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Image Draping

This chapter explores the Image Draping feature. Image Draping is an extension to the MicroStation SE Rendering feature. If you are not familiar with Rendering, please consult your MicroStation documentation.

Introduction

The draping function is based on a MicroStation SE Rendering feature called Procedural Materials, which allows the application of a specific behavior to the raster image. This image can be a Digital Terrain Model (DTM) or any 3D object. In the case of aerial photos or satellite images, the DTM should be used. By using the draping feature, MicroStation Descartes seamlessly integrates any image in the rendering process in combination with 3D elements. It also supports lighting effects, shadows, fog effects, fly through, animations, etc. For detailed information see the Procedural Materials section in the *MicroStation MasterPiece User's Guide* or the *Inside MicroStation SE — Visualization*.

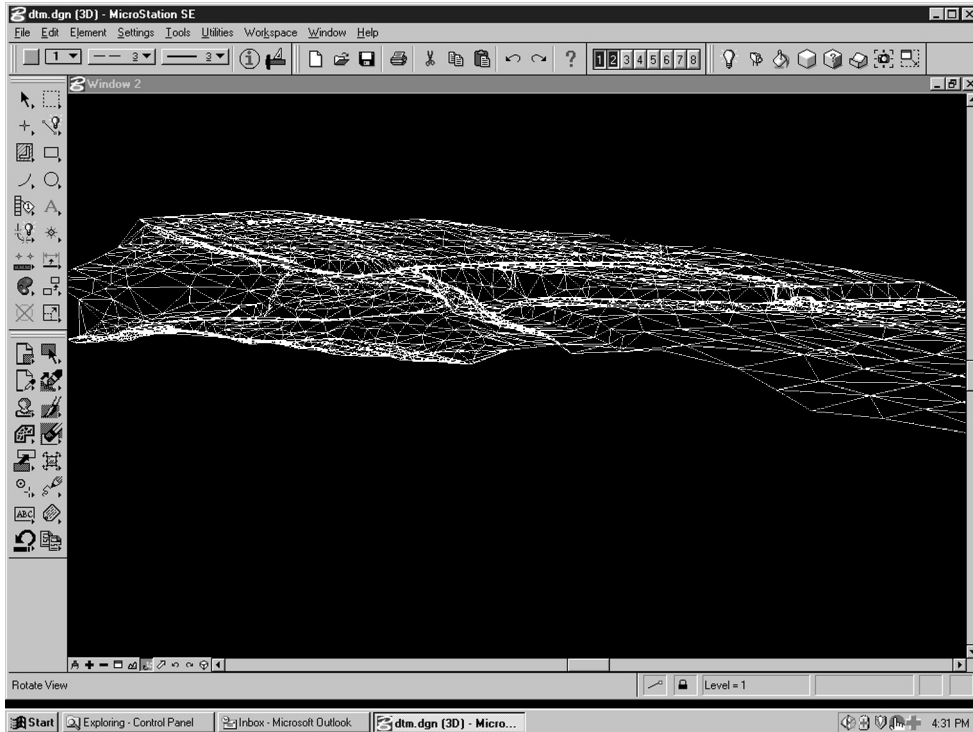
Draping and Rendering

Raster images are 2D with an X by Y pixel matrix. MicroStation Descartes displays 2D images in the TOP Views with a rotation around the z-axis. The image draping function allows you to drape 2D images over a terrain, which is represented by a 3D surface in MicroStation.

3D surface

A 3D surface is required for MicroStation Descartes images to be projected. In MicroStation, these 3D surfaces can be represented by any DGN surface (shapes, B-splines, etc.) supported by the rendering engine. These 3D surfaces, which are often Digital Terrain Models, can be generated or imported in MicroStation with a variety of software products.

👉 Note that DTMs can be easily purchase through data providers around the world.



Example of a 3D surface

Integration with rendered objects

MicroStation Descartes Image Draping seamlessly merges with other objects designed in MicroStation. For example, a bridge designer would use the draping function to view a newly designed bridge rendered in conjunction with existing terrain of a draped aerial photo. Lights and shadows would also be needed to render on the terrain to give a realistic view.

Associating a MicroStation Descartes Images to a 3D Surface

The first step is to specify the 3D model, typically a set of DGN elements (triangles or polygons), onto which the MicroStation

Descartes images should be draped. Those who are familiar to the MicroStation rendering will find this process straightforward.

👉 If you are new to rendering, you should read the *MasterPiece User's Guide* or the *Inside MicroStation SE — Visualization*.

Overview of a Draping Process

Begin by launching MicroStation SE using the MicroStation Descartes Workspace and select the DGN file representing the 3D model used for the draping. A series of simple steps are required to drape the image. You will find these steps identical to any rendering process.

Create the palette that will contain the materials for the draping and rendered objects. Custom palettes are the preferred way of creating sets of materials for a specific project. Store your palettes in a safe location outside the MicroStation directory structure.

- Once the palette is created, add the required materials to it. Materials are added by opening other palette files, selecting the material and reopening your custom palette. The properties of the material are recorded in the “Define Materials” dialog box. Name the material and add it to your palette.
- The next step is to apply the material to a design element. In this case, the 3D model that will be used to project the image and drape it.
- The last step is to view the draping. Using the *Render* tool, enter a data point in the view displaying the images where the draping is intended. Usually, the ISOMETRIC. This allows a better view angle in order to visualize the 3D effects on the draped image.

👉 For improved performance, it is suggested to set the “Preferences/View Windows/Direct Drawing” to Auto.

