How to import points from Excel into CATIA

This guide shows you how to import points from Excel into CATIA using the GSD PointSpline loft macro. You prepare an Excel sheet with point coordinates, adjust the macro for compatibility, run it, and then turn the resulting spline into a solid extrusion.

Prerequisites

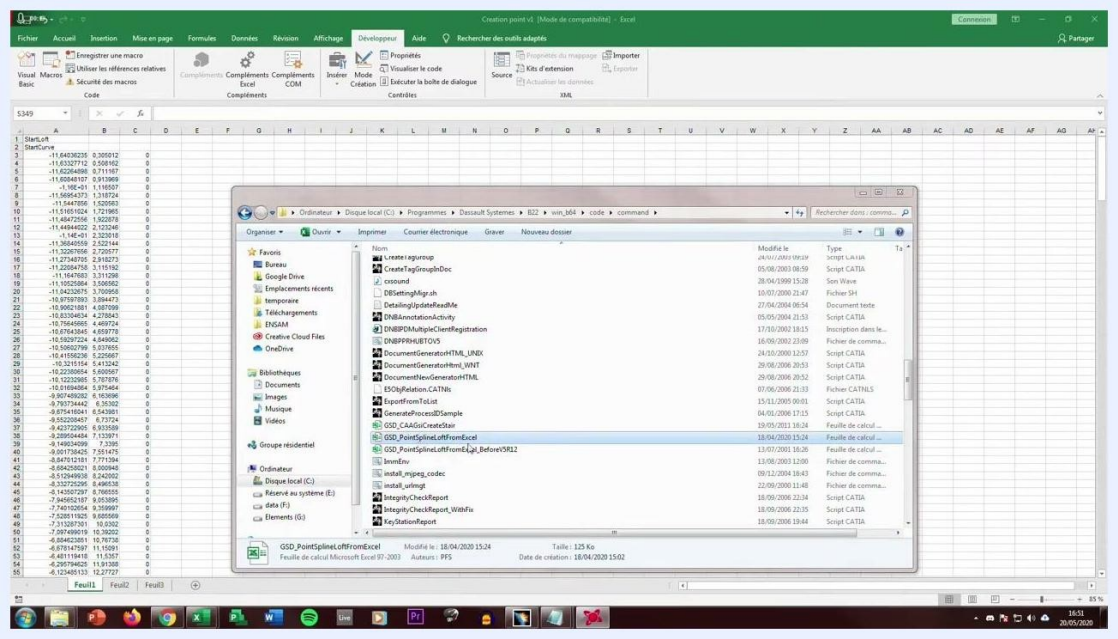
Before you start, make sure you have the following:

- Access to the CATIA command directory at C:\Programmes\Dassault Systemes\B22\win_b64\code\command
- The macro file GSD.PointSpline.loft.fromExcel
- Excel with the **Developer** tab available (the steps below explain how to enable it)
- A CATIA part file in which you want to import the points

Prepare your Excel file

Step 1: Copy the macro file

Open Windows Explorer and go to C:\Programmes\Dassault Systemes\B22\win_b64\code\command. The access path appears at the top of the Explorer window. Find the file named GSD.PointSpline.loft.fromExcel.



Windows Explorer open to the CATIA command directory, with the file GSD.PointSpline.loft.fromExcel highlighted

Right-click GSD.PointSpline.loft.fromExcel and select **Copy**. Paste the file into your chosen working directory for easier access.

