



SMARTElectrode 14.1.1.0

What's New



ENHANCEMENT

What

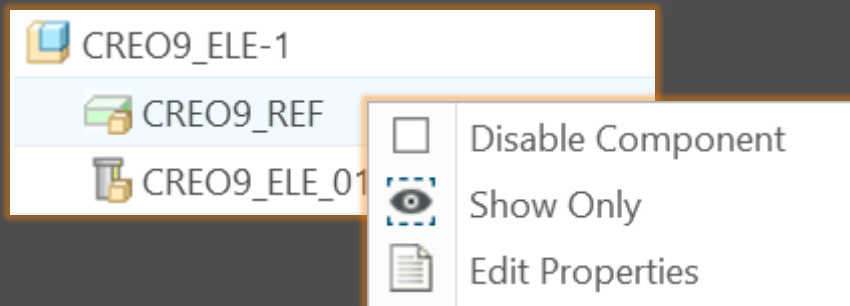
- Disable workpieces or electrodes in Burnsheel UI.
- <https://redmine.buw-soft.de/issues/4595>

Why

- Disable a design dummy. Especially when using electrode merge or mirror.
- Original position of an electrode should not be used in export.
- Use disabled auxiliary model to display a start-position.
- Disable outdated version of workpiece.

How

- Disabled components are ignored in export, collision check and touching surface analysis.
- Open Burnsheel UI and use right mouse button context menu to disable component.
- Disabled components are displayed with specific icons.



ENHANCEMENT

What

- Allow usage of layer settings file during export of 3d data.
- <https://redmine.buw-soft.de/issues/14469>

Why

- More control over the result of the export.

How

- The file has to be named “layer_settings.txt” and has to be located in export or post-processor configuration. Examples can be found in configurations that create 3d exports. Customize content and rename “example_layer_settings.txt” to “layer_settings.txt” to activate.

Model Name	Export Status	Display Status	Layer Name
SE_EXPORT_TEMP	Exclude Content	Blank	SE_EXPORT_TEMP

Improvement

What

- Provide export profiles for some processors with installation.
- <https://redmine.buw-soft.de/issues/14257>

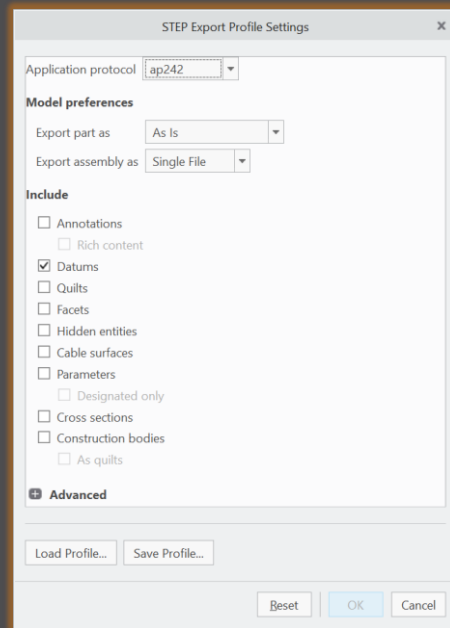
Why

- Some interfaces include export of electrodes as STEP, IGES or PARASOLID.
- Export profile is necessary to include datum points used as CMM points.

How

Added profiles to:

- processor/ZK/pp/def_profile.dep_step
- processor/MAKINO/pp/def_profile.dep_para



Improvement

What

- Automatically add all axes to layer “SE_EXPORT_TEMP” before 3d export file (IGES, STEP, ...) is created.
- <https://redmine.buw-soft.de/issues/14469>

Why

- Not needed datums like points, axes and planes are obstructive in downstream processes.

How

- Embedded axes in Extrude or Hole features are also considered.

Improvement

What

- Remove enforced regeneration of assembly to avoid continuous update of model data.
- <https://redmine.buw-soft.de/issues/14267>

Why

- SE automatically regenerates models with status “modified/outdated”. That is displayed by regeneration flag in status-bar.



- In some cases, Creo does not remove regen flag after successful regeneration.
- This leads to repeated regeneration of whole assembly if workpiece is affected.
- In such a case further processing is difficult, because of waiting times.

How

- Remove automatic regeneration.
- Users are now responsible to update design data when necessary.

Fixed error

Description

- Fix usage of wrong simplified representation in drawing repeat region after another drawing is merged.
- <https://redmine.buw-soft.de/issues/7504>

Cause

Problem appears if:

- user already created a drawing with repeat region
- adds a new electrode
- runs drawing creation again to add new sheet to drawing
- first repeat region may be changed to show data of merged drawing

Solution

SMARTElectrode automatically updates first occurrence of tables on drawing loaded from “asm_edm.tbl” and “asm_operation.tbl” after drawing creation.



SMARTElectrode 14.1.0.0

What's New



Fixed error

Description

- Allow renaming of manufacturing assembly and workpiece in Manufacturing UI and Rename UI.
- <https://redmine.buw-soft.de/issues/13988>

Cause

- A renamed electrode may not meet the naming format anymore
- Allow edit of default MFG and workpiece name in Manufacturing UI.
- Allow adjusting of names of existing MFG and workpiece during rename.

Solution

- Double click Mfg or Workpiece name in Manufacturing UI to edit names for objects to create (📄). Existing assemblies and parts (✅) can't be renamed Manufacturing UI.
- Rename UI shows input panels for MFG and workpiece if available.

