools will now be defined when a cutting machine with sorting machine is defined in the settings.

4.10 Plant Manager

- Problems when creating jobs via job templates
  No preview is displayed for the first job created with the template. If an attempt is made to edit the job template, BySoft CAM crashes without an error message.

- Incorrect language display in dialogue messages

- Quantity increase when changing the machine

- Not all plans are taken into account when Part Nester is started in the Plant Manager

- Copied Orders Moves into In Progress Tab in Plant Manager

- PM - job group "-" sign is missing

- API parts not accepted by PMC

- Product Material Number in order not visible

- Parts/Info via API does not work for new imported part
  It was not possible to retrieve part info (Parts/Info) for part imported via API.

- Order with non-existing part is not imported
  When importing an order with reference to a part which does not exist, the order is now imported completely.

- Not all jobs deleted after cut
  In PMC there is an option to delete plans automatically. This option only deletes one cutting plan, even though two were created with the second NC processor active. Now both cutting plans are deleted.

- Part nester slow when started from PM
  PMC was slow. Loading parts in Job Wizard and then switching to Part Nester took too long. There were over 400,000 parts in customers data storage. When the user

removed majority of them and only left about 50,000, the process was twice as fast, but was still quite slow. Loading time is now faster.

- Order not imported when part was created from API
  Now, for parts created via API without initializing the settings, the order created with those parts will be set up correctly.

- Issue with job names for sort groups in PMC
  The plan file name will now also get the job name for the sort groups when the parameter is active.

- Putback uncut plans of a sort group in PMC
  When put back a job with sort in PMC, the whole job was always reset, even though the first sheet was already cut and sorted. Now it is possible to only put back the uncut plans of the sort group.

- Issue with sorting in Plant Manager
  When creating sort plans via PMC, it does not work as expected. The sorted parts remained at 0. When saving the jobs, the PM indicates that the sorting is OK. When opening the jobs again in part Nester, an error appeared, and CAM closed immediately. Not sorting is working correctly.

4.11 Cutting Simulator

- Illogical warning about overlapping contours
  Now there is consistent behavior for overlapping contour warning.

4.12 Others

- BosSynchronizer as standalone tool for BySoft CAM

- Forbid several users on Remote Desktop
  It was possible to use BySoft CAM via Remote Desktop, so one license could be activated on PC1 and be used by more than one user via RDP from different PCs. Now just one user is allowed.

- Fields are cut off at high screen resolution and scaling 175%

- Preview in BySoft CAM not working
  File explorer preview did not work for some file types associated with BySoft.

- BosBase Synchronizer not working in CAM v1.2
  The synchronization worked with BosBase Synchronizer version 8.8.1.x86, but now the user could not get it to run with the BySoft CAM version. The only trace of it was an entry in the Windows event log with an unspecified error. The tool now can be started, and it is completely standalone.

- API response in German
  The text returned by the API will now be in the same language as the BySoft CAM installation.

- No display of the online help in the Part Importer

No online help was available for Part Importer.

- Export System Data wrong path used

- Export System Data not all data exported
  Export System Data now exports both all parts and parts belonging to jobs (into two separate files).

- No preview available
  While navigating in windows explorer, preview panel is not updated but error appears. Now working.

- Grain Direction is missing in the help
  The entrance for grain direction was missing in the BySoft CAM help.

- Not possible to save part when integration is used
  Now an error message will be shown if the message could not be sent to the other stakeholders and the part will be updated.

- Chinese language not used
  Chinese is installed but the language was not displayed when starting the software, it remained in English. Now it is working correctly.

- Import part dialogue slow to open