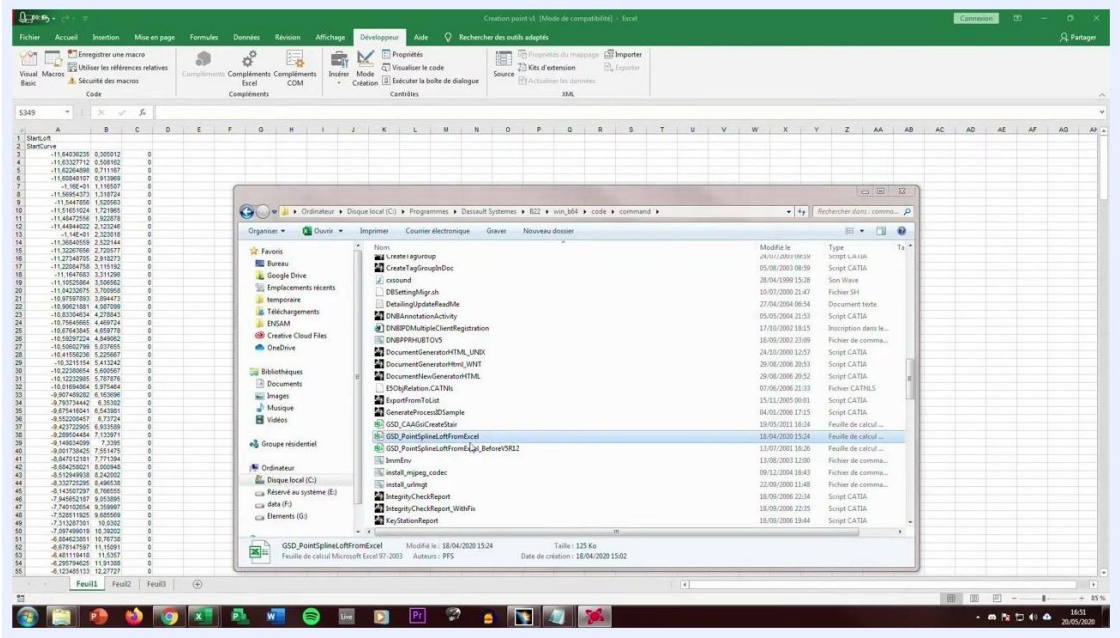
Step 2: Enter the point coordinates in Excel

Open your Excel file and enter your point data in the following format:

- The first cell contains StartLoft.
- The second cell contains StartCurve.
- Starting on the next row, enter one point per row: column A holds the X coordinate, column B the Y coordinate, and column C the Z coordinate.

Do not omit the Z coordinate, even if all values are zero for planar points.

```
StartLoft
StartCurve
-11.68042253    3.050612    0
-11.59483733    1.317624    0
...
```



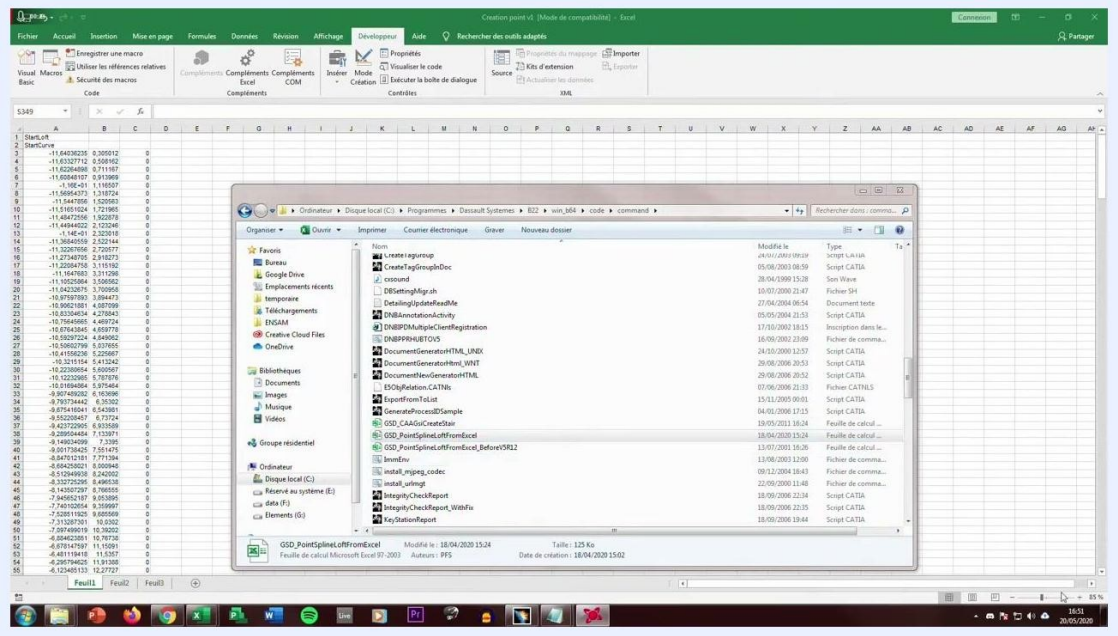
Excel sheet with X, Y, and Z coordinate columns, the StartLoft and StartCurve headers, and all Z values set to 0

Step 3: Add the end instructions

At the end of your point list, add these three instructions in the same column, one per row:

- EndCurve
- EndLoft
- End

These instructions mark the end of your data for the macro.



