Picador Batch XML processing

Purpose

Use a command to have the Picador software run a series of tasks to perform on one or more design files (diecut) through from a list of XML requests.

Processing of the interface ERP/MIS ←→ PICADOR :

ERP/MIS → PICADOR

Launch from the ERP/PLM, the Picador software to open a design file (diecut) associated with a list of XML requests.

- **• definition of xml queries:**
  - choose a model of technical sheet (*subTaskInsertTechnicalSheet*)
  - remove the technical sheet *(if exist one in the design file)* (*subTaskRemoveTechnicalSheet*)
  - transfer ERP/MIS data into the technical sheet of the design file. (*subTaskUpdateTechnicalSheetData*)
  - convert line types to other line types (*subTaskReplacePenAttribute*)
  - insert format markers (*subTaskInsertLayoutFormat*)

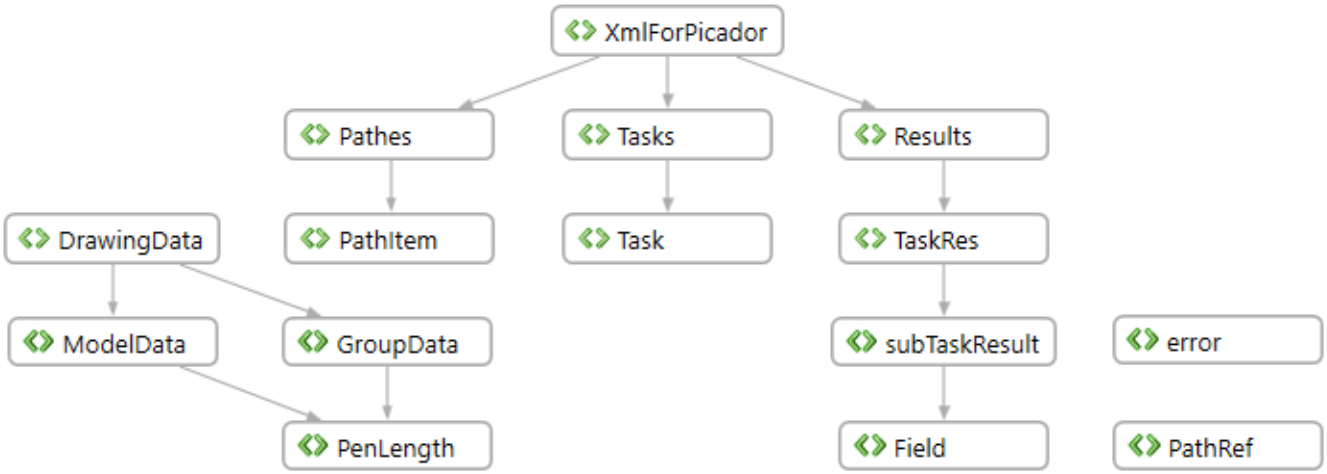
PICADOR → ERP/PLM

Back to the ERP/MIS of :

- ***the information inserted in the technical data sheet,***
- ***calculation and information on the design document***
- ***the control of archiving in the required formats.***

- **xml queries definition :**
  - define all desired output paths, file names, and output formats (*subTaskExport*)
  - collect all the geometrical/design information or calculation (rule dies length, formats, nb of items in layout, superficies...) (*subTaskCollectDrawingData*)
  - extract all information from the technical data sheet (*subTaskExtractTechnicalSheetData*)

- **saving an output xml file with all the information collected in the document.**



Batch Processing

Launching the command and managing tasks and sub-tasks.

- **launch of the Picador software with the request of the tasks to be carried out using the command :**

  C:\picador\Bin10_2D\PicGeom.exe /xml "[path]/[request_file].xml"

- **define the drawing file to process :**

```
<Pathes>
        <PathItem pathID="FID-1" path"[path]/[drawing_file].des" type="FILE"/>
....
<Tasks>
<Task taskID="TASK-1" inputFileID="FID-1" outputFileID="FID-4">
```

- **retrieve information in an xml return file :**

```
<Pathes>
        <PathItem pathID="FID-4" path"[path]/[return_xml].xml" type="FILE"/>
....
<Tasks>
<Task taskID="TASK-2" inputFileID="FID-1" outputFileID="FID-4">
```

- **organization of tasks and subtasks :**

  - A task organizes a sequence of sub-tasks to be performed on a drawing file and retrieve the results in a given return xml files :

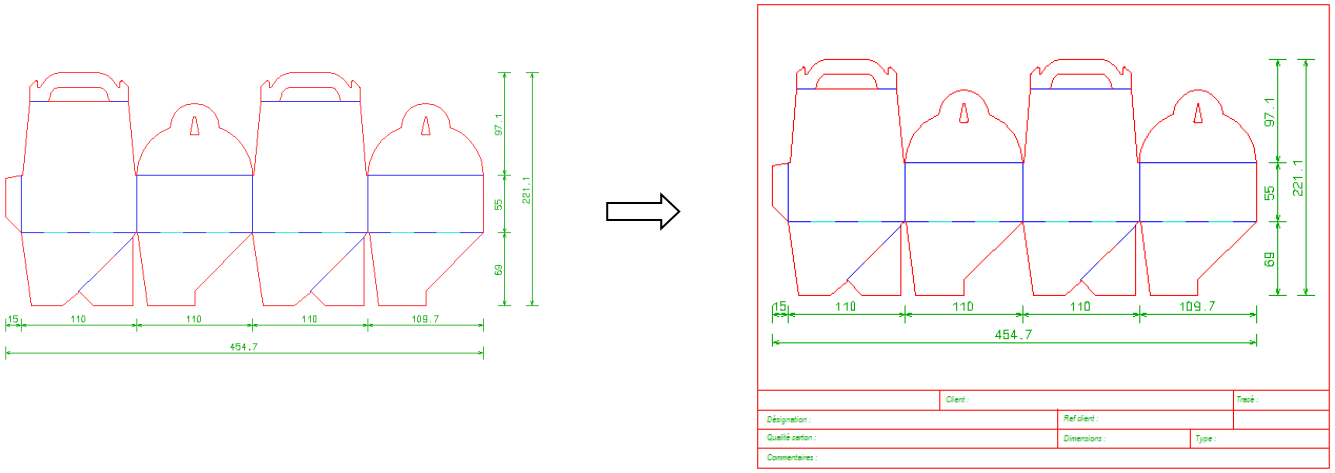
```
<Tasks quit="true">
        <Task taskID="TASK-1" ..............
                <SubTask xsi:type="subtask..........." ID="SUBTASKID-1"
                <SubTask xsi:type="subtask..........." ID="SUBTASKID-2"
                .....
        </Task>
        <Task taskID="TASK-2" ..............
                <SubTask xsi:type="subtask..........." ID="SUBTASKID-3"
                <SubTask xsi:type="subtask..........." ID="SUBTASKID-4"
                .....
         </Task>
</Tasks>
```