ID	Electrode	Size	Status	Mfg Name	Workpiece Name	Template
1	SE_CREO8_EDM_01	15.0x15.0x28.0	✅	SE_CREO8_MFG_01	SE_CREO8_WP_01	mfg_default.asm
2	SE_CREO8_EDM_02	15.0x15.0x28.0	📄	SE_MFG_02	SE_CREO8_WP_02	

Rename

Electrode

SE_CREO8_EDM_01

New Name

SE_CREO8_EDM_01

Manufacturing

SE_CREO8_MFG_01

Workpiece

SE_CREO8_WP_01

OK

Cancel

Improvement

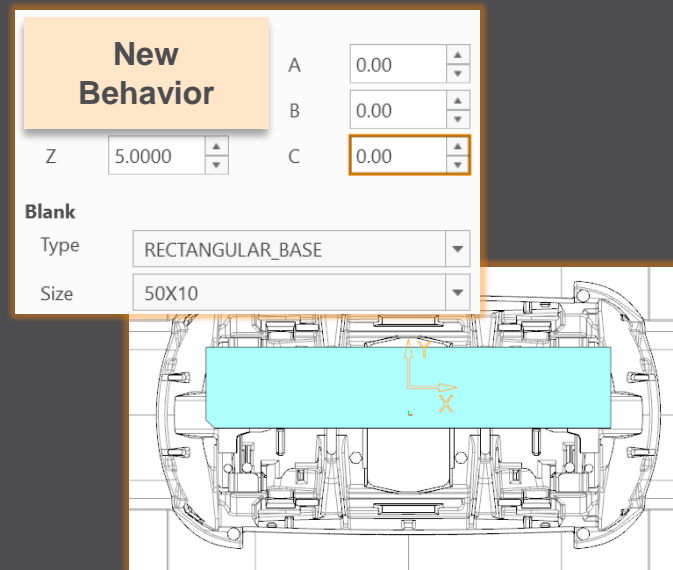
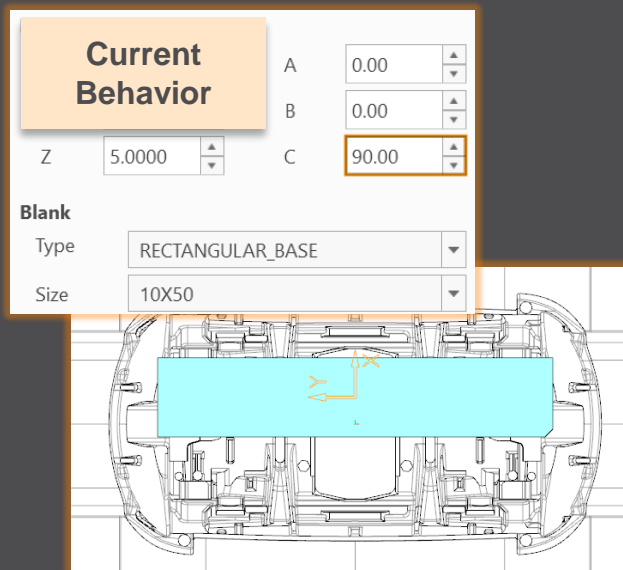
What

- Prefer template without rotation ($C=0^\circ$) if several templates with same blank dimensions are available.

Why

- <https://redmine.buw-soft.de/issues/13672>
- Order of templates in .dat decided which template - with or without rotation - was assigned. This is improved by defined behavior.

How



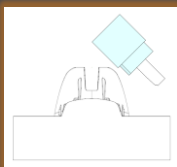
Fixed error

Description

- Ignore rotation of EDM_ORIGIN for default start and secure position
- <https://redmine.buw-soft.de/issues/13878>

Cause

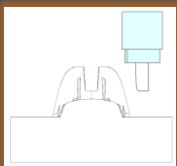
- In some cases a rotated EDM_ORIGIN is useful
 - Easier definition of start position
 - EDM_ORIGIN is rotated for later NC setup
- In both cases either the calculated angles or the display are wrong



SX	SY	SZ	SA
0.000	18.887	1.571	-45.000

Solution

- Applied rotation to EDM_ORIGIN is ignored for calculation of angles.
- SE_EDM_BASE is used for electrodes created in current releases.
- EDM_ORIGIN is used for electrodes created in versions prior 8.0.



SX	SY	SZ	SA
0.000	18.887	1.571	0.000

Enhancement

What

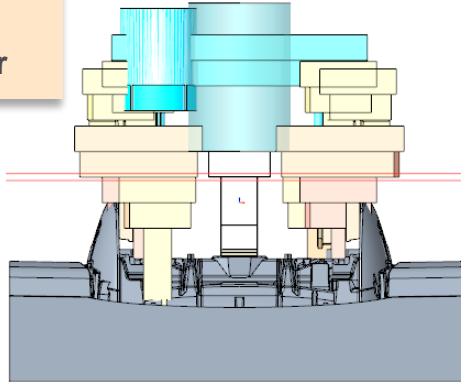
- BREAKING CHANGE
- Consider contour height on calculation of default start- and secure-position.
<https://redmine.buw-soft.de/issues/13762>

Why

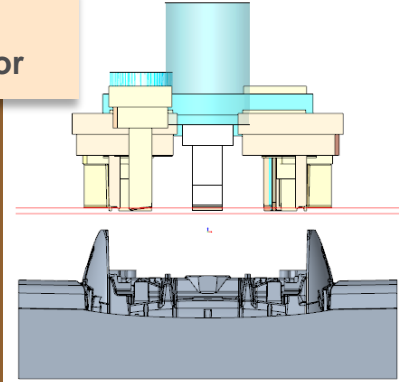
- Calculation of default start and secure position using EDM_ORIGIN led to disadvantageous or wrong values.
- Reduce effort to set start and secure positions.
- **NOTE:** Adjustment of operation default planes may be necessary to respond appropriately to the new behavior.
- New behavior is available for all assemblies from current versions.