Excel sheet showing the EndCurve, EndLoft, and End instructions in the first column after the point list

Step 4: Match the first and last points for a closed contour

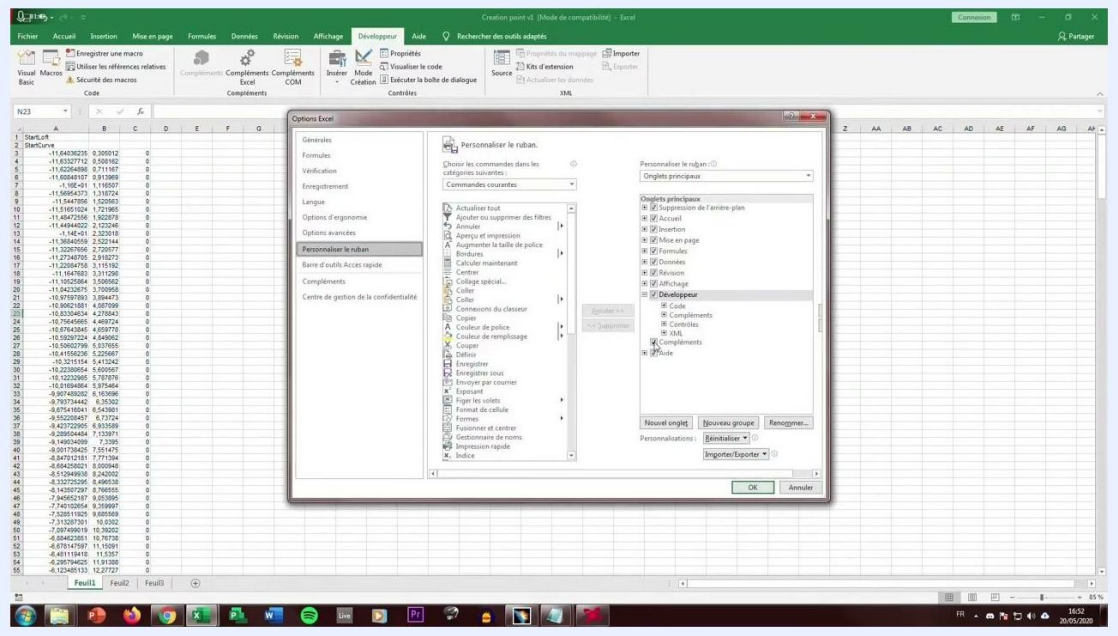
If you want to create a closed contour, make sure the last point in your list is identical to the first point.

Step 5: Enable macros in Excel

Go to the **Developer** tab in Excel. If the tab is not visible, enable it:

