



Sharing 3D Content on the Web

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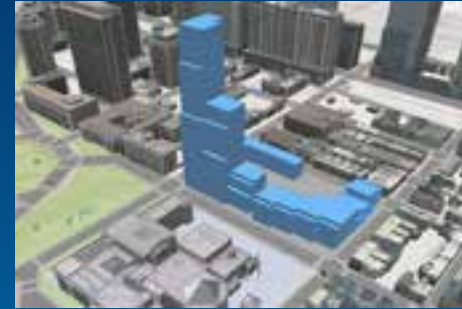
Technical Workshop



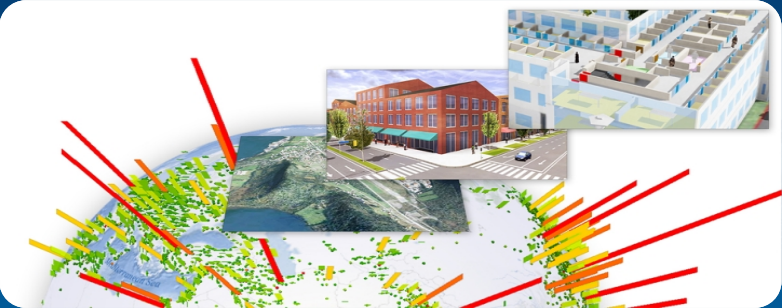
Why 3D GIS?

Because our world is 3D

- **Improve understanding**
3D is easy for everyone to understand
- **Better communication**
3D makes it easier to articulate ideas
- **Solve 3D problems**
Some spatial problems can only be solved in 3D
-



3D GIS Features



Multiscale 3D Models



3D Geodesign



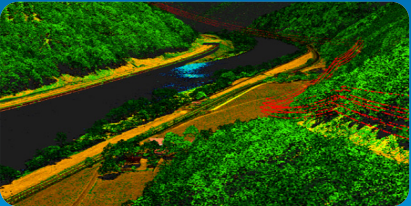
ArcGIS for 3D Cities



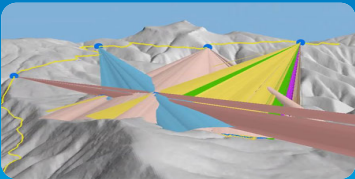
Share 3D scenes



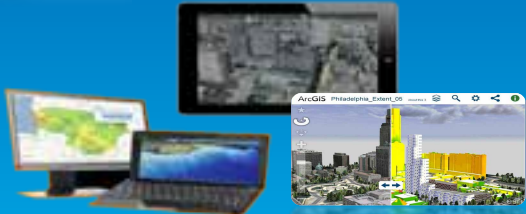
Surface modeling



Native lidar support

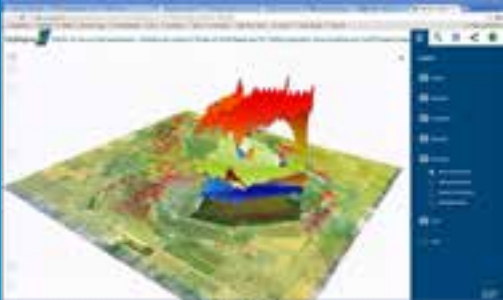
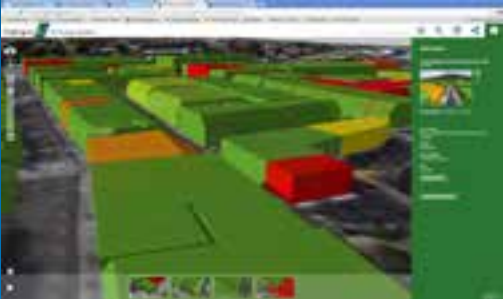
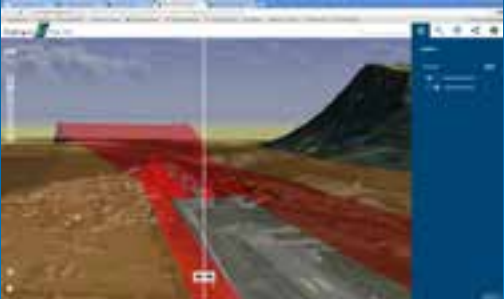
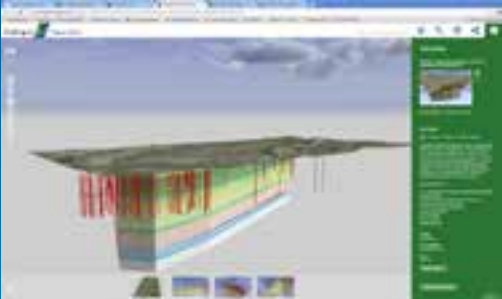


