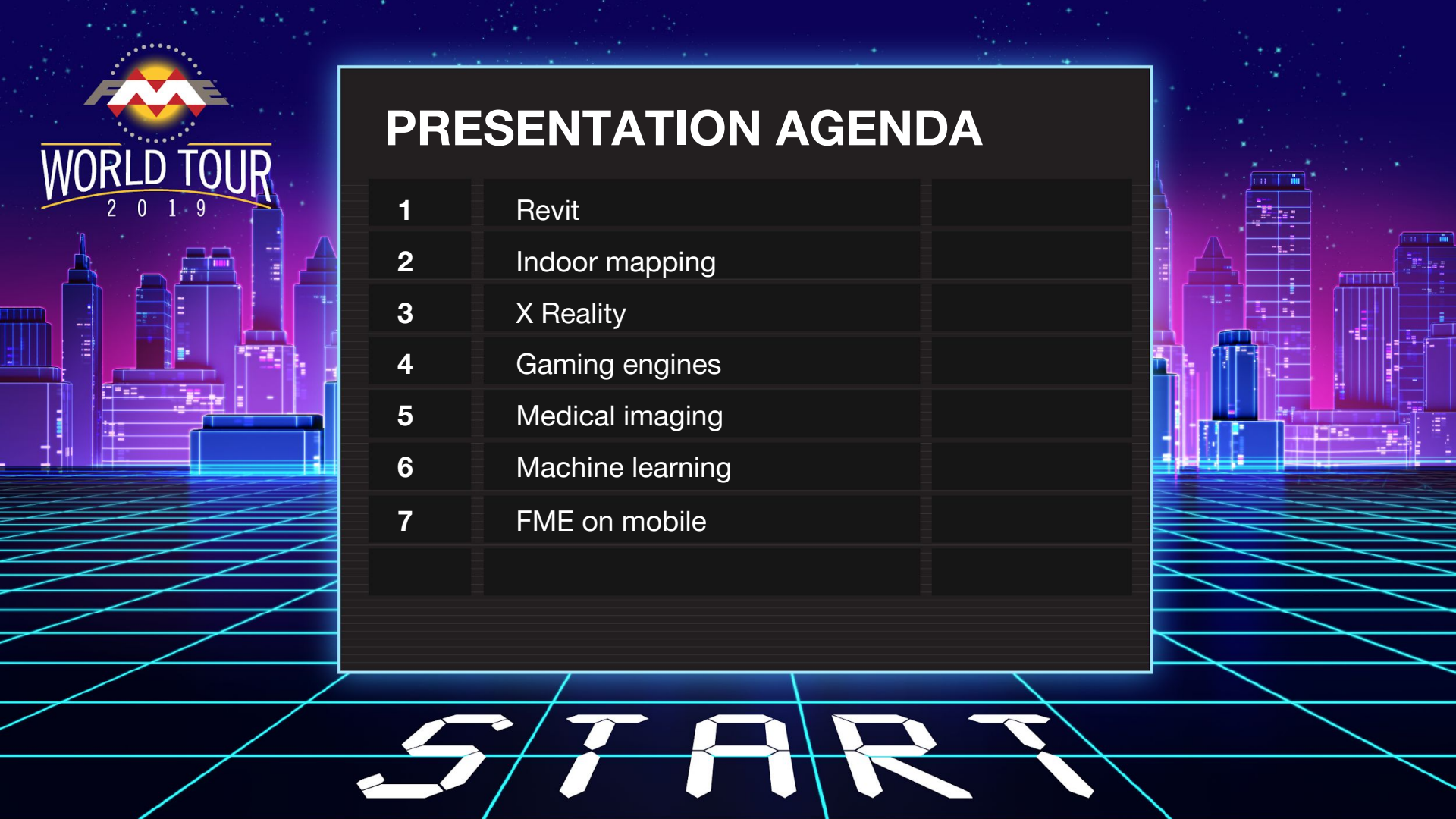
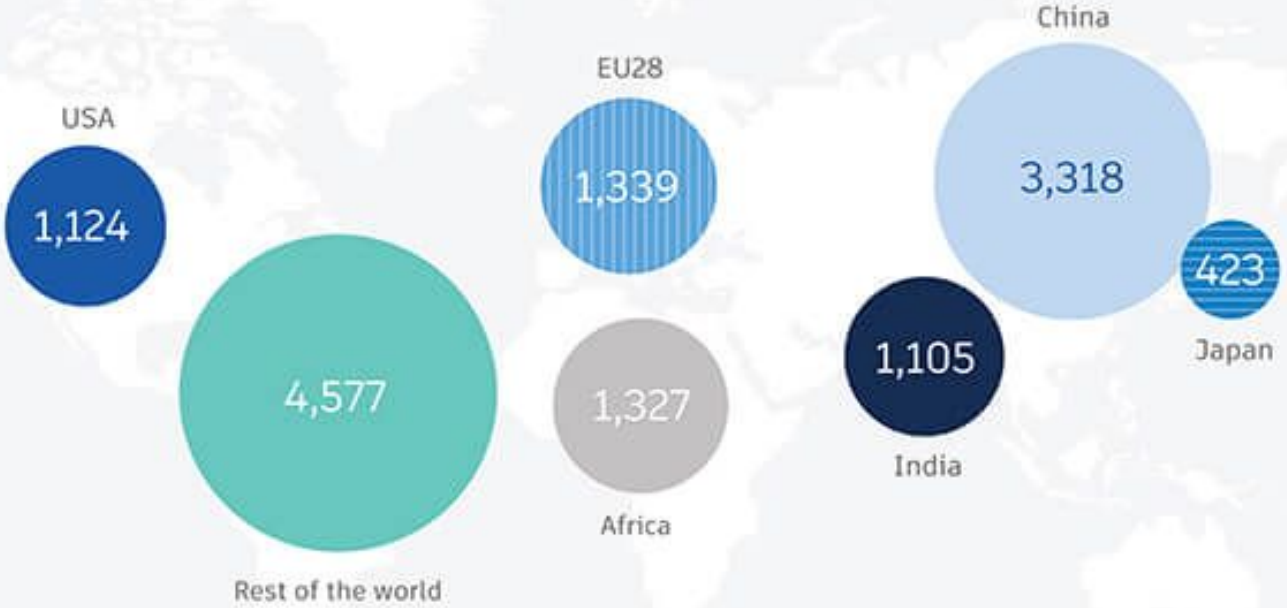
SAFE SOFTWARE