How

Current Behavior



New Behavior



Enhancement

What

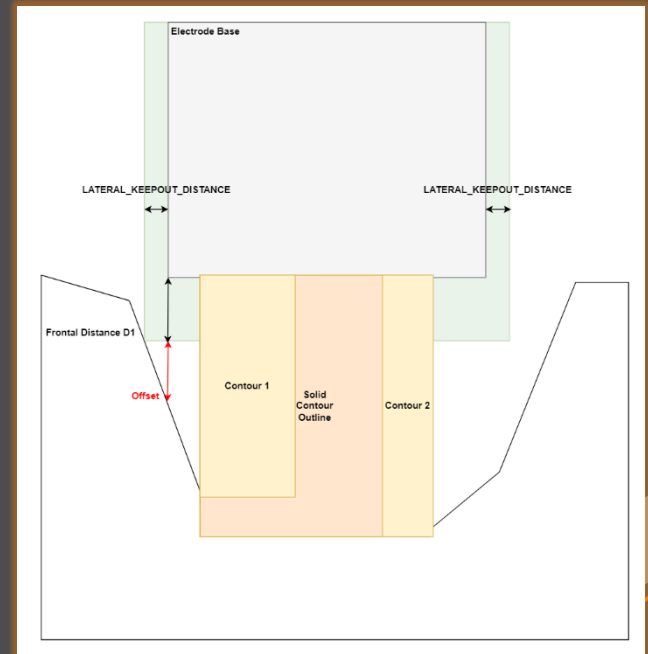
- Introduce new option #Electrode #LATERAL_KEEPOUT_DISTANCE
<https://redmine.buw-soft.de/issues/13766>

Why

- Defines the minimum distance in XY direction from the base that must not be disturbed by workpiece geometry.

How

- Default value '0'
- When adding a new base, position will be adjusted to...
...meet normal distance D1 and
...to fulfill lateral offset defined in LATERAL_KEEPOUT_DISTANCE



Enhancement

What

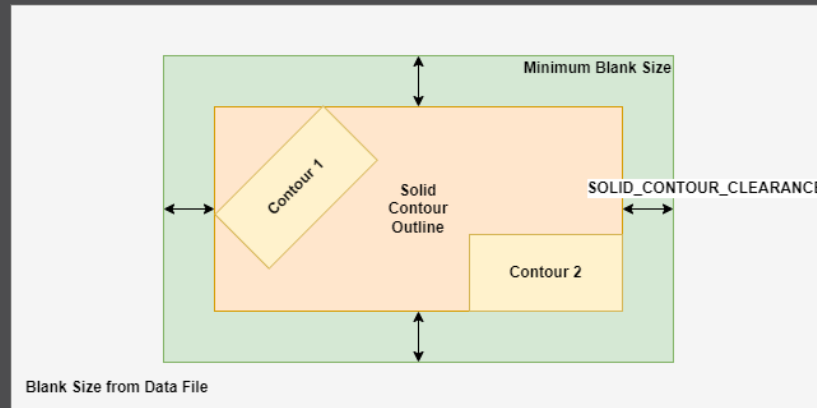
- Introduce new option #Electrode #SOLID_CONTOUR_CLEARANCE
<https://redmine.buw-soft.de/issues/13765>

Why

- Necessary to specify the minimum clearance in XY direction between the contour and blank outline

How

- Option value SOLID_CONTOUR_CLEARANCE defines the clearance added to electrode's solid contour before blank size selection.
- Default value '0'



Improvement

What

- Allow enabling or disabling automatic calculation of a variable measure in the Base UI. <https://redmine.buw-soft.de/issues/13672>
- (related to: <https://redmine.buw-soft.de/issues/12517>)

Why

- Allows users to switch between both behaviors

How

1. **Variable dimension used (-1)**
Variable dimension will be disabled and calculated automatically based on other inputs.
2. **Blank unlocked**
Z position of blank length should stay fixed on input.
Change of D2 changes D2 and D3.
Change of Z position changes LENGTH and D3 accordingly.
Change of LENGTH changes LENGTH and D3 accordingly.
3. **Blank locked**
Blank (A_BASE, B_BASE, LENGTH and D2) are disabled and can't be changed. Changes to D1, D3 or Z position change the other two dependent values accordingly.

Blank

Type: RECTANGULAR_BASE_FRAME

Size: 15X15

Locked: ☒ Blank ☐ Free Dim

A_BASE: 15.000 D1: 5.128

B_BASE: 15.000 D2: 22.000

Length: 30.000 D3: 0.022

Chamfers: ☒ 1.000 ☐ 0.200

Frame: ☒ 5.000 ☐ 1.000

Blank

Type: RECTANGULAR_BASE_FRAME

Size: 15X15

Locked: ☐ Blank ☒ Free Dim

A_BASE: 15.000 D1: 5.128

B_BASE: 15.000 D2: 22.000

Length: 30.000 D3: 0.022

Chamfers: ☒ 1.000 ☐ 0.200

Frame: ☒ 5.000 ☐ 1.000

Blank

Type: RECTANGULAR_BASE_FRAME

Size: 15X15

Locked: ☐ Blank ☒ Free Dim

A_BASE: 15.000 D1: 5.128

B_BASE: 15.000 D2: 22.000

Length: 30.000 D3: 0.022

Chamfers: ☒ 1.000 ☐ 0.200

Frame: ☒ 5.000 ☐ 1.000

Enhancement

What

- Allow export of files for Creo View
<https://redmine.buw-soft.de/issues/13699>

Why

- Provide data for downstream processes

How

- Use keywords “SE_EDM_BACKUP_PVS” or “SE_EDM_BACKUP_PVZ” in export template to create a file structure for Creo View (PVS) or a zipped archive of the files (PVZ). PVS creates a *.pvs for the file structure and numerated *.ol files containing viewable geometry.
- Example: export PVS/PVZ of assembly

```
Assembly PVS: #SE_EDM_BACKUP_DIR#\#partname#. #SE_EDM_BACKUP_PVS#  
Assembly PVZ: #SE_EDM_BACKUP_DIR#\#partname#. #SE_EDM_BACKUP_PVZ#
```

