

Advanced Road Design – Data Share Across CAD Platforms

With Advanced Road Design, you have choice on your CAD platform:

- AutoCAD Civil 3D (ARD for Civil 3D)
- AutoCAD/AutoCAD Map (ARD for CAD)
- BricsCAD (ARD for CAD)

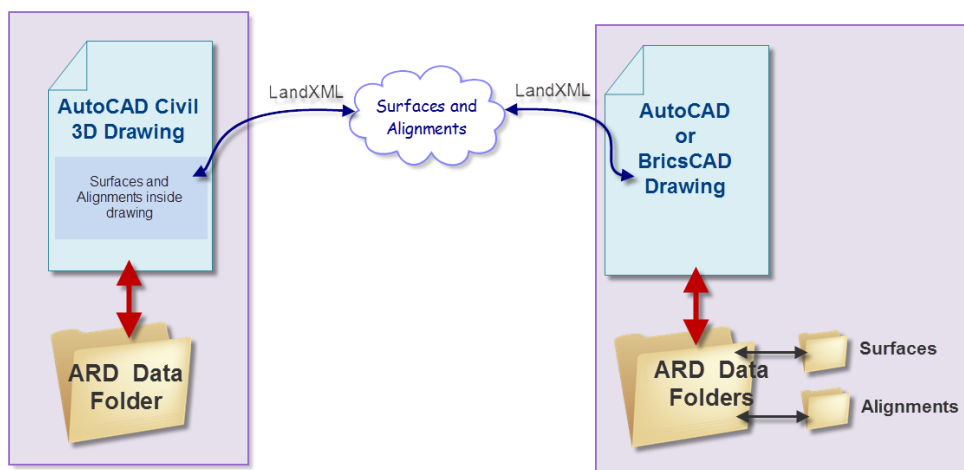
Within the design, there may be a combination of the above products and a requirement to share ARD design data across the platforms.

Data Sharing Introduction

In Civil 3D, Advanced Road Design uses the Surface and Alignment objects of Civil 3D directly. In the AutoCAD and BricsCAD versions, Advanced Road Design uses it's own Surface and Alignment functions to manage these objects.

Between AutoCAD and BricsCAD, the Advanced Road Design data and drawing is interchangeable – you can start/edit a design in AutoCAD, then open and edit the design in BricsCAD, and vice versa.

Data Exchange Between AutoCAD Civil 3D and AutoCAD/BricsCAD



When moving data between Civil 3D and AutoCAD/BricsCAD, the most important thing to do is to ensure that both environments have access to the surface and alignment data – this is achieved via a LandXML transfer:

- In Civil 3D:
 - o LandXMLIn to import Alignments and Surfaces from ARD for CAD
 - o LandXMLOut to share Alignments and Surfaces to ARD for Civil 3D
- In AutoCAD/BricsCAD
 - o Surfaces:
 - Import: Open Create/Edit Surfaces and click on Import XML
 - Export: Click on AutoCAD Output command and tick to export Surfaces
 - o Alignments
 - Import: Run the XML Transfer command from the Alignments menu/ribbon
 - Export: Click on AutoCAD Output command and tick to export Alignments

Data Share – In Detail

Basically, you need to use Land XML to move data between the two environments (to recreate the ACAD surfaces/alignments or the Civil 3D surfaces/alignments).

If both drawings/projects have equivalent surfaces and alignments with matching names and geometry, then the data is interchangeable – all you need to do is find the –Data folder (the folder that stores all the ARD data) and make sure it's visible to the AutoCAD and Civil 3D drawings.

If you're going from the ACAD version to the Civil 3D version:

- In ARD AutoCAD version:
 - Alignments: Import from XML in the Alignments ribbon – here you Write out a LandXML of the alignments (or use the AutoCAD Outputs command)
 - Surfaces: The Export XML button on the Create/Edit Surface form will output the surface data to LandXML (or use the AutoCAD Ouptuts command)
- In ARD Civil 3D version:
 - Start a new drawing and save it with a particular name (or open the ACAD version drawing and save it with a particular name)
 - In Windows Explorer, make a copy of the <DrawingName>-Data folder that serviced the AutoCAD version and rename the copy to <Civil3DDrawingName>-Data, where Civil3DDrawingName is the name of the Civil 3D drawing.
 - Type LandXMLin at the command line and read both of these LandXML files into a drawing to create the necessary surface/alignment data
 - Runs as per ACAD version, with exception of any GRADING strings (these I don't believe transfer across at this stage)

If you're going from the Civil 3D version to the ACAD Version:

- From Civil 3D, use two commands
 - In ARD Civil 3D version:
 - Type LandXMLOut at the command line and push out both the alignment and surface information into a LandXML file.
 - Use File > Export > DWG to make a drawing file without the Civil 3D objects in it
 - In ARD AutoCAD version:
 - Start a drawing and save it (eg: ACADDrawingName.dwg – name it to match the copied data folder, above)
 - In Windows Explorer, make a copy of the <DrawingName>-Data folder that serviced the Civil 3D version and rename the copy to <ACADDrawingName>-Data, where ACADDrawingName is the name of the AutoCAD drawing.
 - Surfaces: The **Import XML** button on the **Create/Edit Surface** form will import the surface data from LandXML into ARD
Note: you will get error messages come up when you try this – and you'll have to create a 'dummy' surface.
 - Alignments: use **Import from XML** in the Alignments ribbon – here you Read in a LandXML of the alignments
Note: you might get errors when you do this
 - Close down and restart BricsCAD/AutoCAD
 - Runs as per Civil 3D version, using the ARD Surfaces and ARD Alignments.