1. Click **File** > **Options**.
2. Select **Customize Ribbon**.

3. Check the **Developer** option in the right pane.



Excel Options dialog open to Customize Ribbon, with the Developer option checked

Modify the macro

Step 6: Make the macro compatible

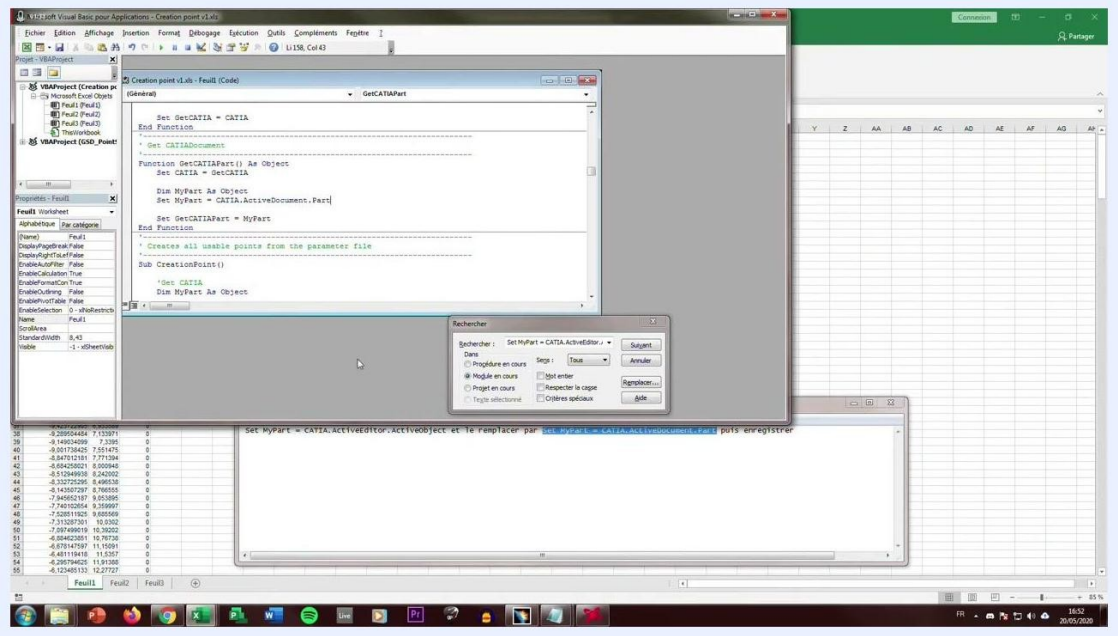
Open the macro in the Visual Basic for Applications (VBA) editor by clicking **Developer** > **Visual Basic**. In the macro code, locate this line:

```
Set MyPart = CATIA.ActiveEditor.ActiveObject
```

Replace it with:

```
Set MyPart = CATIA.ActiveDocument.Part
```

Save the changes to the macro.



VBA editor showing the macro code with the line replaced by Set MyPart = CATIA.ActiveDocument.Part

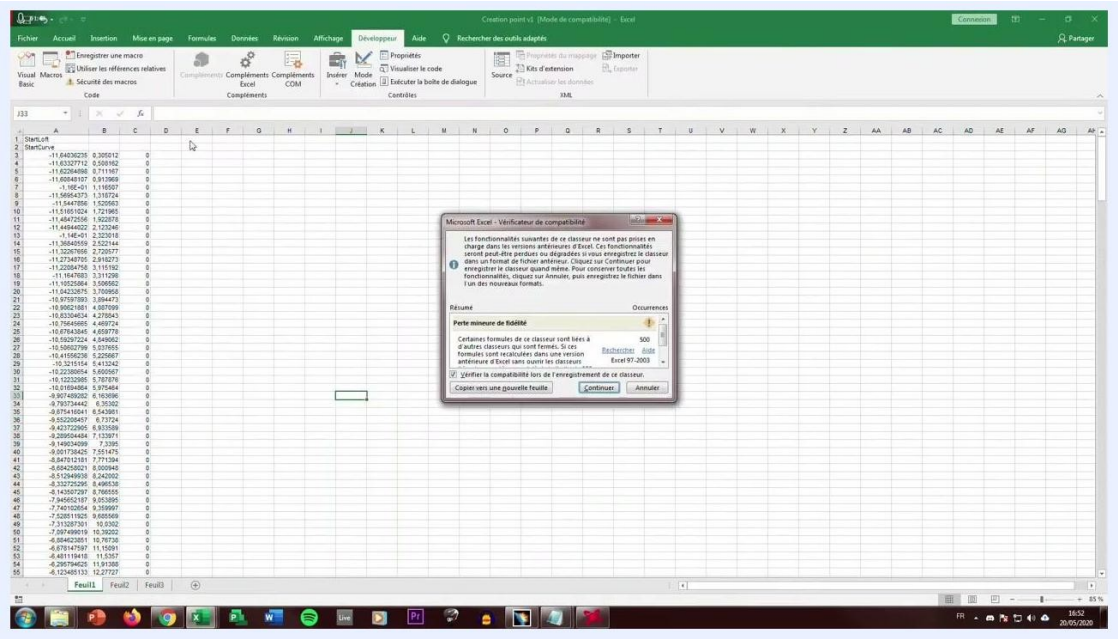
Import the points into CATIA

Step 7: Open your CATIA part

Launch CATIA and open the part file where you want to import the points. Make sure the part is active before you continue.