  - Display at the end of the tasks :

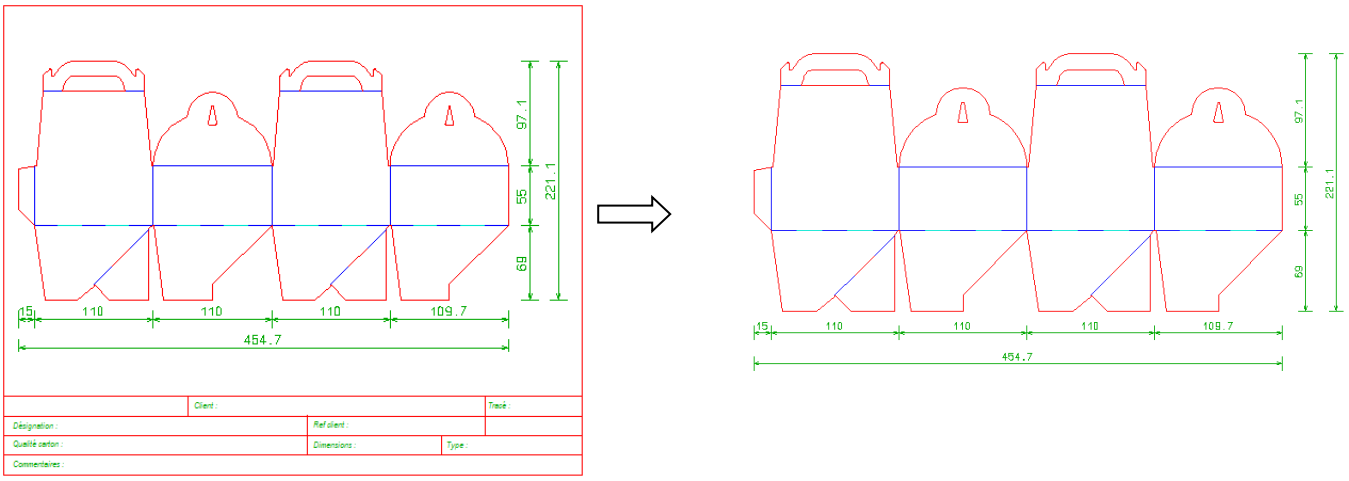
<Tasks quit="**true**"> : the Picador appilcation is closed at the end of the queries.
<Tasks quit="**false**"> : the Picador application remains open with the drawing transformed by the last request task.

Description of subtasks

- **subTaskInsertTechnicalSheet**
  <SubTask xsi:type="subTaskInsertTechnicalSheet" ID="SUBTASKID-4" technicalSheetPathRef="FID-3"/>



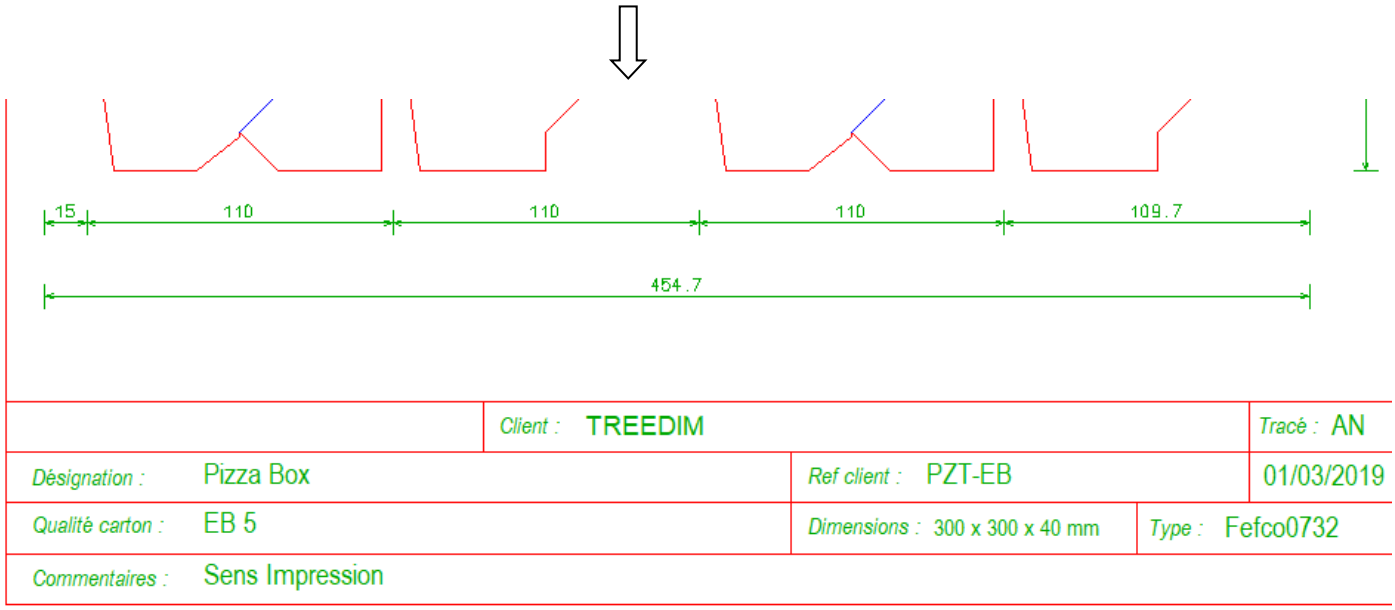
- **subTaskRemoveTechnicalSheet**
  <SubTask xsi:type="subTaskRemoveTechnicalSheet" ID="SUBTASKID-3"/>