- Example: export PVS/PVZ for each electrode

```
ELECTRODE_START  
PVS: #SE_EDM_BACKUP_DIR#\#partname#. #SE_EDM_BACKUP_PVS#  
PVZ: #SE_EDM_BACKUP_DIR#\#partname#. #SE_EDM_BACKUP_PVZ#  
ELECTRODE_END
```


Enhancement

What

- Use default profiles or option files for 3D exports
<https://redmine.buw-soft.de/issues/13681>

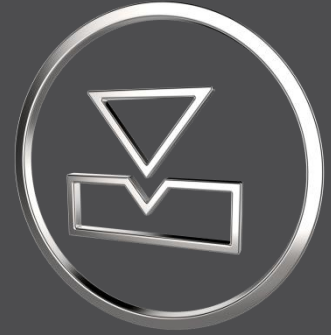
Why

- Support of custom option files

How

- Save options file named “def_profile” to export/<type> or processor/<type>.

Type	Keyword in export template	Options file name
VDA	SE_EDM_BACKUP_VDA	def_profile.dep_vda
STEP	SE_EDM_BACKUP_STEP	def_profile.dep_step
IGES	SE_EDM_BACKUP_IGES	def_profile.dep_iges
CATIA	SE_EDM_BACKUP_CATIA	def_profile.dep_catv5
SAT (Acis)	SE_EDM_BACKUP_SAT	def_profile.dep_acis
NEUTRAL	SE_EDM_BACKUP_NEUTRAL	def_profile.dep_neu
X_T (Parasolid)	SE_EDM_BACKUP_X_T	def_profile.dep_para
UG (NX)	SE_EDM_BACKUP_UG	def_profile.dep_nx
JT (license necessary)	SE_EDM_BACKUP_JT	def_profile.dep_jt



SMARTElectrode 14.0.3.0

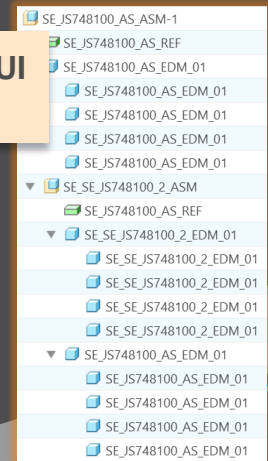
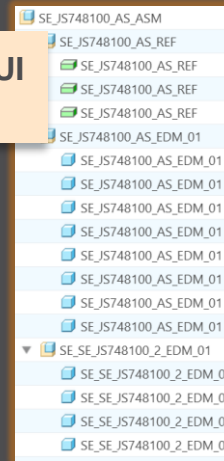
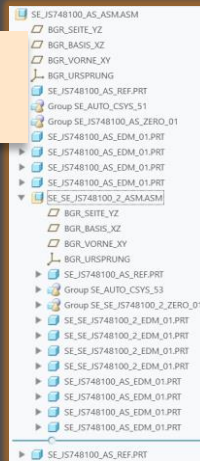
What's New



- Burnsheet UI does not reflect structure of modeltree. Models are only grouped by name not considering assembly level

- Most electrode assemblies include only one workpiece or reference model
- Grouping models by name seemed to be sufficient

- Burnsheat UI now shows complete assembly structure and groups models by name on same assembly level:



Enhancement

What

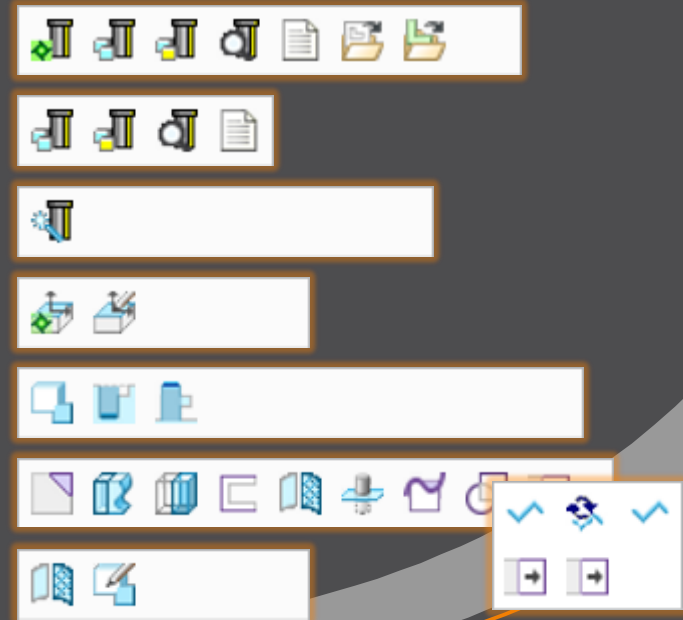
- Introduce SMARTElectrode commands in mini toolbar
- <https://redmine.buw-soft.de/issues/13293>