3D Analysis



Integrated 3D

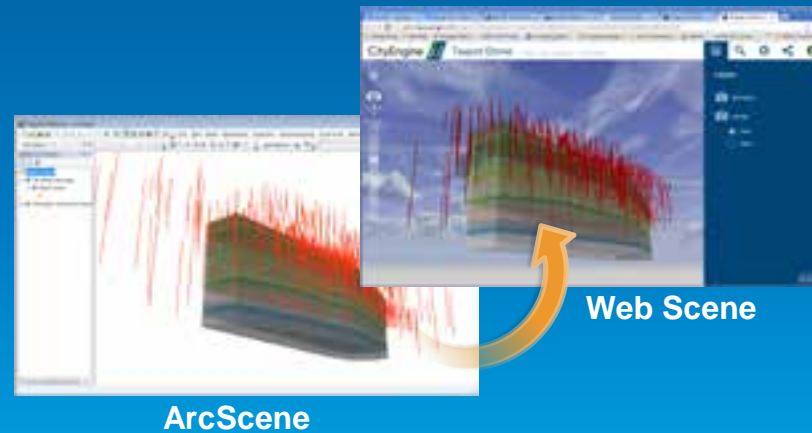
Share 3D Scenes



Share your 3D Scenes

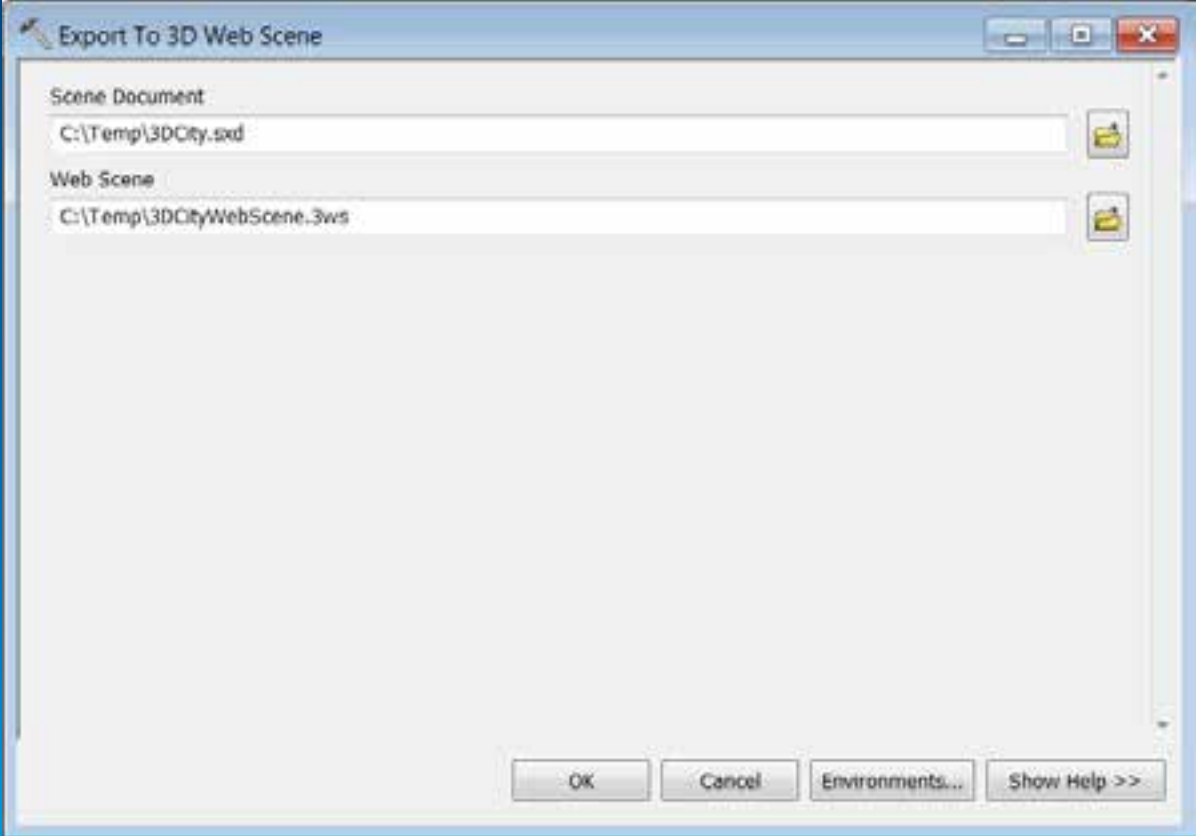
Share your ArcScene Project
as a Web Scene