- **subTaskUpdateTechnicalSheetData**

```
<SubTask xsi:type="subTaskUpdateTechnicalSheetData" ID="SUBTASKID-5">
    <Field name="CLIENT" value="TREEDIM" readonly="true"/>
    <Field name="PRODUCT" value="PIZZA BOX" readonly="false"/>
    .....
</SubTask>
```

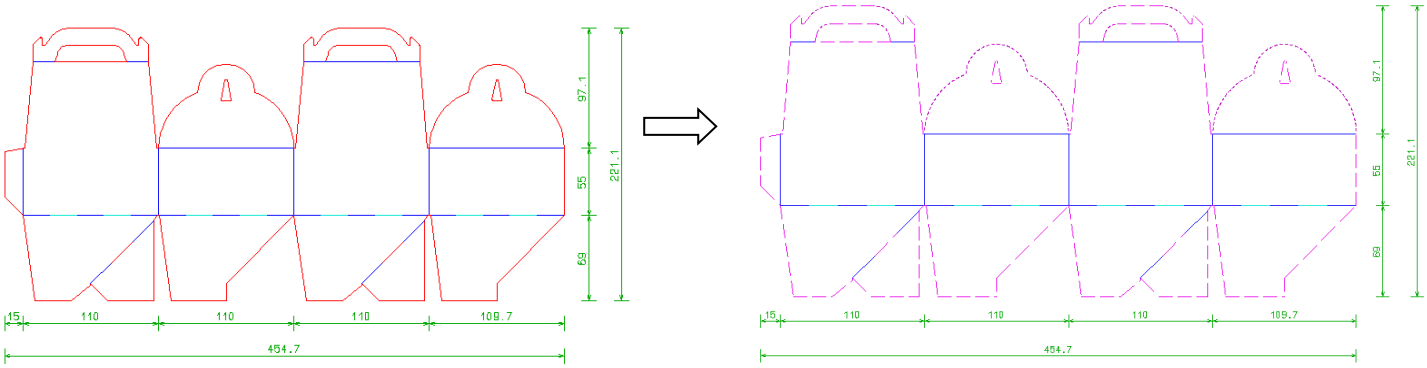
name="Client" value="TREEDIM"
name="Désignation" value="Pizza Box"
name="Qualité Carton" value="EB 5"
name="Ref Client" value="PZT-EB"
name="Dimensions" value="300 x 300 x 40 mm"
name="Type" value="Fefco0732"
name="Commentaires" value="Sens Impression"
name="Tracé" value="AN"



- **subTaskReplacePenAttribute**

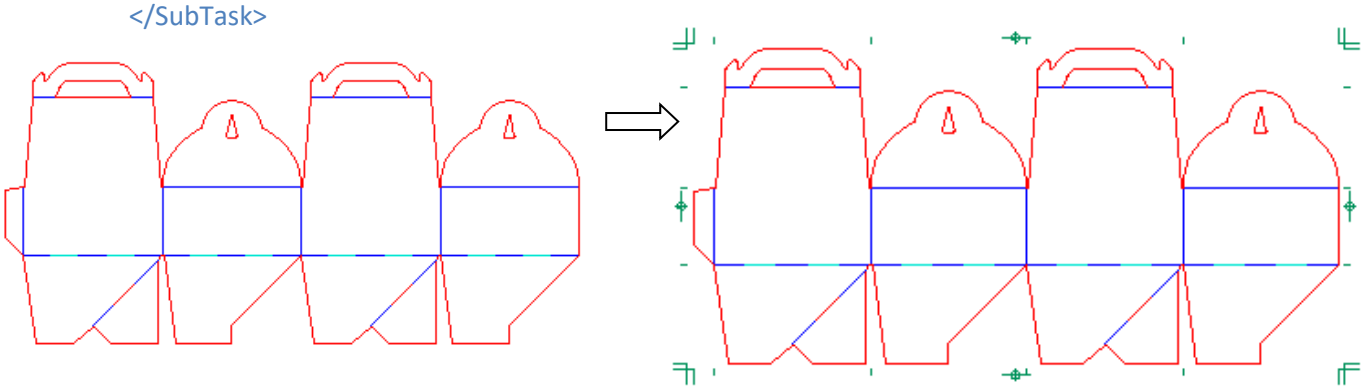
```
<SubTask xsi:type="subTaskReplacePenAttribute" ID="SUBTASKID-1"
                penFrom="HALF-CUT"      penTo="CREASE"/>
```

Definition of the types of lines :
{ "CUT", 1 }, { "PERFO-CREASE", 2 }, { "CONSTRUCTION", 3}, { "PERFO", 4 }, { "HALF-CUT", 5},
{ "CREASE", 6}, { "AXIS", 7 }, { "DIMENSION" , 8 }, { "REVERSED-CREASE", 9 }, { "ANTI-CUT", 10},
{ "STRIPPING", 11}, { "TEXT", 12}, { "AREA", 13}, { "ORIGIN", 14}, { "GRID", 15}, { "BRIDGES", 16}



