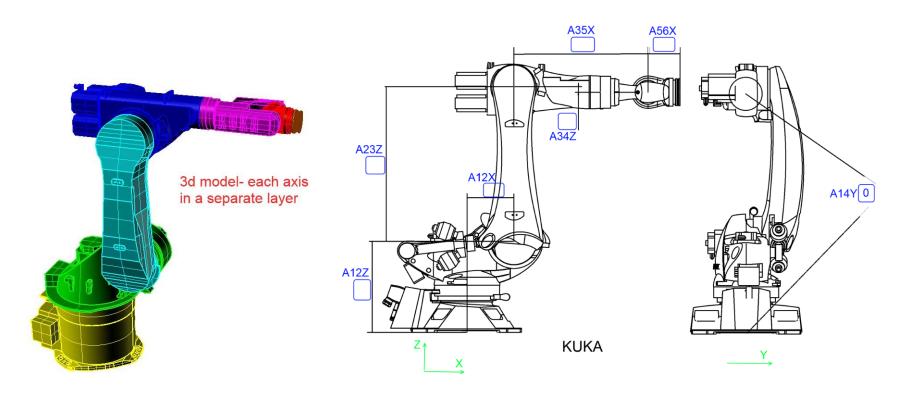# How to create new XML description in SprutCAM Robot
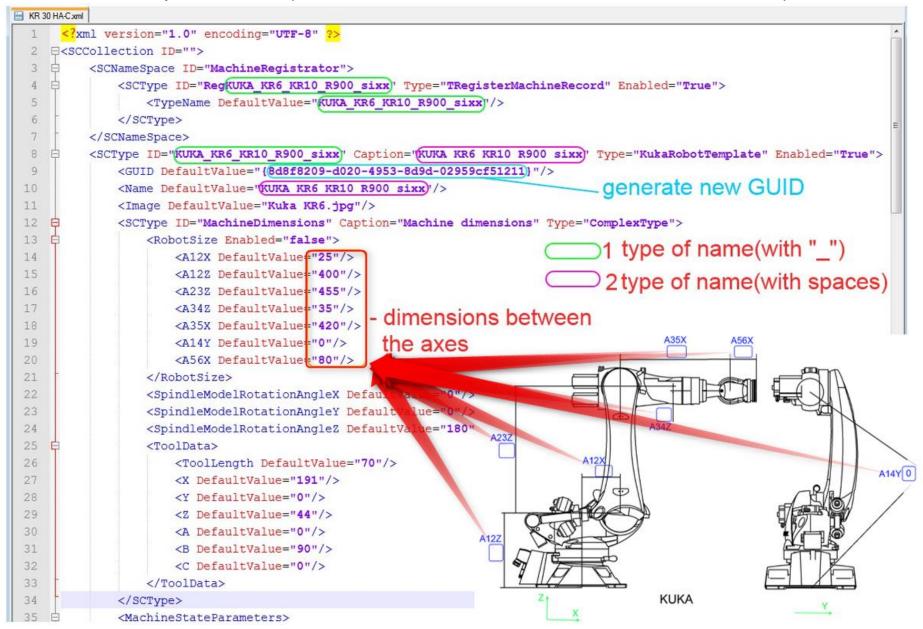
(example for KUKA robot)

STEP 1 - Create new file *.XML

By an example from 'C:\Documents and Settings\All Users\Application Data\Sprut Technology\SprutCAM\Version 10\Machines\Schemas\Robots' folder
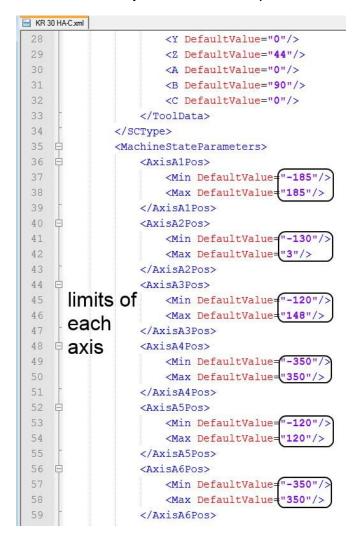
STEP 2 – Update XML (add names and dimensions between the axes)