“Clip and Share”



Supporting Defense, Local Government, Scientists, Urban Planners, Facilities Managers, Geologists, Architects, Landscape Planners...

GP: Export to 3D Web Scene



Demo

Teapot Dome

Philadelphia Visibility / Shadows

ArcScene Layer Types

- **Feature layer (point, line, polygon and multipatch geometries)**
 - Layer extrusion or 3D symbology
- **Raster layer**
- **TIN layer**

- **Note: LAS dataset and Graphics layer **cannot** be exported to 3ws.**

ArcScene document properties

- **Scene coordinate system**
- **Area of Interest (AOI)**
- **Bookmarks**
- **Group Layers**
- **Vertical exaggeration**

ArcGIS Pro: Publishing 3D content to Portal

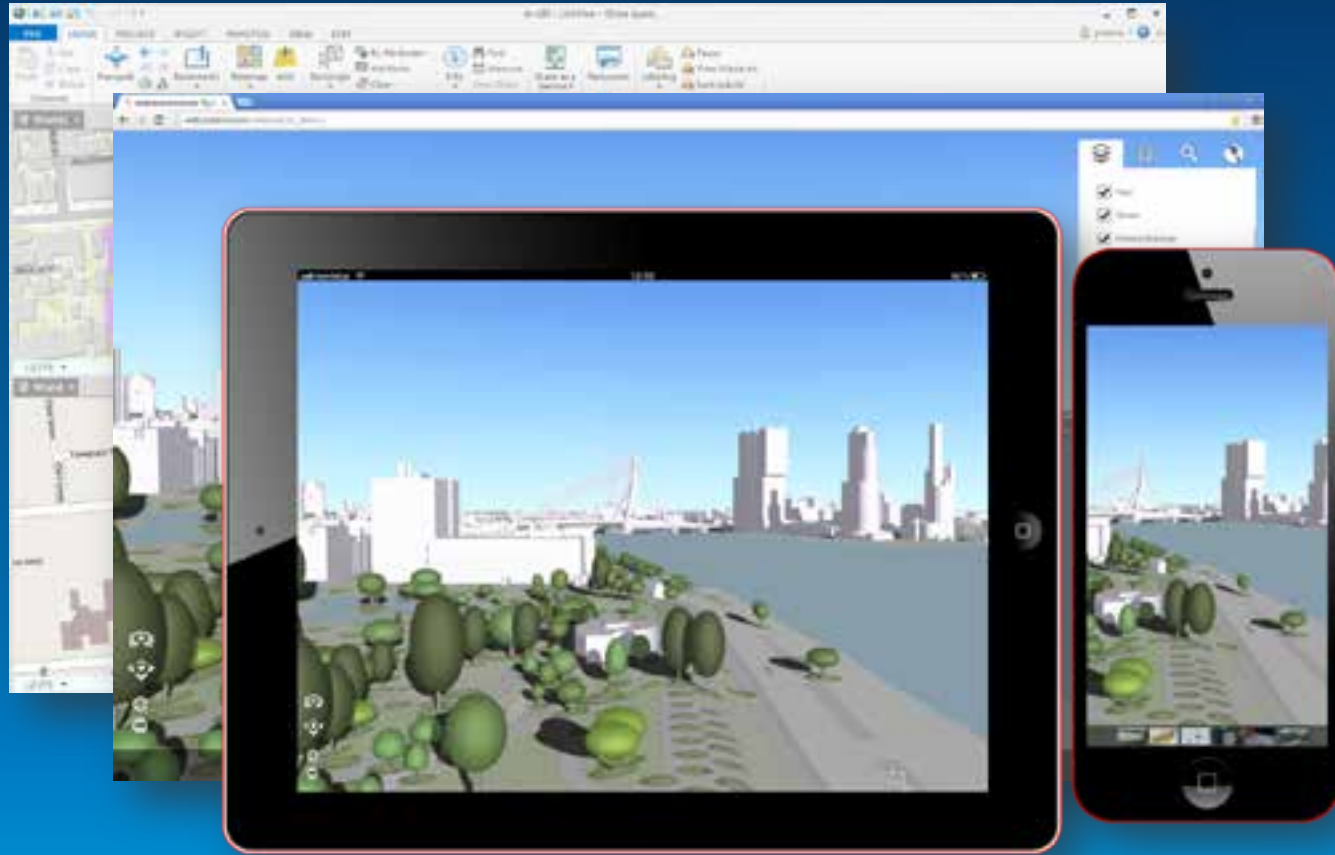
The image illustrates the workflow for publishing 3D content in ArcGIS Pro. It consists of four main components:

- Context Menu:** A right-click context menu is shown on the left. The option **Share As Web Layer** is highlighted with a red box.
- Ribbon:** The top ribbon is shown with the **SHARE** tab selected. The **Web Scene Share As** button is highlighted with a red box.
- 3D Map View:** The main map window displays a 3D city model. In the **Contents** pane on the left, the **3D Items** folder is highlighted with a red box.
- Share Web Layer Dialog:** A dialog box titled **Share Web Layer** is shown on the right. It includes fields for **Name** (Eves), **Layer Type** (Scene), and **Item Description** (Eves in Rotterdam). The **Sharing Options** section has **My Contents** checked. The **Finish Sharing** section has **Analyze** and **Share** buttons.

Demo

**ArcGIS Pro:
Publishing 3D Web Layers
Publishing Web Scenes**

A New Way of Working in 3D



Desktop

Web

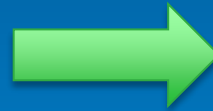
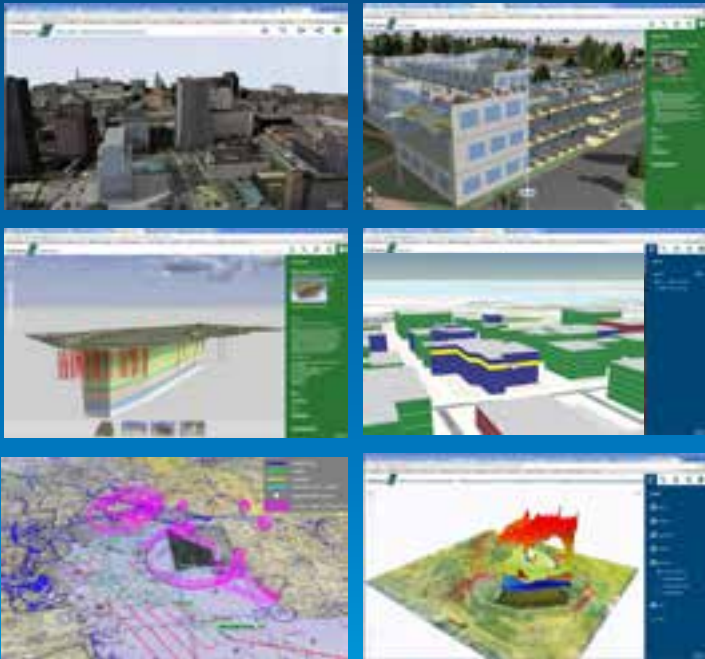
Device