- **subTaskInsertLayoutFormat**

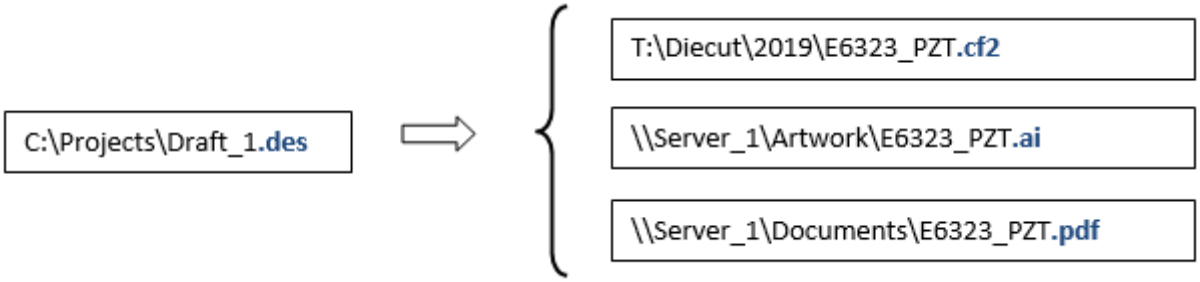
```
<SubTask xsi:type="subTaskInsertLayoutFormat" ID="SUBTASKID-6" Pen="13">
    <Center gap="3.0" length="8.0" width="25.0" diameter="3.0"/>
    <Corner gap="3.0" length="10.0"/>
    <Fold length="3.0"/>
</SubTask>
```



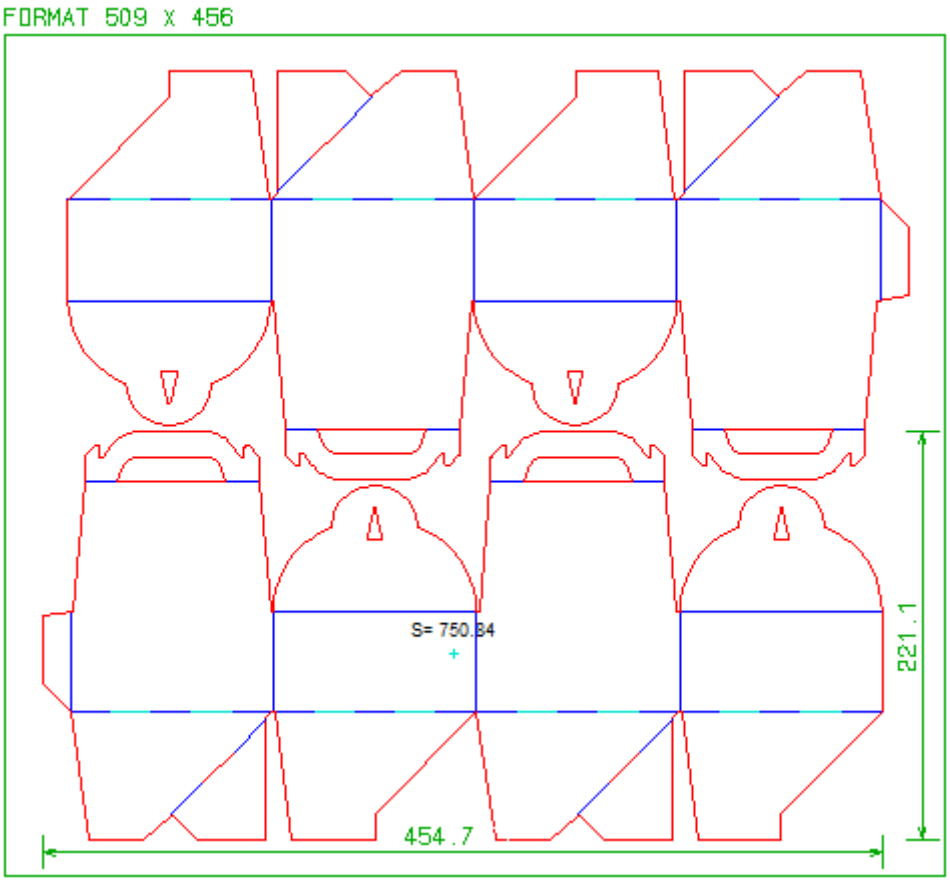
- **subTaskExport**

```
<SubTask xsi:type="subTaskExport" ID="SUBTASKID-7" filter="PEN= 3;PEN= 8">
    <Output format="CF2" pathRef="FID-2"/>
    <Output format="DXF" pathRef="FID-7"/>
    <Output format="DES" pathRef="FID-6"/>
    .....
</SubTask>
```

Definition of saving/export file formats:
{ "DES" }, { "CF2" }, { "DXF"}, { "AI" }, { "PDF"}



- **subTaskCollectDrawingData**
  <SubTask xsi:type="subTaskCollectDrawingData" ID="SUBTASKID-2" filter="PEN= 3;PEN= 8"/>

