

Digital Twin of Urban Infrastructure

While 2D representations of the world are often sufficient, there are many features of urban infrastructure that demand another dimension of detail to convey reality. Buildings stand taller than their footprint after all, and the spaghetti of utilities beneath the ground overlap, but never meet as a flat map may imply.

A digital twin is a synchronous and practical 3D representation of the world that can be built from the synergy between ArcGIS Pro, CityEngine, and ArcGIS Online. With it, buildings can be generated with all the elements that make them unique, and subterranean pipe networks whose depths were purely tabular can now be visualized. This presentation will cover how ETM designed the digital twin application that won first place for 3D visualization at the 2023 ESRI User Conference, and how it enhances our understanding of urban landscapes and the subterranean utilities that support them.

App:

<https://etminc.maps.arcgis.com/apps/instant/3dviewer/index.html?appid=7319ffa68a8346e193c1a7757fa79db3>

Bio:

Olivia DeSimone is a Geospatial Program Manager with England, Thims & Miller Inc. Before working in the private sector, Olivia was with the City of Altamonte Springs for seven years where she worked her way up from GIS Analyst to GIS Manager.

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Thomas is a Geospatial Analyst with England, Thims & Miller Inc. He graduated from University of Florida in 2019 with a BS in Sustainability and the Built Environment with a specialization in Geodesign. He has four years of experience in geospatial technologies and has worked with ArcGIS Desktop, ArcGIS Pro, CityEngine, ArcGIS Online, Esri Field Maps, Google SketchUp, Adobe PhotoShop, Microsoft Office Suite, and Google Workspace.

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