3D across the platform

3D across the Platform

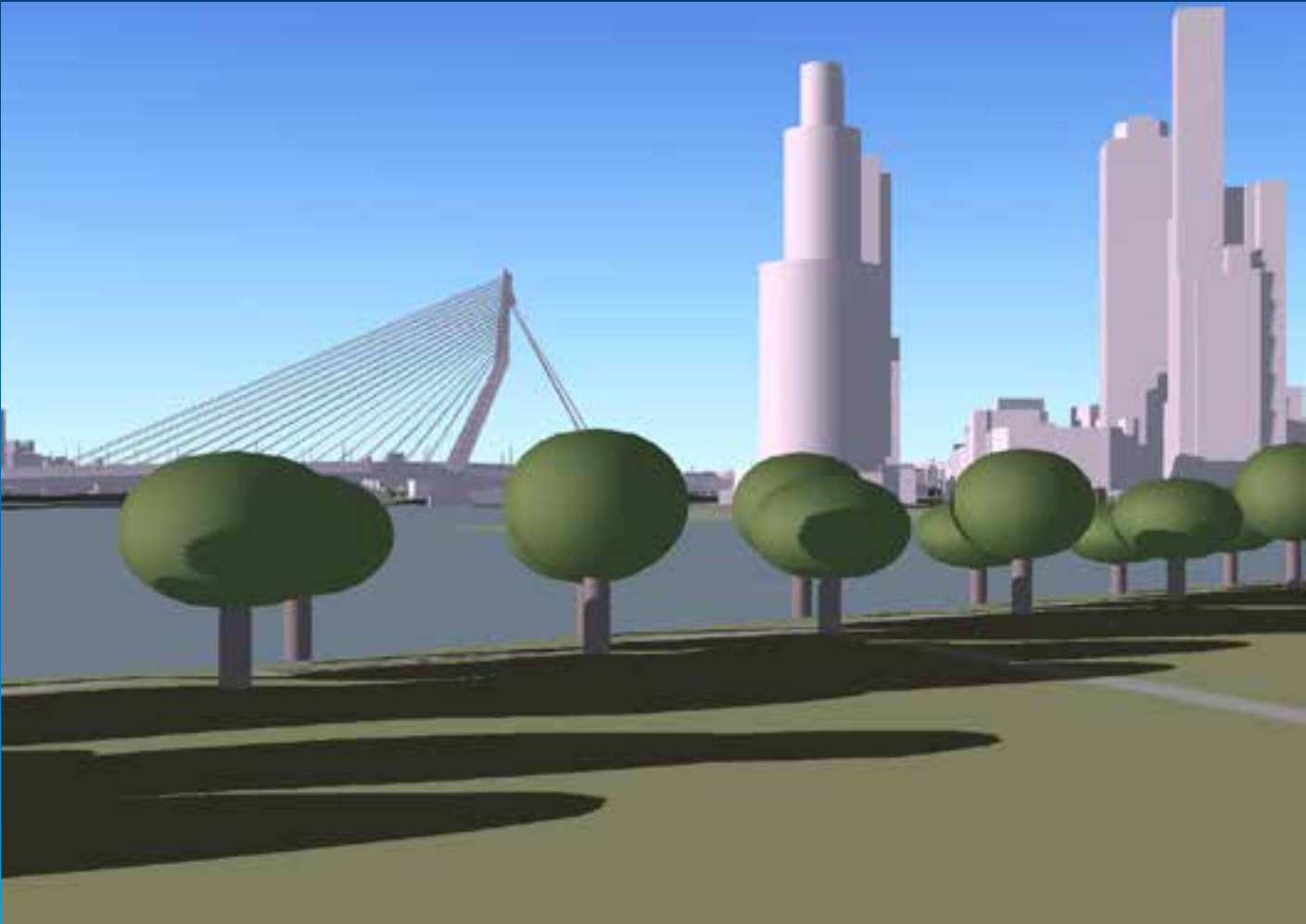
Easy sharing of 3D content



Web Scene 2.0



DEMO – Let's make a Web Scene...