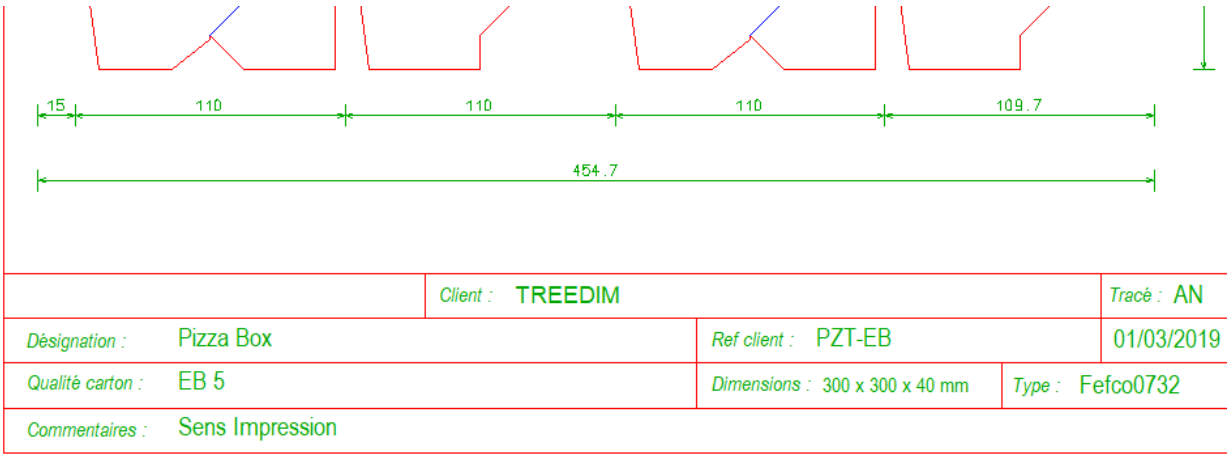


```
<DrawingData noModels="1" formatCardboard=" 508.500, 456.200" formatWood=" 0.00, 0.00">
        <ModelData boundingBox=" 468.549, 416.243" sawingLength="6896.598"
                        noPositions="2" noBendings="68" filetLength="6896.598" area="1501.681">
                <PenLength type="CUT" length="4807.913"/>
                <PenLength type="HALF-CUT" length="351.109"/>
                <PenLength type="CREASE" length="1737.576"/>
        </ModelData>
        <GroupData groupId="2" noPositions="2" noBendings="34" boundingBox="454.740, 221.140"
                        filetLength="3448.299" area="750.841">
                <PenLength type="CUT" length="2403.957"/>
                <PenLength type="HALF-CUT" length="175.555"/>
                <PenLength type="CREASE" length="868.788"/>
        </GroupData>
</DrawingData>
```

Results produced by subTaskCollectDrawingData :
ModelData : cumulative results of the entire drawing.
GroupData: results from a single group*.
*group *(Picador attribute)* = part of multi part drawing

noModels = number of groups (*parts, models*)
boundingBox = overall format (*rule to rule*)
formatCardboard = carton sheet format
formatWood = wood format (*dieboard*)
sawingLength = total length of sawing (*dieboard cutting laser*)
noBendings = number of bends of rules
noPositions = number of items *(layout, imposition)*
filetLength = total length of rules die *(length to cut, to crease, to perfo …)*
groupId = group number *(picador attribute group number)*
PenLength = total length of a line type

- **subTaskExtractTechnicalSheetData**
  <SubTask xsi:type="subTaskExtractTechnicalSheetData" ID="SUBTASKID-8"/>



name="Client" value="TREEDIM"
name="Désignation" value="Pizza Box"
name="Qualité Carton" value="EB 5"
name="Ref Client" value="PZT-EB"
name="Dimensions" value="300 x 300 x 40 mm"
name="Type" value="Fefco0732"
name="Commentaires" value="Sens Impression"
name="Tracé" value="AN"

Annex 1 : Example of a request file XML : ERP/MIS ←→ PICADOR

```
<?xml version="1.0"?>
<XmlForPicador
        xsi:schemaLocation="http://www.treedim.com/PicGEOM C:\Picador\Schemas\xmlCommands.xsd"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns="http://www.treedim.com/PicGEOM"
        xmlns:pg="http://www.treedim.com/PicGEOM">
 <!-- Pathes : input and output file -->
 <Pathes>
    <PathItem pathID="FID-1" path="C:\Picador\XML_Samples\PicadorXmlSample.des" type="FILE"/>
    <PathItem pathID="FID-2" path="C:\Picador\XML_Samples\PicadorXmlSample.cf2" type="FILE"/>
    <PathItem pathID="FID-3" path="C:\Picador\XML_Samples\FT_Demo.des" type="FILE"/>
    <PathItem pathID="FID-4" path="C:\Picador\XML_Samples\PicadorXmlSample_output1.xml" type="FILE"/>
    <PathItem pathID="FID-5" path="C:\Picador\XML_Samples\PicadorXmlSample_output2.xml" type="FILE"/>
 </Pathes>
 <!-- Tasks : List of Tasks (sequence of sub-tasks) on an input file (drawing), results in a output file (xml)
        quit="true"  Picador closed at the end of all tasks
        quit="false" Picador open with tehresult of the last Task
 -->
 <Tasks quit="true">
   <!—Task 1 -->
   <Task taskID="TASK-1" inputFileID="FID-1" outputFileID="FID-4">
      <SubTask xsi:type="subTaskReplacePenAttribute" ID="SUBTASKID-1" penFrom="CREASE" penTo="CUT"/>
      <SubTask xsi:type="subTaskCollectDrawingData" ID="SUBTASKID-2" filter="PEN= 3;PEN= 8"/>
      <SubTask xsi:type="subTaskRemoveTechnicalSheet" ID="SUBTASKID-3"/>
      <SubTask xsi:type="subTaskInsertTechnicalSheet" ID="SUBTASKID-4" technicalSheetPathRef="FID-3"/>
      <SubTask xsi:type="subTaskUpdateTechnicalSheetData" ID="SUBTASKID-5">
            <Field name="CLIENT" value="TREEDIM" readonly="true"/>
            <Field name="PRODUCT" value="PIZZA BOX" readonly="false"/>
      </SubTask>
      <SubTask xsi:type="subTaskInsertLayoutFormat" ID="SUBTASKID-6" Pen="13">
            <Center gap="3.0" length="8.0" width="25.0" diameter="3.0"/>
            <Corner gap="3.0" length="10.0"/>
            <Fold length="3.0"/>
      </SubTask>
      <SubTask xsi:type="subTaskExport" ID="SUBTASKID-7" filter="PEN= 3;PEN= 8">
            <Output format="CF2" pathRef="FID-2"/>
      </SubTask>
   </Task>
   <!—Task 2 -->
   <Task taskID="TASK-2" inputFileID="FID-1" outputFileID="FID-5">
      <SubTask xsi:type="subTaskExtractTechnicalSheetData" ID="SUBTASKID-8"/>
   </Task>
</Tasks>
</XmlForPicador>
```