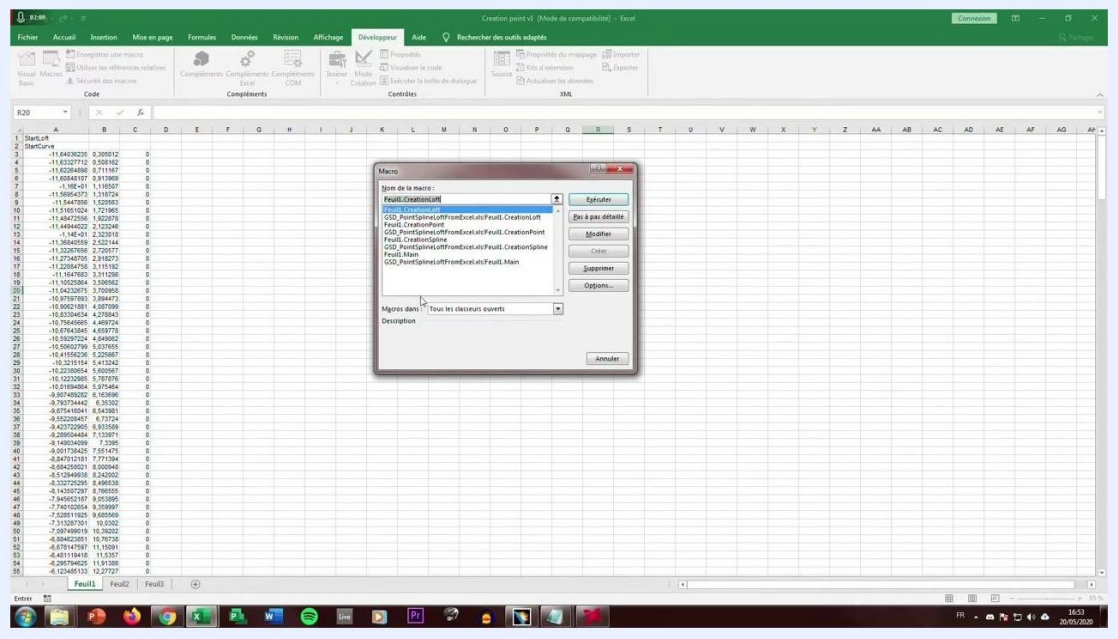
Step 8: Open the macro dialog in Excel

Switch back to your prepared Excel file that contains the point data and the macro. If a compatibility checker dialog appears (for example, "Microsoft Excel - Vérificateur de compatibilité"), review the summary and click **Continuer**.



Excel window with point data and a compatibility checker dialog prompting you to continue saving in Excel 97-2003 format

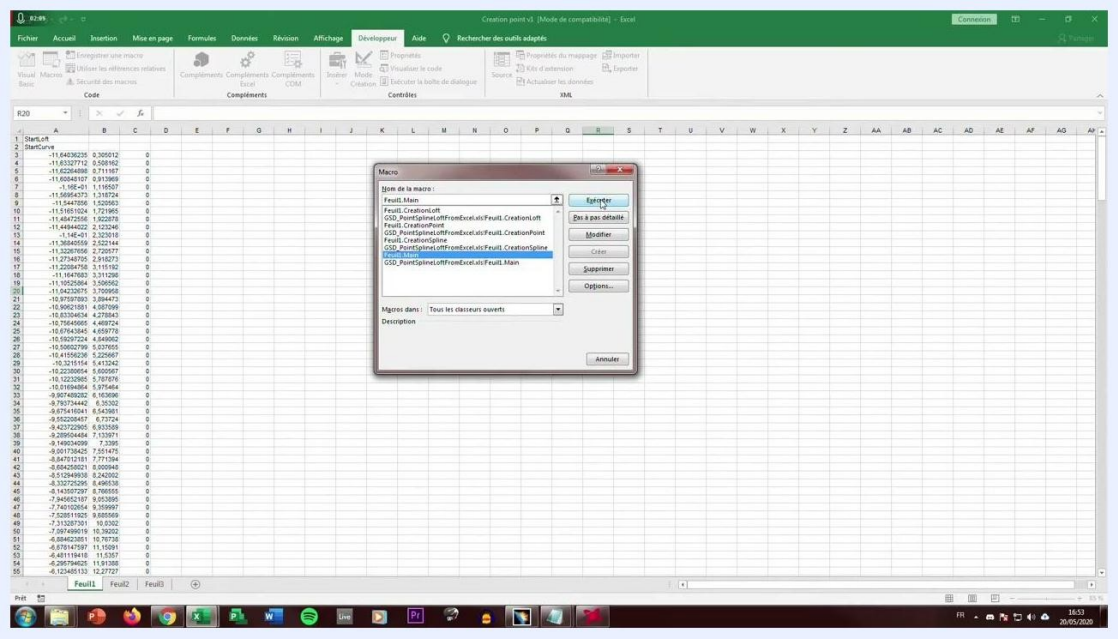
Go to the **Developer** tab and click **Macros** to open the macro selection dialog. If you have run several tests, you may see more macros listed. Normally, you see only four main macros.