Why

- Faster and more intuitive access to commands

How

- Assembly mode
 - Object window or modeltree / single selection
 - Object window or modeltree / Multiple selections
 - Object window / workpiece faces
 - Operation in modeltree
- Active component
 - Workpiece faces
 - Electrode faces/quilts/one-sided edges
 - Feature in modeltree





SMARTElectrode 14.0.2.0

What's New



Enhancement

What

- Edit properties of multiple objects in user interface
- <https://redmine.buw-soft.de/issues/12842>



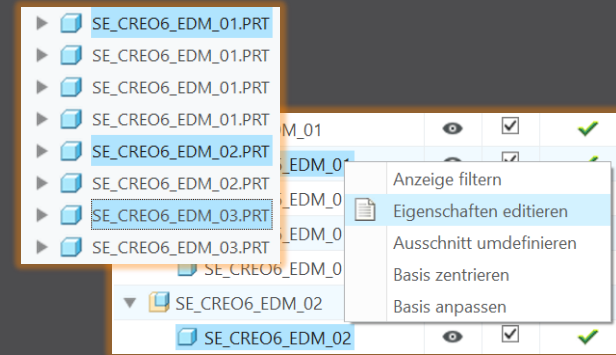
Eigenschaften

Why

- Helpful if especially technology settings have to be updated

How

- Access Properties UI with several selected objects from modeltree or Burnsheat UI.
- Only parameters available in all objects are are.
- Parameters with different values will be displayed as **<Status quo>**.
- Edited values will be updated for all selected objects.
- Make sure to select all relevant objects before editing.



	PRIORITAET	<Status quo>	Very low wear
	BRENNFLAECH	<Status quo>	<Status quo>
	ANZAHL	3	3
	▼	<Status quo>	0.5
	ANZ_UNTERMAS	2	-

Enhancement

What

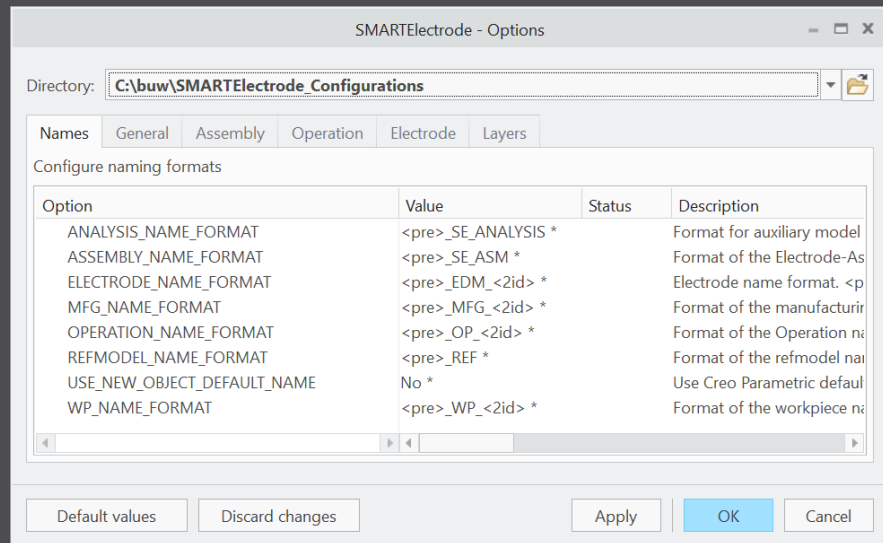
- Overhauled Options UI
- <https://redmine.buw-soft.de/issues/12059>

Why

- Appearance adjusted to PTC options look & feel

How

- Only changed values are saved
- Option file includes option value descriptions
- Easier discard and reset to defaults



Improvement

What

- Base UI - allow overwriting of calculated values.
- <https://redmine.buw-soft.de/issues/12517>

Why

- Until now base dimensions calculated by SMARTElectrode have been disabled
- In some cases, users still need access to values after SMARTElectrode initially calculated them

How

All base dimensions are now accessible after SE placed the base group


1. Blank unlocked

Keep absolute Z position of blank length. Change of D2 changes LENGTH accordingly to keep position. Change of Z position changes LENGTH accordingly to keep position. Change of LENGTH changes D3 (top offset) accordingly.

2. Blank locked

Blank (A_BASE, B_BASE, LENGTH and D2) are disabled and can't be changed. Changes to D1, D3 or Z position change the other two dependent values accordingly

Blank


LOCKED 

TYPE

SIZE

A_BASE	<input type="text" value="15.000"/>	D1	<input type="text" value="5.150"/>
B_BASE	<input type="text" value="15.000"/>	D2	<input type="text" value="42.000"/>
LENGTH	<input type="text" value="50.000"/>	D3	<input type="text" value="0.000"/>

Blank

LOCKED 

TYPE

SIZE

A_BASE	<input type="text" value="15.000"/>	D1	<input type="text" value="5.150"/>
B_BASE	<input type="text" value="15.000"/>	D2	<input type="text" value="20.000"/>
LENGTH	<input type="text" value="28.000"/>	D3	<input type="text" value="0.000"/>

Enhancement

What

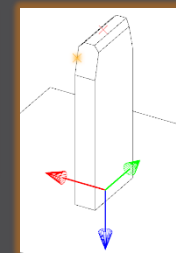
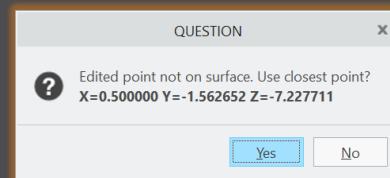
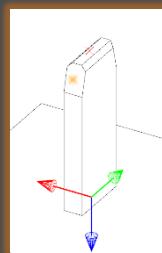
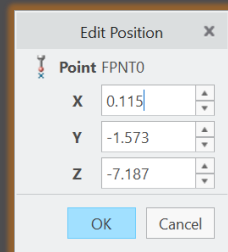
- Edit CMM points in user interface
- <https://redmine.buw-soft.de/issues/12392>