Annex 2 : Example of a return XML file : PICADOR→ERP/MIS

- **XML output TASK 1**

```
<?xml version="1.0" encoding="utf-8"?>
<XmlForPicador>
    <Results>
        <TaskRes taskID="TASK-1">
            <subTaskResult subTaskID="SUBTASKID-1" timeStart="2019/03/13 20:33:38"
                                                   timeEnd="2019/03/13 20:33:38" status="SUCCESS"/>
            <subTaskResult subTaskID="SUBTASKID-2" timeStart="2019/03/13 20:33:38"
                                                   timeEnd="2019/03/13 20:33:38" status="SUCCESS">
                <DrawingData noModels="1" formatCardboard="508.5,456.2" formatWood="0.0,0.0">
                    <ModelData boundingBox=" 468.5, 416.2" sawingLength="6896.6"
                        noPositions="2" noBendings="68" filetLength="6896.6" area="1501.7">
                            <PenLength type="CUT" length="4807.913"/>
                            <PenLength type="HALF-CUT" length="351.109"/>
                            <PenLength type="CREASE" length="1737.576"/>
                    </ModelData>
                    <GroupData groupId="2" noPositions="2" noBendings="34"
                        boundingBox="454.7, 221.1" filetLength="3448.3" area="750.841">
                            <PenLength type="CUT" length="2403.957"/>
                            <PenLength type="HALF-CUT" length="175.555"/>
                            <PenLength type="CREASE" length="868.788"/>
                    </GroupData>
                </DrawingData>
            </subTaskResult>

        </TaskRes>
    </Results>
</XmlForPicador>
```

SUBTASKID-1 = **subTaskReplacePenAttribute**
SUBTASKID-2 = **subTaskCollectDrawingData** → **<DrawingData>** : résultats de calculs de la sous-tâche 2