Macro selection dialog in Excel listing available macros, including Feuil1.Main and GSD_PointSplineLoftFromExcel.xsl!Feuil1.Main

Step 9: Run the main macro

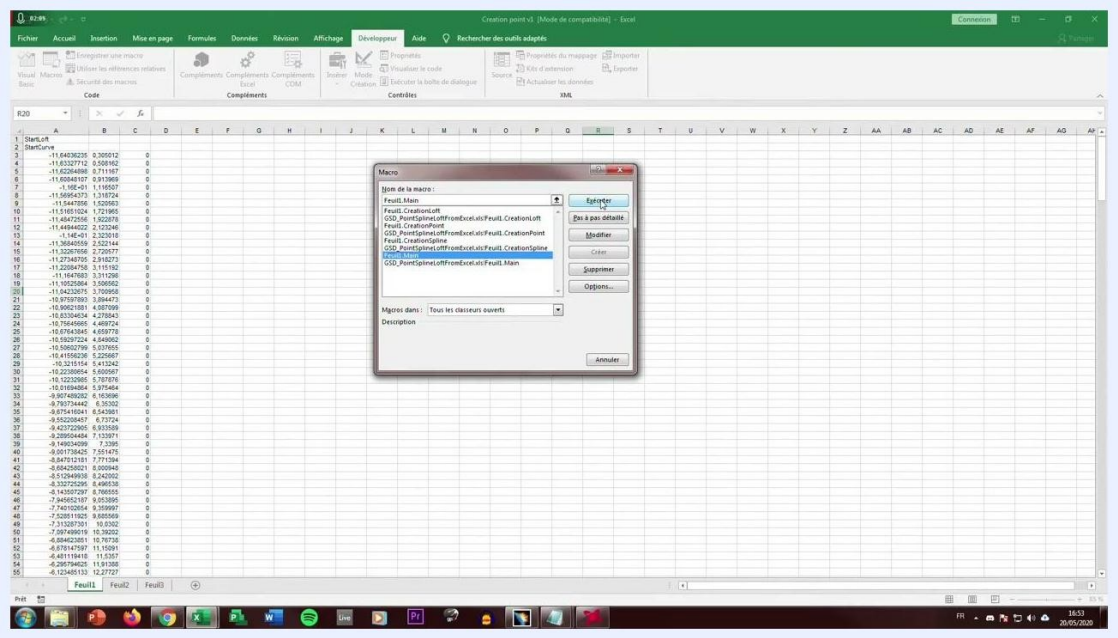
In the macro dialog, select **Feuil1.Main** (or the equivalent main macro for your sheet). Click **Exécuter** (Execute) to run the macro.