Web Scene 2.0

Item on ArcGIS Online

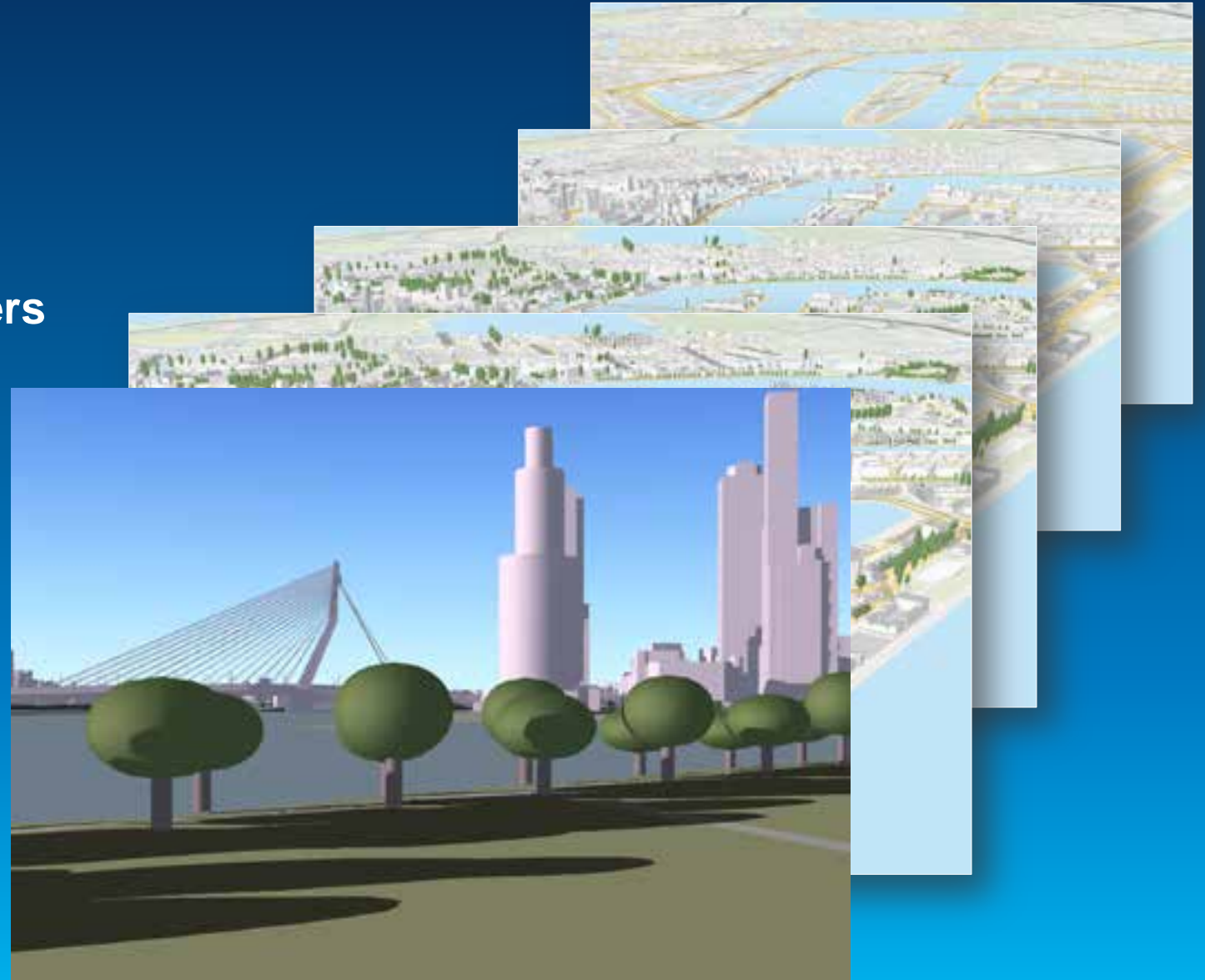
Mash-up of streaming 3D / 2D layers

3D Symbology

3D Labels

3D Scene Navigation

3D Environment



Web Scene Authoring / Publishing

Simple authoring / publishing

- Create a Web Scene
- Mash up scene layers
- Publish small 3D datasets
- Preset symbology



Portal / ArcGIS Online

Advanced authoring / publishing

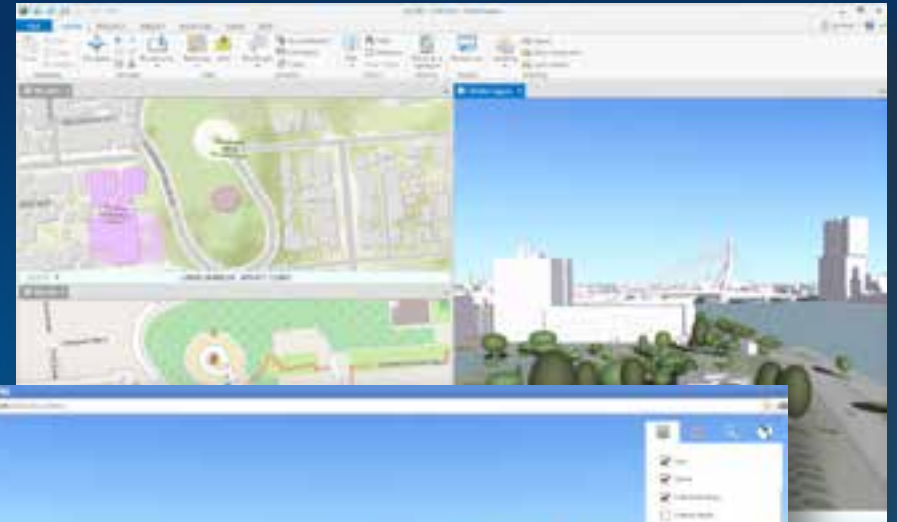
- Publish a Pro/CE Scene as a Web Scene
- Publish large 3D datasets
- Preset and custom symbology



