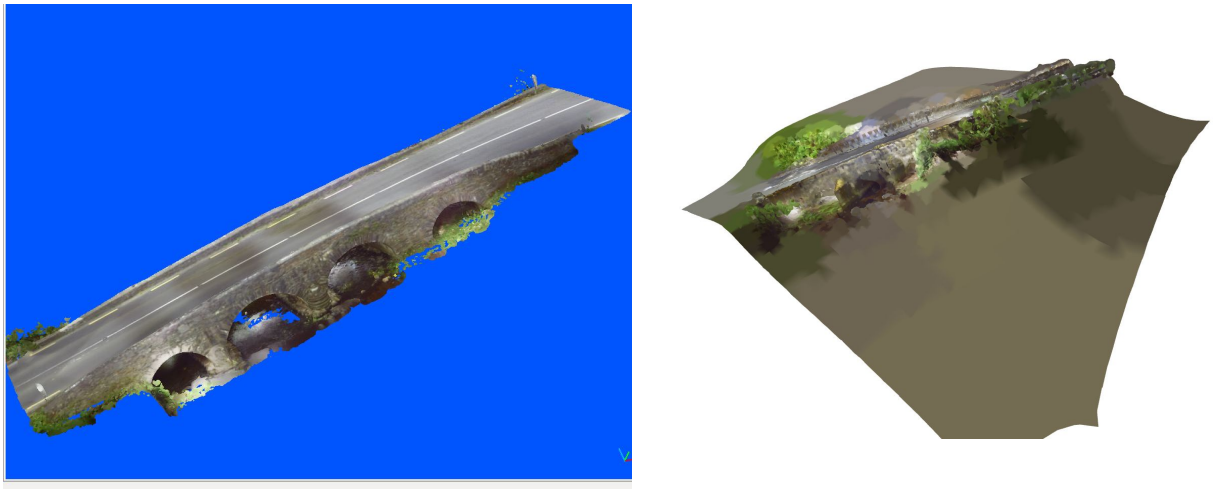
## Preprocessing workflows for 3D content

Add this after the second paragraph



Surface reconstructed of Beheenagh Bridge Kerry with (a)CloudCompare and (b)Open3D

Code snippet to for surface reconstruction with Open3D using Poisson surface reconstruction algorithm is as follow:

```
1. pcd = o3d.io.read_point_cloud("path/to/pointcloud")
2. downpcd = pcd.voxel_down_sample(voxel_size=0.03)
3.downpcd.estimate_normals(search_param=o3d.geometry.KDTreeSearchParamHybrid(radius=0.27125
0,max_nn=30))
4. print('run Poisson surface reconstruction')
5. mesh, densities = o3d.geometry.TriangleMesh.create_from_point_cloud_poisson(downpcd,
depth=10, width=0, scale=1.1, linear_fit=True)
6. o3d.visualization.draw_geometries([mesh])
7. o3d.io.write_triangle_mesh("yourmesh.ply",mesh)
```

## Viewers for 3D Content

Add this after 3rd paragraph
Code snippet for visualising using the 3D Hop is as follows:
Function for loading the model

```
function setup3dhop() {
presenter = new Presenter("draw-canvas");
presenter.setScene({
         meshes: { "Cage" : { url: "path/to/model" } },
         modelInstances : { "Model" : { mesh : "Cage" } }
   });
}
```

And function to set the controls on screen (zoom in zoom out etc) :

```
function actionsToolbar(action) {
if(action=='home') presenter.resetTrackball();
```

```
else if(action=='zoomin') presenter.zoomIn();
else if(action=='zoomout') presenter.zoomOut();
else if(action=='light' || action=='light_on') {
presenter.enableLightTrackball(!presenter.isLightTrackballEnabled()); lightSwitch(); }
else if(action=='full' || action=='full_on') fullscreenSwitch();
}
```