Why

- Move measuring points to even value

How

- Open “CMM points”
- Select point to edit in table
- Start edit on double-click or press “Edit”
- Point will be automatically moved to new position or reachable coordinates are suggested if point is out of bounds
- Original coordinates are restored on cancel



Enhancement

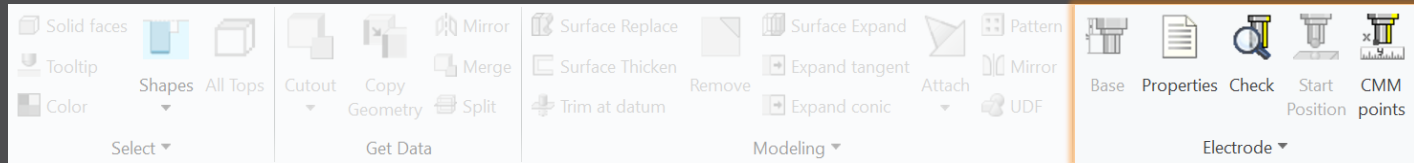
What

- Allow CMM points in workpiece models
- <https://redmine.buw-soft.de/issues/12327>

Why

- Enable definition and output of measuring points for CMM in workpieces

How

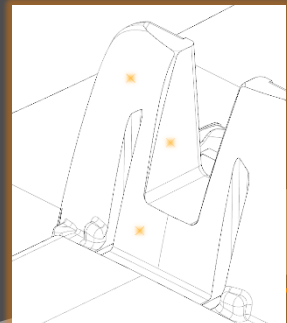


Workflow and functionality is the same as for electrodes

- Activate component
- Open “CMM points”
- “Add” measuring points on pick position till loop is cancelled with MMB
- Confirm or discard points

The screenshot shows a dialog box titled 'Measuring Points' with a table of coordinates. The table has columns: ID, X, Y, Z, I, J, K. The data is as follows:

ID	X	Y	Z	I	J	K
1	26.12	5.98	7.57	0.01	0.26	0.95
2	29.11	2.26	85.16	0.97	0.09	0.74
3	26.32	2.81	5.24	0.90	1.00	0.05



Improvement

What

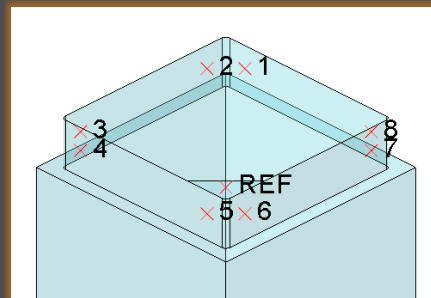
- Measuring points can be added to template.
- <https://redmine.buw-soft.de/issues/11335>

Why

- For easier measuring of preset

How

- Each point feature has to carry a parameter "SE_QMM_POINTS" for identification.
- Use field points or general datum points.
- General datum point features may include multiple points.
- General datum points can't be edited in UI and are highlighted with a yellow background.
- **Note:** deletion of point in UI always deletes the whole feature.
- Use command "Save custom base" to update templates.



Name	Type	Value
SE_QMM_POINTS	Integer	1

Measuring Points						
ID	X	Y	Z	I	J	K
1	5.00	6.50	1.50	-0.00	1.00	-0.00
2	6.50	5.00	1.50	1.00	0.00	0.00
3	6.50	-5.00	1.50	1.00	0.00	0.00
4	5.00	-6.50	1.50	0.00	1.00	0.00

Improvement

What

- Export additional information for quality measuring to Z&K Alphamoduli.
- <https://redmine.buw-soft.de/issues/12839>

Why

- Enables an easier setup of CMM.

How

Name	Type	Description	Parameter Rule
TolMin	Float	Allowed lower tolerance for quality measuring	&qm_tol_min
TolMax	Float	Allowed upper tolerance for quality measuring	&qm_tol_max
PresetStylus	Char(32)	Stylus name for preset	&qm_preset_stylus
PresetTip	Char(32)	Tip name for preset	&qm_preset_tip
PresetPrehitDistance	Float	Prehit distance during preset	&qm_preset_prehit
PresetRetractDistance	Float	Retract distance during preset	&qm_preset_retract
QMStylus	Char(32)	Stylus name for measuring	&qm_stylus
QMTip	Char(32)	Tip name for measuring	&qm_tip
QMPrehitDistance	Float	Prehit distance during measuring	&qm_prehit
QMRetractDistance	Float	Retract distance during measuring	&qm_retract

Improvement

What

- Introduced workpiece naming format for Z&K Alphamoduli.
- <https://redmine.buw-soft.de/issues/12324>

Why

- Valid Creo name length of 31 characters may not available depending on EDM setup.
- Allow generation of short workpiece names.