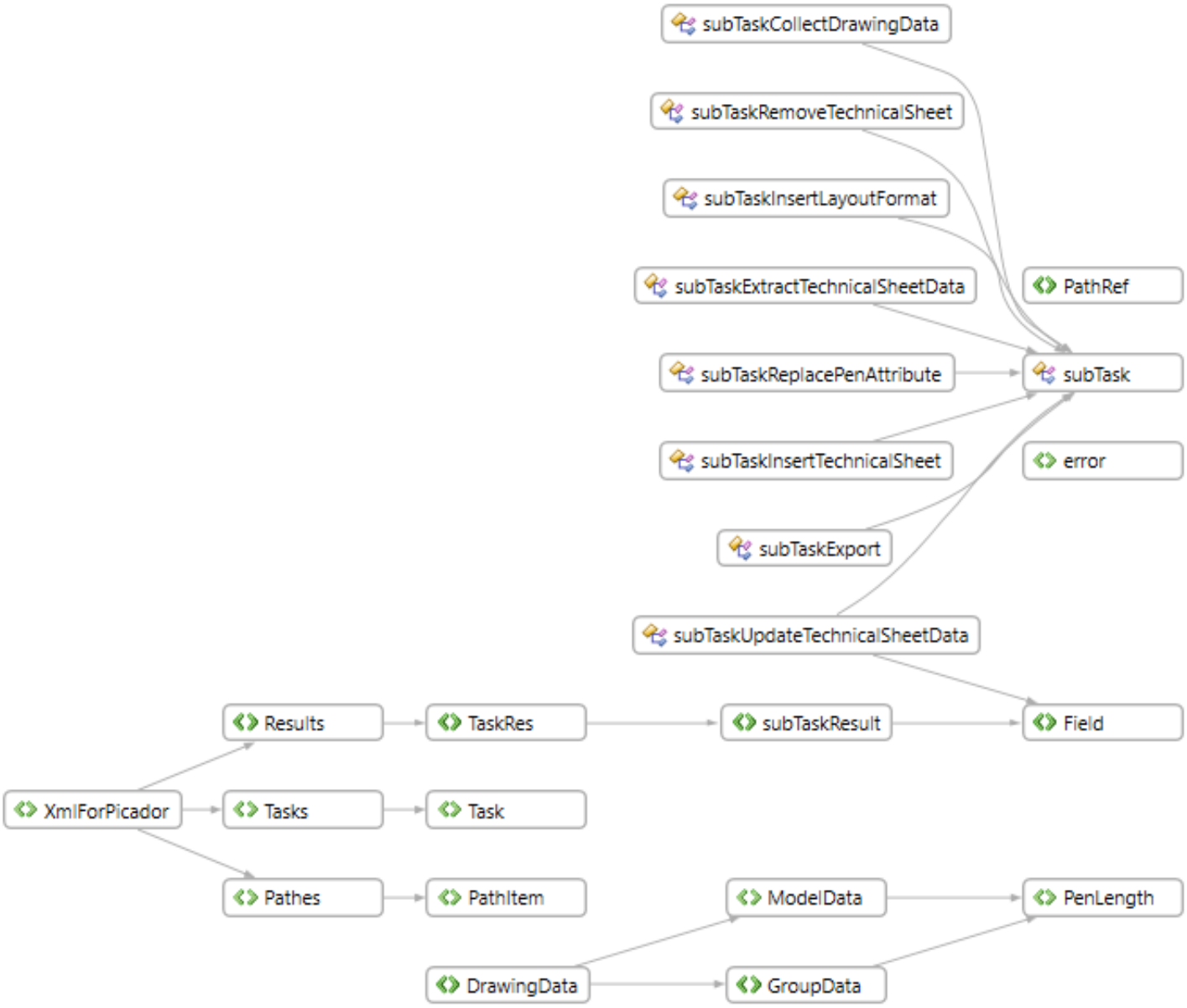
- **XML output TASK 2**

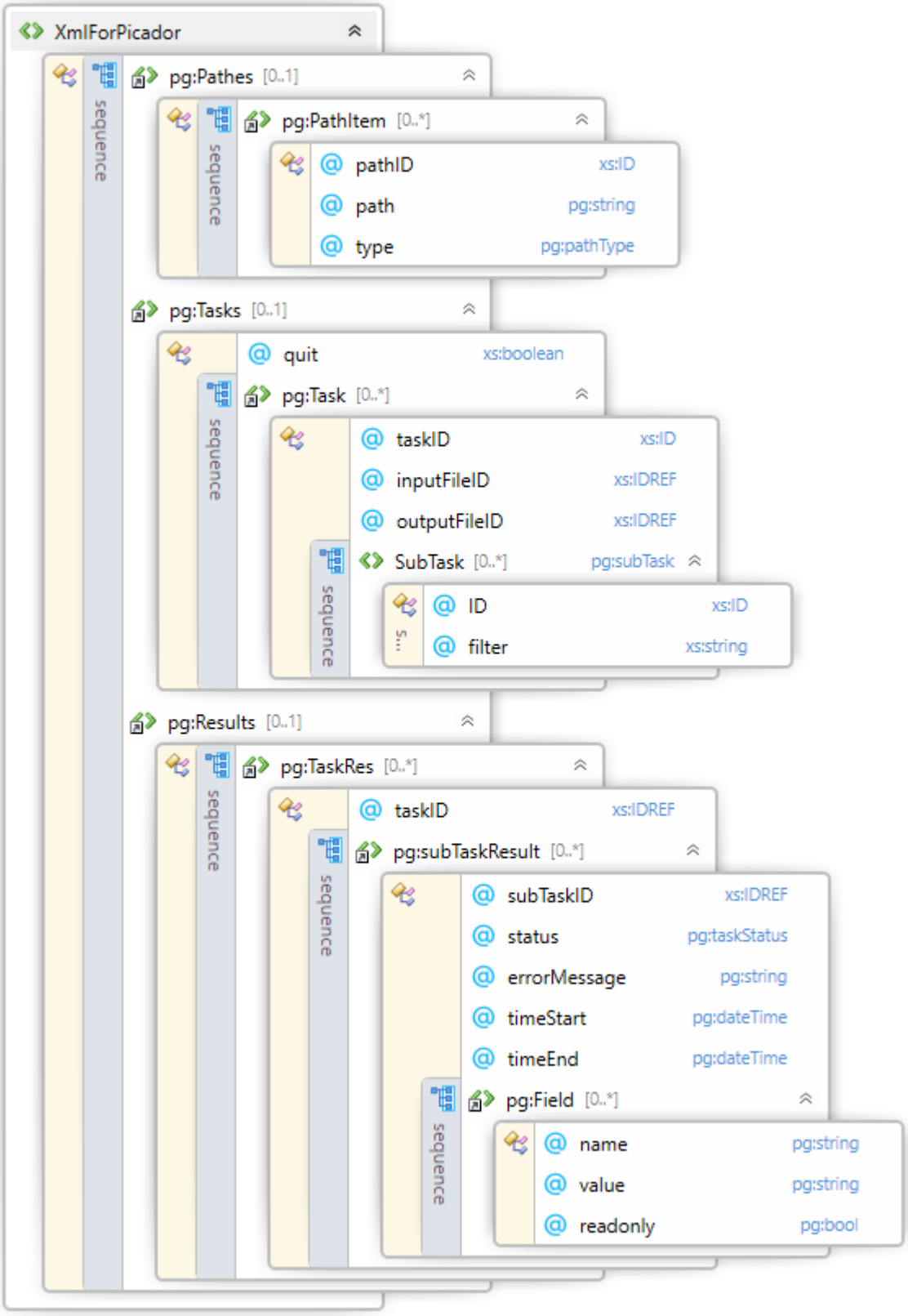
```
<?xml version="1.0" encoding="utf-8"?>
<XmlForPicador>
        <Results>
                <TaskRes taskID="TASK-2">
                        <subTaskResult subTaskID="SUBTASKID-3"  timeStart="2019/03/13 20:33:44"
                                timeEnd="2019/03/13 20:33:44"
                                status="FAILED" errorMessage="Failed to remove technical sheet!"/>
                        <subTaskResult subTaskID="SUBTASKID-4" timeStart="2019/03/13 20:33:44"
                                timeEnd="2019/03/13 20:33:50" status="SUCCESS"/>
                        <subTaskResult subTaskID="SUBTASKID-5" timeStart="2019/03/13 20:33:50"
                                timeEnd="2019/03/13 20:34:04" status="SUCCESS"/>
                        <subTaskResult subTaskID="SUBTASKID-8" timeStart="2019/03/13 20:34:04"
                                timeEnd="2019/03/13 20:34:12" status="SUCCESS">
                                <Field name="carton" value="CARTON" readonly="False"/>
                                <Field name="client" value="TREEDIM" readonly="False"/>
                                <Field name="commentaire" value="" readonly="False"/>
                                <Field name="date" value="" readonly="False"/>
                                <Field name="dimension" value="" readonly="False"/>
                                <Field name="désignation" value="" readonly="False"/>
                                <Field name="n° tracé" value="" readonly="False"/>
                                <Field name="réf client" value="" readonly="False"/>
                                <Field name="type" value="" readonly="False"/>
                        </subTaskResult>
                </TaskRes>
        </Results>
</XmlForPicador>
```