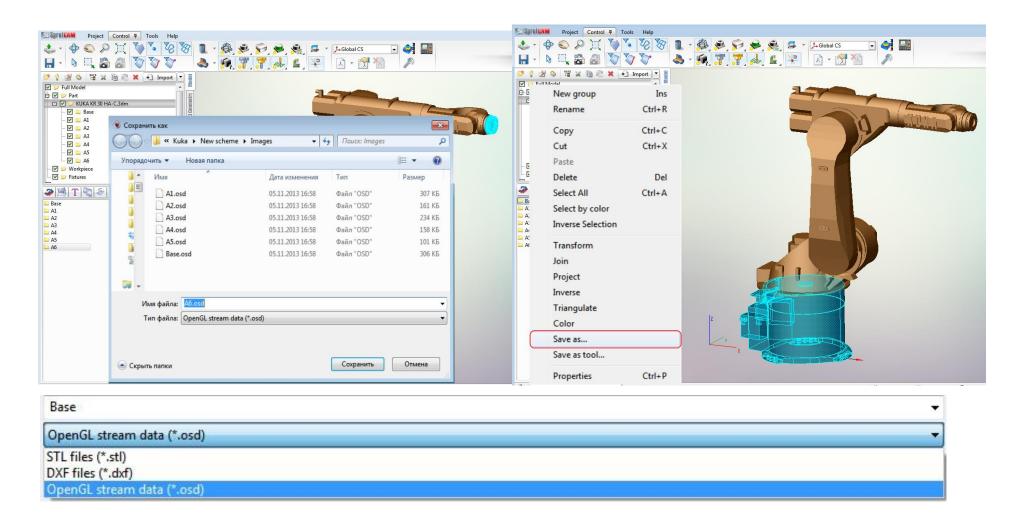**STEP 2** – Update XML (add limits of each asix and new GUID)


```
KR 30 HA-C.xml
28              <Y DefaultValue="0"/>
29              <Z DefaultValue="44"/>
30              <A DefaultValue="0"/>
31              <B DefaultValue="90"/>
32              <C DefaultValue="0"/>
33          </ToolData>
34      </SCType>
35      <MachineStateParameters>
36          <AxisA1Pos>
37              <Min DefaultValue="-185"/>
38              <Max DefaultValue="185"/>
39          </AxisA1Pos>
40          <AxisA2Pos>
41              <Min DefaultValue="-130"/>
42              <Max DefaultValue="3"/>
43          </AxisA2Pos>
44          <AxisA3Pos>
45              <Min DefaultValue="-120"/>
46              <Max DefaultValue="148"/>
47          </AxisA3Pos>
48          <AxisA4Pos>
49              <Min DefaultValue="-350"/>
50              <Max DefaultValue="350"/>
51          </AxisA4Pos>
52          <AxisA5Pos>
53              <Min DefaultValue="-120"/>
54              <Max DefaultValue="120"/>
55          </AxisA5Pos>
56          <AxisA6Pos>
57              <Min DefaultValue="-350"/>
58              <Max DefaultValue="350"/>
59          </AxisA6Pos>
```

limits of each axis

www.guidgenerator.com/online-guid-generator.aspx

Online GUID Generator

How many GUIDs do you want (1-2000): 1

Uppercase: ☐   {} Braces: ☐   Hyphens: ☑

Generate some GUID

Results:
d38411d4-7523-4061-af0a-7fc610f9a074

Use these GUIDs at your own risk! GUIDs generated by this site do not guarantee uniqueness!