How

- Use option SE_CORE_NAME_FORMAT to define a format for short names.
- CAD model name is used if options is undefined or empty.
- Any workpiece parameter from configuration can be used in format.
- Example setting in export.cfg:

```
! naming format for workpiece models in XML file  
SE_CORE_NAME_FORMAT WP_<ID>
```

- Result in XML:

```
<LogWrk>  
  <Name>WP_1</Name>  
  <CadModel>.\WORKPIECE\JS748100_AS.STP</CadModel>  
  <Remark>JS748100_AS</Remark>  
</LogWrk>
```

Improvement

What

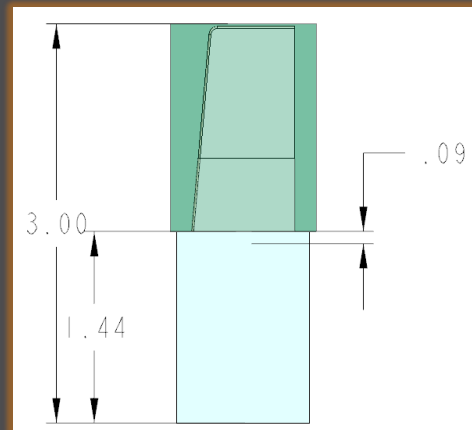
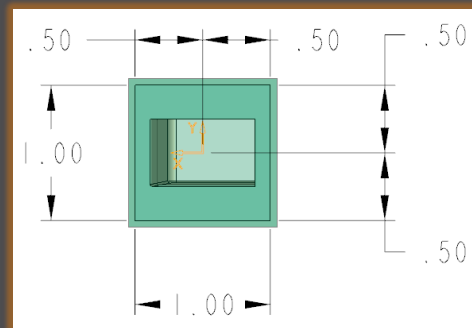
- Automatic creation of dimensions on manufacturing drawing.
- <https://redmine.buw-soft.de/issues/12475>

Why

- Create a more complete NC drawing.

How

- Automatically add dimensions on NC drawing sheet similar how it works for electrode part drawings.
- Dimensions are created when drawing is copied from template.
- Edit configuration file my_drawing_format.cfg to add dimensions in list.
- Use MFG template name in 1st column.
- Refer to <https://www.buw-soft.de/en/news/add-workiece-dimensions-automatically/> for more information.



Improvement

What

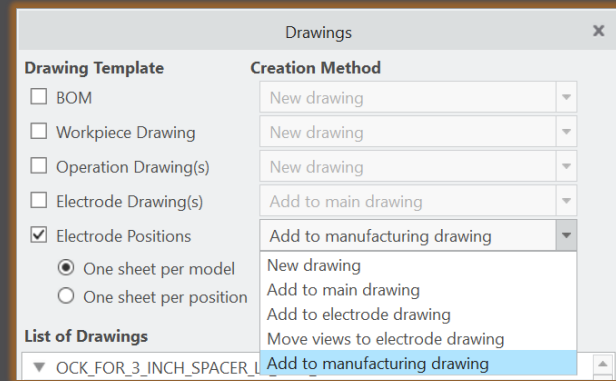
- Drawing UI: new option to add positioning sheet to NC drawing sheet.
<https://redmine.buw-soft.de/issues/11270>

Why

- Add electrode position sheet to existing NC drawing sheet similar how it works for electrode part drawings.

How

- Info: NC drawing sheet can be part of manufacturing template which is assigned in Manufacturing UI and copied during creation of new manufacturing assembly.
- Set option
MERGE_EDM_POSITION_SHEETS = 5
to enable this behavior.



Fixed error

Description

- Different behavior for interference check in Creo 4 vs. 6, 7, 8 in active component mode.

- <https://redmine.buw-soft.de/issues/12837>

Cause

- Current releases of Creo Parametric 6, 7 and 8 **don't** support computation of interferences in active component mode.
- Behavior should be fixed in Creo 7.0.8.0, Creo 8.0.4.0 and Creo 9.0.0.0.
- Error won't be fixed in Creo 6.0.


Solution

- Interference check will be disabled in active component mode in affected Creo Parametric versions till fix is available.

Check Electrode(s) [X]

References
Select Electrode(s)
1 models selected

Options

☒ Interference  ☐ Touching Faces
☐ Assign Colors ☐ Consider Undersize
☐ Calculate Undersize ☐ Effective Contact Area

Results

?	Electrode	Touching Surfaces	Projection Area	Interference
i	SE_CREO4_EDM_A	n/a	0	n/a
	All	0	0	0



SMARTElectrode 14.0.1.0

What's New



Enhancement

What

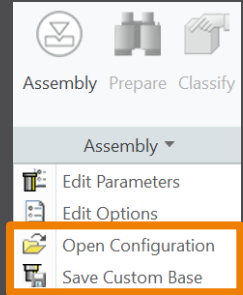
- Added new command to “Save Custom Base” to save userdefined feature (UDF) and data file for electrode blank.
- <https://redmine.buw-soft.de/issues/12001>

Why

- New command simplifies creation of customized base and saves a valid data file for it.

How

- Use command "Open Configuration" to browse to "electrode\<supplier>base_templates" and select part to customize.
- Incorporate changes.
- Select "Save Base Template" to create UDF and data file.
- Customize data file.
- Copy UDF and DAT to supplier directory to activate template
- **NOTE:** All variable dimensions to be controlled in data file require a custom symbol name.
- **NOTE:** Open “Getting-Started” document for more information.



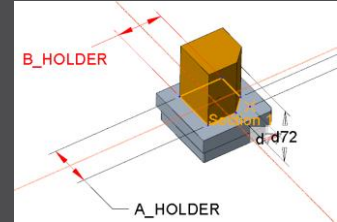
Enhancement

What

- Allow additional variable dimensions and parameters in blank data file (*.dat)
- <https://redmine.buw-soft.de/issues/9953>

Why

- Customer specific templates sometimes need to control additional dimensions or parameters – for example if holder or order number are part of electrode blank



How

- To use additional parameters with data file an additional line “VALUETYPE” has to be added between “INSTANCE” and blank sizes.

