Digital Twins with Cesium & iModel

Cesium.com
@CesiumJS
What is Cesium?

- Cesium is the platform for 3D geospatial
- Show platform diagram
- Point out client JS engine
- Online platform hosting and finding data.
- Open standards is key.
- Show how iModelJS fits in
Example: National digital twin for Australia

- Tell the story of TerriaJS
  

- Show some of the useful things it can do
Example: digital twins for inspections

- Tell the story of how Trendspek uses Cesium
- Identify the different parts of the project, the data, the client etc
Example: Smart construction

- Show from [https://cesium.com/blog/2020/03/10/smart-construction/](https://cesium.com/blog/2020/03/10/smart-construction/) and from construction page/video
Open standards

- All of these applications are possible because of 3D Tiles, an open standard we pioneered.
- Talk about the mission, interoperability. We believe this is important because the challenges are huge and collaboration helps everyone.
What is 3D Tiles?

Talk about heterogeneous data fusion. About tiling.
Who supports 3D Tiles?

- **FME**
  Prepare massive 3D geospatial data with FME and connect to Cesium to visualize, analyze, and fuse with curated datasets.
  Learn more

- **RealityCapture**
  Share RealityCapture models on the web without simplifying them.
  Learn more

- **Context Capture**
  Host 3D Tiles from Context Capture on Cesium ion and share them on the web.
  Learn more

- **simactive**
  Use Cesium ion to combine 3D models, imagery, and terrain in one scene and share it on the web.
  Learn more

- **Open Drone Map**
  Stream computed photogrammetry, point clouds, orthos, DTM, and DSM using 3D Tiles with accurate global 3D context.
  Learn more

- **Agisoft Metashape**
  Share 3D Tiles from Metashape on the web by uploading to Cesium ion.
  Learn more
Who supports 3D Tiles?

**CesiumJS**
Build web apps with accurate geospatial context and combine different types of data in one scene.
Learn more

**STK**
Enhance mission planning simulations for aerospace and defense with curated real-world 3D data from Cesium Ion.
Learn more

**deck.gl**
Load 3D Tiles from Cesium ion in deck.gl.
Learn more

**osgEarth**
Visualize your 3D Tiles and imagery layers in osgEarth.
Learn more

TODO: Add iModel and “Coming soon Unreal”
Using Cesium World Terrain

- Explain what is CWT
- Explain use cases, add context to your BIM models, or provide elevation etc
- Show how to use it in iModel/in other Bentley products
Cesium OSM Buildings

Not currently supported in iModel. But coming soon?
Fusing data

Talk about classification/potential for rich metadata
Fusing data

Talk about classification/potential for rich metadata
Underground

Talk about handling underground, useful for basements/sewage pipes etc.
Analytics

Measurements? Clipping planes?
Thanks!

Learn more at cesium.com

Join the community:  http://community.cesium.com/