Macro dialog with Feuil1.Main selected and the Execute button highlighted

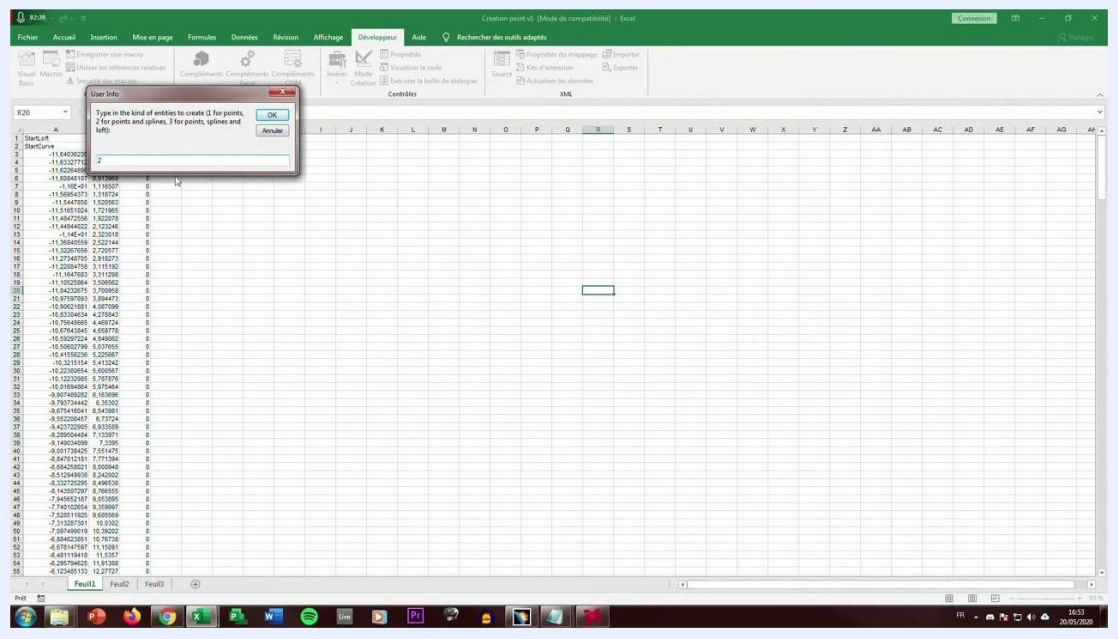
Step 10: Choose the type of geometry to create

A prompt appears: "Type in the kind of entities to create (1 for points, 2 for points and splines, 3 for points, splines and loft):". Enter 2 to create both points and a spline (curve), then click **OK**.



User Info dialog prompting for the type of entities to create, with the value 2 entered

The macro processes the data and sends the geometry to CATIA. The imported points and the generated spline profile appear in your part, and the tree lists all points and the spline.



CATIA window showing the imported points and a closed spline profile, with the tree listing all points and the spline

Create an extrusion from the imported profile

Step 11: Move the geometry into your main body

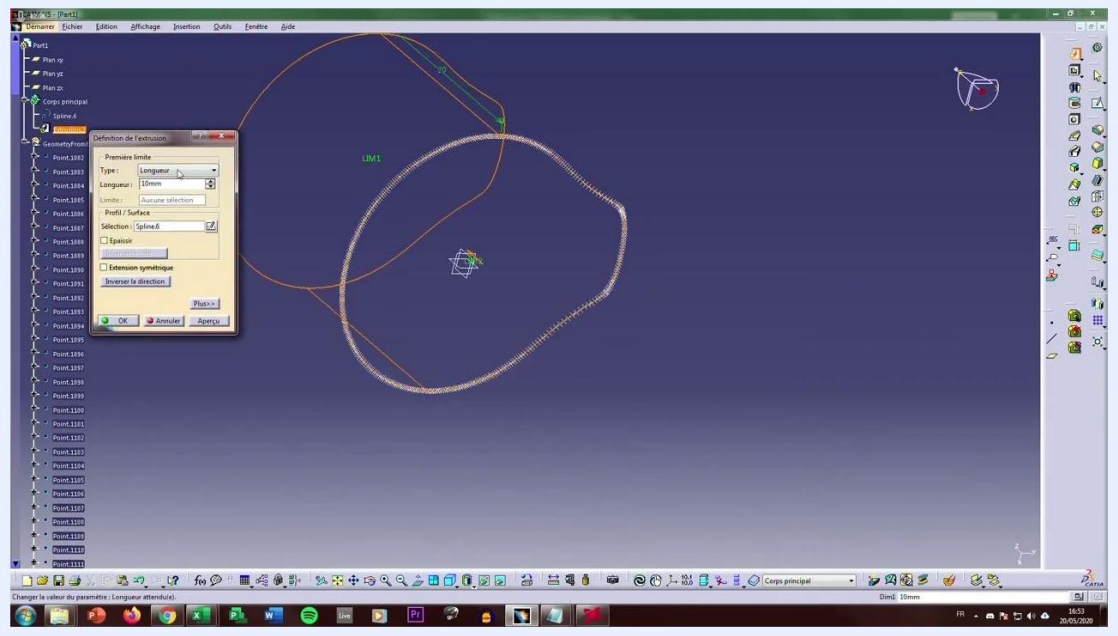
In CATIA, locate the generated spline (for example, Spline.6) in the specification tree under "GeometryFromExcel". Right-click the spline and use the context menu to move or copy it into your main body or core as needed.