INSTANCE	A_BASE	B_BASE	FRAME_WIDTH	FRAME_HEIGHT	A_HOLDER	B_HOLDER	PARAMINT	PARAMSTRING	PARAMDOUBLE
VALUETYPE	DIM	DIM	DIM	DIM	DIM	DIM	INTEGER	STRING	DOUBLE
E-15-15	15	15	1	3.2	15	15	1515	E-15-15	15.15

- Available types:
 - DIM → Creo dimensions like A_BASE, B_BASE, LENGTH, base height D2 and additional dimensions
 - INTERN → internal values used for calculation and advanced settings like D1, D3, MATERIAL, MFG_TEMPLATE, HOLDER, ...
 - INTEGER → integer parameter
 - STRING → string parameter
 - DOUBLE → double parameter
- **NOTE:** more information can be found in “Getting-Started” presentation

Improvement

What

- Adjusted behavior for default values from parameter configuration.
- <https://redmine.buw-soft.de/issues/12025>

Why

- Until now there have been two different behaviors for default values if...
 - defined in sel_list.txt or

```
SPARK_MODE ... &priority
```

```
#PRIORITY  
Normal wear  
Low wear  
Normal wear  
High removal
```

- defined in parameter.cfg directly

```
SPARK_MODE ... Normal wear
```

How

Now in both cases...

- default value defined in parameter.cfg and
- default value defined in sel_list.txt

...the value from SMARTElectrode configuration will be used now. The value will be set regardless whether the parameter already exists in template for new electrodes or not.

Improvement

What

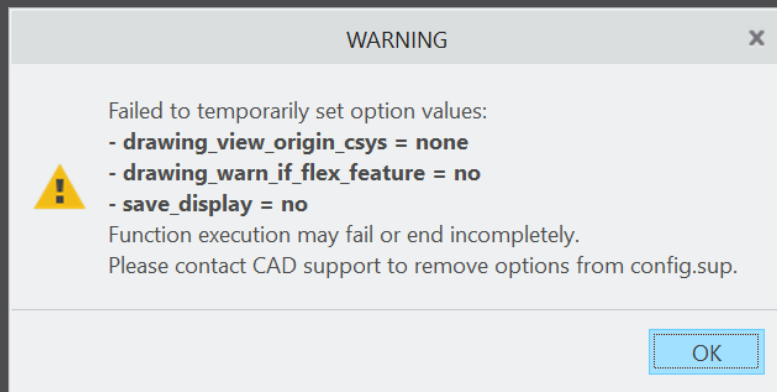
- Check and update mandatory options before drawings are created.

Why

- Drawing creation may fail if following options can't be set temporarily by SMARTElectrode
 - start_model_dir
 - drawing_view_origin_csys
 - drawing_warn_if_flex_feature
 - save_display

How

A warning will be displayed.



Fixed error

Description

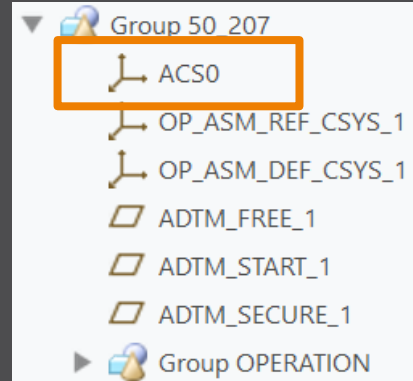
- Operations/origins unreadable if group changed.
- <https://redmine.buw-soft.de/issues/12010>

Cause

- SMARTElectrode expects a fixed sequence order in operation groups:
 - Reference Csys (this is the selected csys)
 - Default Csys (orientation like selected csys on assembly default; used to assemble new electrodes on)
 - Freeface datum plane (default position of electrode base)
 - Default start datum plane (default start position of electrode if not defined otherwise)
 - Default secure datum plane (default secure position of electrode if not defined otherwise)
 - Operation cosmetic for drawing (optional)

Solution

- SMARTElectrode tries now to identify features in group, but it's still recommended to keep the group unchanged.





SMARTElectrode 14.0.0.0

What's New



Enhancement

What

- Disabled commands to convert electrode assemblies to Inseparable Assemblies
- <https://redmine.buw-soft.de/issues/11929>

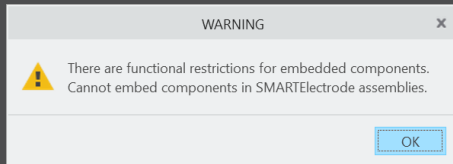
Why

Commands are disabled because of limitations:

- Drawing creation / repeat regions for electrodes may fail
- Potential issues with userdefined features
- No reuse of embedded electrodes in other projects

How

- A warning appears if user executes >Inseparable Assemblies >Embed or >Model >Operations >Inseparable Assemblies >Make Inseparable



- SMARTElectrode does not process components already embedded in electrode assembly. Embedded components are not listed in burnsheets nor exported. A warning will be displayed in message window:
„Embedded component <component name> not processed in SMARTElectrode.“

Enhancement

What

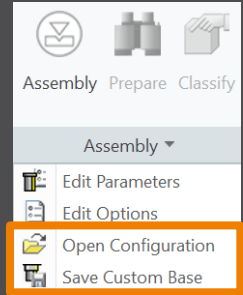
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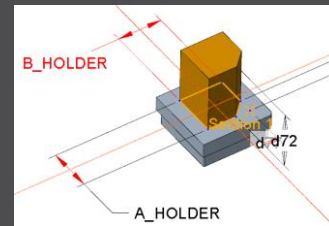
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