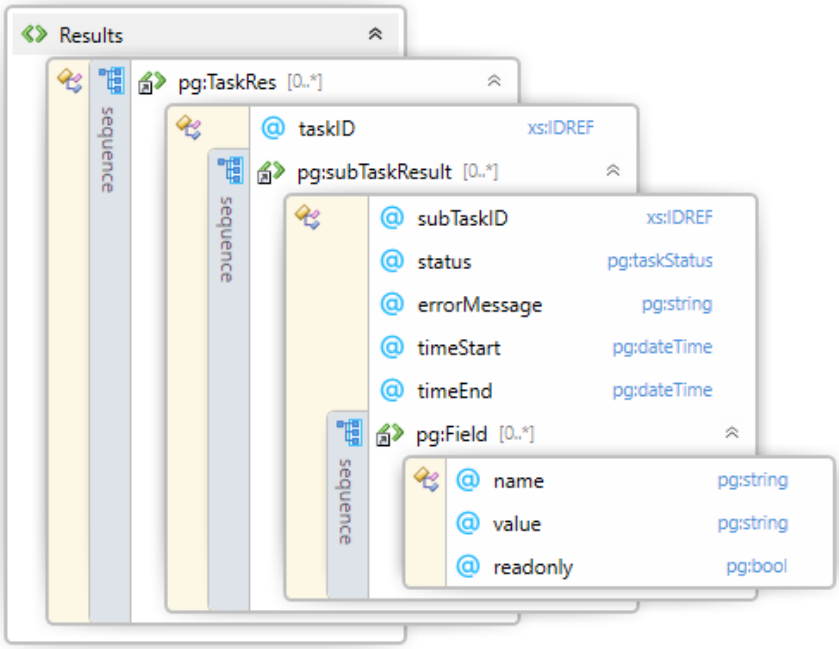
SUBTASKID-8 = **subTaskExtractTechnicalSheetData** → **<Field name>** : valeurs des champs de la fiche technique

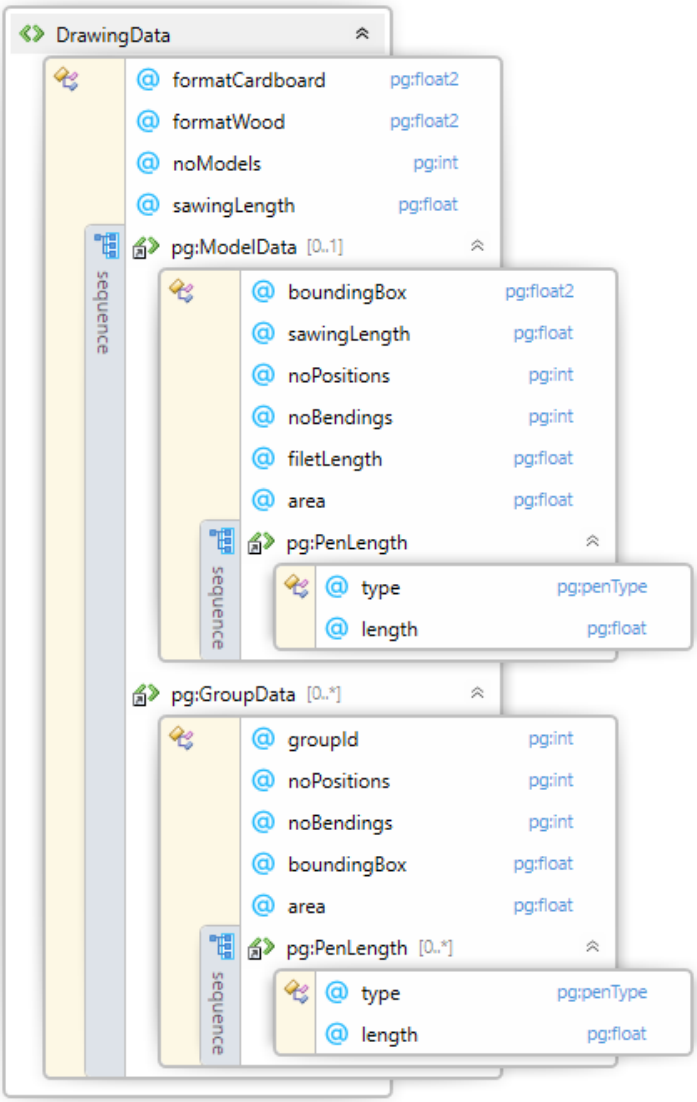
Annex 3 : XML Schema

Download http://www.treedim.com/DL/integration/xml/xmlCommands.xsd




XmlForPicador
sequence
pg:Pathes [0..1]
sequence
pg:PathItem [0..*]
pathID xs:ID
path pg:string
type pg:pathType
pg:Tasks [0..1]
quit xs:boolean
pg:Task [0..*]
sequence
taskID xs:ID
inputFileID xs:IDREF
outputFileID xs:IDREF
SubTask [0..*] pg:subTask
sequence
ID xs:ID
filter xs:string
pg:Results [0..1]
sequence
pg:TaskRes [0..*]
taskID xs:IDREF
pg:subTaskResult [0..*]
sequence
subTaskID xs:IDREF
status pg:taskStatus
errorMessage pg:string
timeStart pg:dateTime
timeEnd pg:dateTime
pg:Field [0..*]
sequence
name pg:string
value pg:string
readonly pg:bool


Results
sequence
pg:TaskRes [0..*]
taskID xs:IDREF
sequence
pg:subTaskResult [0..*]
subTaskID xs:IDREF
status pg:taskStatus
errorMessage pg:string
timeStart pg:dateTime
timeEnd pg:dateTime
sequence
pg:Field [0..*]
name pg:string
value pg:string
readonly pg:bool


DrawingData
formatCardboard pg:float2
formatWood pg:float2
noModels pg:int
sawingLength pg:float
sequence
pg:ModelData [0..1]
boundingBox pg:float2
sawingLength pg:float
noPositions pg:int
noBendings pg:int
filetLength pg:float
area pg:float
sequence
pg:PenLength
type pg:penType
length pg:float
pg:GroupData [0..*]
groupId pg:int
noPositions pg:int
noBendings pg:int
boundingBox pg:float
area pg:float
sequence
pg:PenLength [0..*]
type pg:penType
length pg:float

Contents