Step 12: Extrude the imported profile

With the spline selected, start the extrusion (pad) feature. In the "Définition de l'extrusion" (Extrusion Definition) dialog:

- Set **Type** to "Longueur" (Length).
- Enter the desired **Longueur**, for example 10mm or 20mm.
- Make sure the correct spline is selected as the profile/surface.
- Adjust other options as needed, such as symmetric extension or reverse direction.

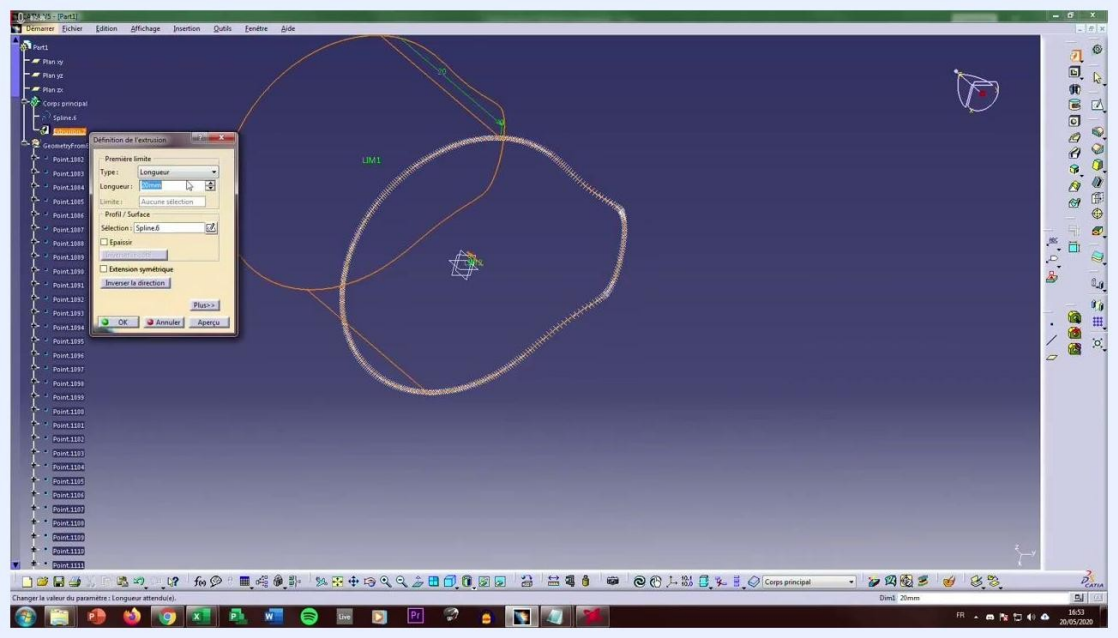
Click **OK** to generate the extrusion.



Extrusion definition dialog in CATIA with Spline.6 selected as the profile and a length of 10mm entered

Step 13: Verify the final solid

Confirm that the extrusion has been created from the imported profile. The final solid should match the shape defined by your Excel point data.



Final extruded solid in CATIA, with the extrusion and spline shown under the main body in the tree

Summary

You now know how to import points from Excel into CATIA. You prepared the Excel point list, adjusted the macro, ran it to generate a spline profile, and created a solid extrusion from your imported geometry.