Case Study
EPA Region 9

Challenge

EPA is conducting use case testing for Esri's ArcGIS Indoors, a complete indoor mapping system for smart building management. The testing includes an Indoor Viewer prototype using floorplan data from William Jefferson Clinton (WJC) West (part of the EPA headquarters), Region 1, and Region 9. Innovate has supported the EPA since 2002 and designed the award-winning EPA Locator Application that leveraged Esri Campus Place Locator data model. As an expert in both EPA geospatial systems and Esri technologies, Innovate is leading the prototype of a conversion of EPA's CAD and GIS data into ArcGIS Indoors data model.

Solution

EPA provided data for Innovate to evaluate, standardize, and determine how to manage unique identifiers. We created scripts and tools to automate the integration of GIS into the Indoors data model. We built a mesh network for the traversable spaces along with point-of-interests (POI) in order to integrate them into the Indoors web and mobile data viewer applications. From the 2D point, line, and polygon data we converted them into a 3D scene and integrated those into the Indoors data viewer application. Innovate classified networks (primary/secondary, etc.) and published data into their ArcGIS Enterprise. To test the prototype, Innovate created use cases to help refine user needs (e.g., maintenance workers, office hoteling, network routing, etc.).

Innovate will identify/flag all rooms not to be included in the traversable mesh network. We will set up geofencing in the traversable lattice network to restrict areas that are fully open to the public from those that are employee access only. By creating these restrictions, the Indoors Data Viewer will only provide navigation options to the public in those areas that are allowed to access.

The is an on-going effort to include an estimated 35 buildings within the EPA.

Benefits

- COVID-19 planning for reintroduction into on-site workspaces (e.g., visitor occupancy, meeting room capacity)
- Optimize office and space management
- Wayfinding and routing
- Site specific locator maps
- One consistent set of floor plan data for the entire agency
- Reduce redundancy amongst departments within the agency
- Cost savings by having location data readily accessible for other efforts within the agency
- Integration capabilities with larger platforms like Salesforce, ServiceNow, and ArcGIS Online