STEP 3 – Create new OSD files by 3D model of robot

a) Import robot into SprutCAM

b) Save each axis into separate file *.osd

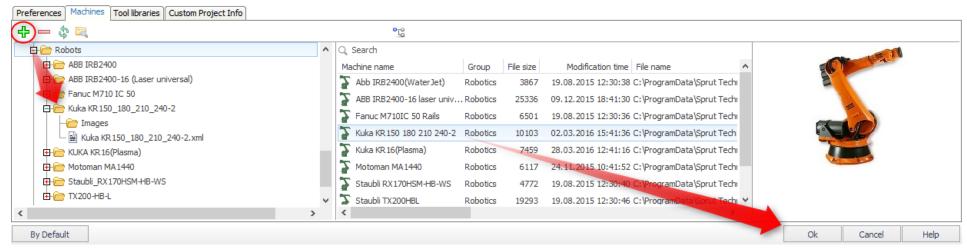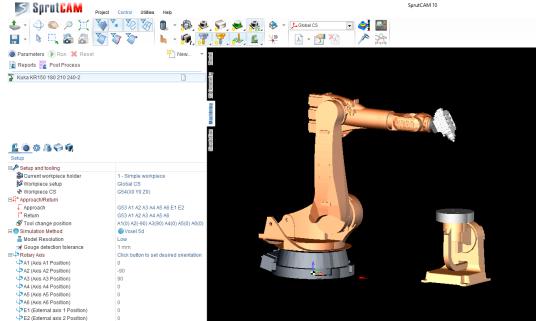# STEP 4 – update OSD files in the XML


```
KR 30 HA-C.xml

73              </ExtAxis2Pos-->
74          </MachineStateParameters>
75          <Schema>
76              <Rails1>
77                  <Rails2>
78                      <Rails3>
79                          <RobotFrame Caption="Robot frame">
80                              <ImageFile DefaultValue="Images\Base.osd"/>
81                              <AxisA1>
82                                  <ImageFile DefaultValue="Images\A1.osd"/>
83                                  <AxisA2>
84                                      <ImageFile DefaultValue="Images\A2.osd"/>
85                                      <AxisA3>
86                                          <ImageFile DefaultValue="Images\A3.osd"/>
87                                          <AxisA4>
88                                              <ImageFile DefaultValue="Images\A4.osd"/>
89                                              <AxisA5>
90                                                  <ImageFile DefaultValue="Images\A5.osd"/>
91                                                  <AxisA6>
92                                                      <ImageFile DefaultValue="Images\A6.osd"/>
93                                                      <ToolBlockSelector>
94                                                          <ActiveNode DefaultValue="ToolBlock"/>
95                                                          <ToolBlock>
96                                                              <ImageFile DefaultValue="Images\ToolHead.osd"/>
97                                                          </ToolBlock>
98                                                      </ToolBlockSelector>
99                                                  </AxisA6>
100                                             </AxisA5>
101                                         </AxisA4>
102                                     </AxisA3>
103                                 </AxisA2>
104                             </AxisA1>
105                         </RobotFrame>
106                     </Rails3>
107                 </Rails2>
```

in these files were saved axis A1-A6, base.

toolhead

STEP 5 – Add new XML file to machine list (Details…)
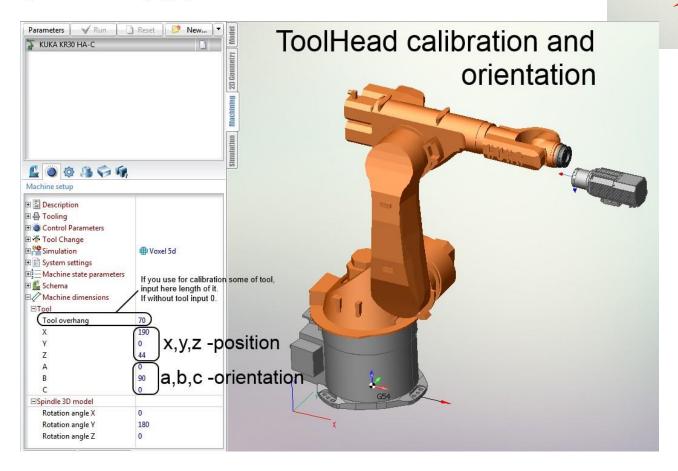
Now you can use new robot.

STEP 6 – If you need to replace ToolHead

-import into SprutCAM 3d model, save *.osd file

(name .osd file you have in xml)

```
<ToolBlock>CRLF
    ──>  <ImageFile DefaultValue="Images\ToolHead.osd"/>
</ToolBlock>CRLF
```


ToolHead calibration and orientation

Parameters	Run	Reset	New...	▼
KUKA KR30 HA-C				

Machine setup

- Description
- Tooling
- Control Parameters
- Tool Change
- Simulation   Voxel 5d
- System settings
- Machine state parameters
- Schema
- Machine dimensions
  - Tool

If you use for calibration some of tool, input here length of it. If without tool input 0.

Tool overhang	70
X	190
Y	0
Z	44
A	0
B	90
C	0

x,y,z -position

a,b,c -orientation

- Spindle 3D model

Rotation angle X	0
Rotation angle Y	180
Rotation angle Z	0

G54

STEP 6 – If you need to replace ToolHead

Machine setup	
Tool	
Tool overhang	0
X	270
Y	0
Z	74
A	0
B	90
C	0
Spindle 3D model	
Rotation angle X	0
Rotation angle Y	90
Rotation angle Z	0

```
<ToolData>
    <ToolLength DefaultValue="70"/>
    <X DefaultValue="191"/>
    <Y DefaultValue="0"/>
    <Z DefaultValue="44"/>
    <A DefaultValue="0"/>
    <B DefaultValue="90"/>
    <C DefaultValue="0"/>
</ToolData>
<SpindleModelRotationAngleX DefaultValue="0"/>
<SpindleModelRotationAngleY DefaultValue="0"/>
<SpindleModelRotationAngleZ DefaultValue="180"/>
```