ArcGIS Pro / CityEngine (2015)

Web Scene Viewing

- **Desktop**
 - ArcGIS Pro (1.0)
 - CityEngine (2015)
- **Web**
 - ArcGIS Online Web Scene viewer
 - WebApps built with WebAppbuilder
- **Device**
 - Explorer for ArcGIS
 - Apps built with ArcGIS Runtime



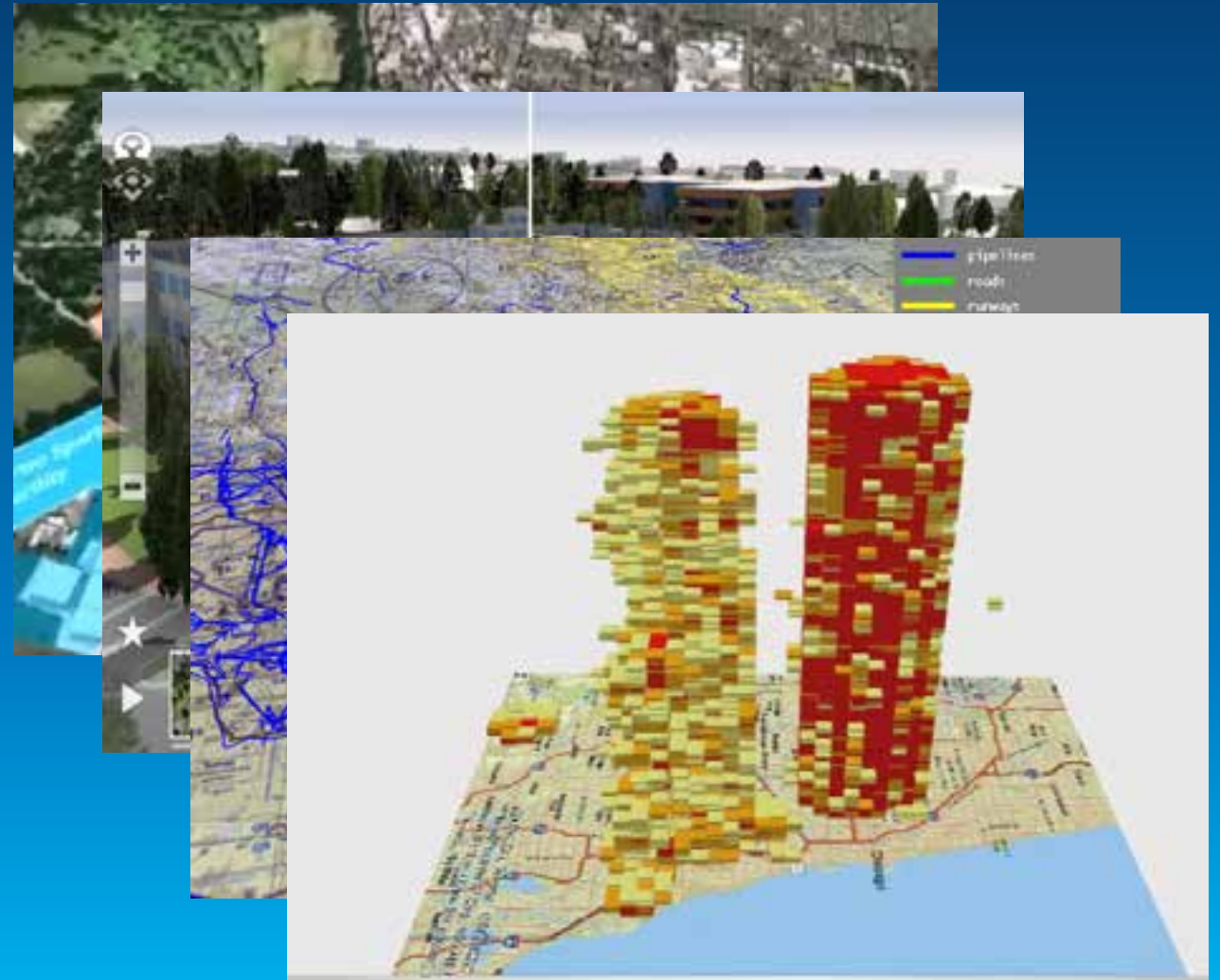
Web Scene – Use Cases

Story Telling in 3D

Asset Management in 3D

Situational Awareness in 3D

Scientific visualization in 3D



3D Content for Web Scenes

Introducing ArcGIS 3D Base Scene

- § Foundation for Your 3D Projects
- § Provides context
- § Canvas for Your Analysis
- § Share in Apps to a Global Community



ArcGIS 3D Base Scene



3D Base Layers

- § 3D Buildings
- § 3D Trees
- § Water Bodies



2D Maps

- § World Imagery Map
- § World Topographic Map
- § Ocean Basemap
- § Etc.



World Elevation

Multi-Scale Base Scene



Global Scale

Base Layers:

- § Elevation
- § 2D Maps

Supports:

- § Weather and Climate
- § Oceans
- § Transportation and Trade Routes

Multi-Scale Base Scene



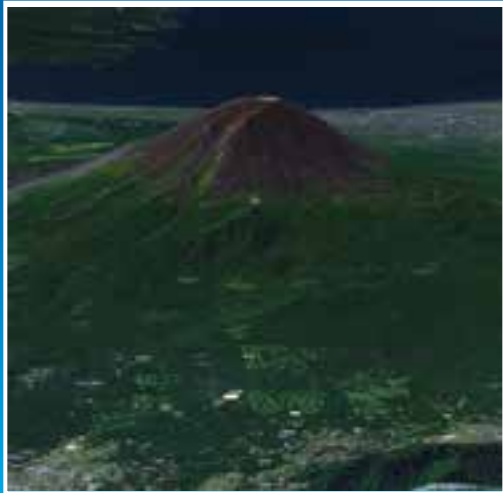
Landscape Scale

Base Layers:

- § Elevation
- § 2D Maps

Supports:

- § Military Situational Awareness
- § Forestry Management
- § Stormwater
- § National/Regional Demographics



Multi-Scale Base Scene



City Scale

Base Layers:

- § Elevation
- § 2D Maps
- § Buildings
- § Trees
- § Water Bodies

Supports:

- § Urban Planning and Design
- § Public Safety
- § Emergency Response



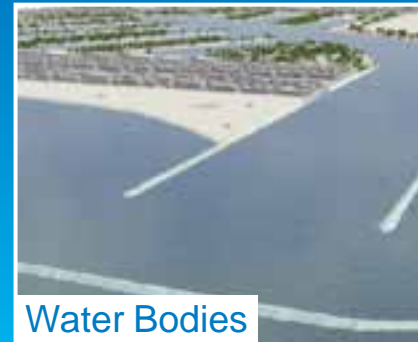
Buildings



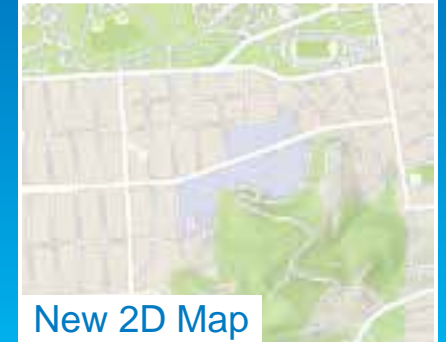
Buildings



Trees



Water Bodies



New 2D Map

Multi-Scale Base Scene



Campus Scale

Base Layers:

- § Elevation
- § 2D Maps
- § Buildings
- § Trees
- § Water Bodies
- § Interior Spaces
- § Interior Routing Network

Supports:

- § Space Management
- § Evacuation Planning
- § Asset Management/Allocation
- § Location Search

ArcGIS 3D Base Scene

Esri will support our users by:

- Compiling + hosting the 3D Base Scene
- Providing best practices for building 3D layers
<http://pro.arcgis.com/en/3d-gis/3d-cities>
- Providing analytical capabilities
- Empowering distributors + partners to provide additional premium services

ArcGIS 3D Base Scene – City Scale Layers



Thank you...

- **Please fill out the session survey:**

First Offering ID: 1406

Online – www.esri.com/ucsessionsurveys

Paper – pick up and put in drop box



Understanding our world.