Bonus Level

Future of FME (New Data Ventures)


WORLD TOUR
2019
PRESENTATION AGENDA
1 Revit
2 Indoor mapping
3 X Reality
4 Gaming engines
5 Medical imaging
6 Machine learning
7 FME on mobile
START

Average number of buildings constructed in urban areas daily (2018–2050)*



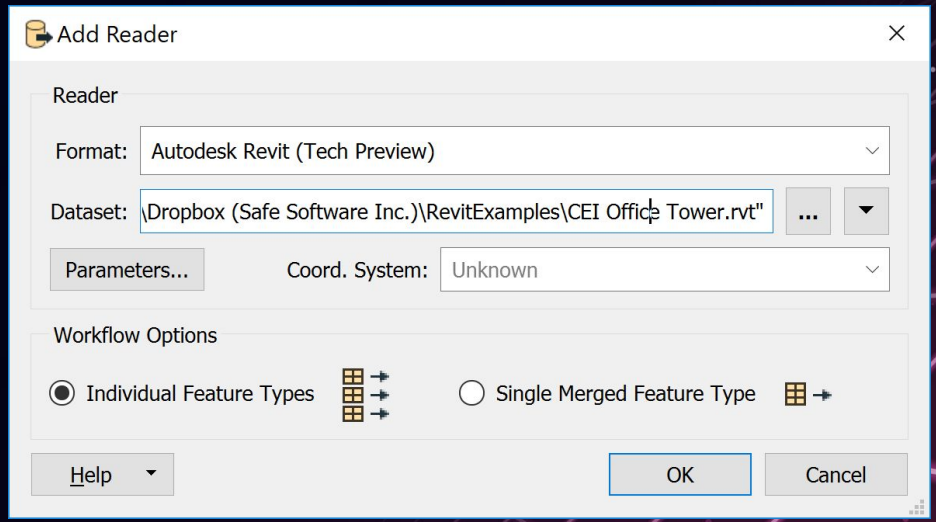
* All nonresidential and residential buildings (excl. single family homes) in urban areas

Source: STATISTA

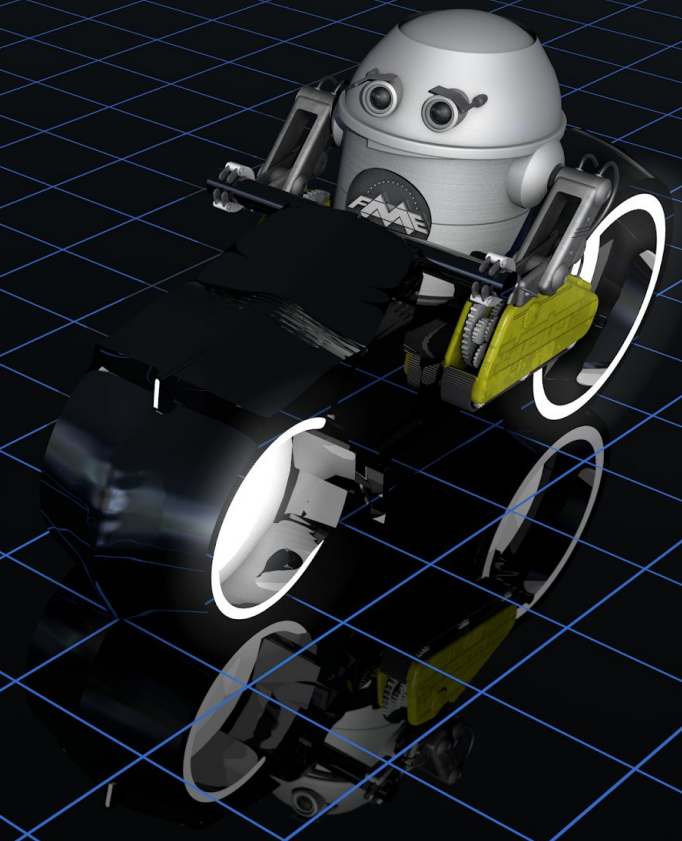
Average number of buildings constructed in urban areas annually (2018–2050)*

1. One-step **Revit** integration *(beta)*

Direct Revit reading with no intermediate files

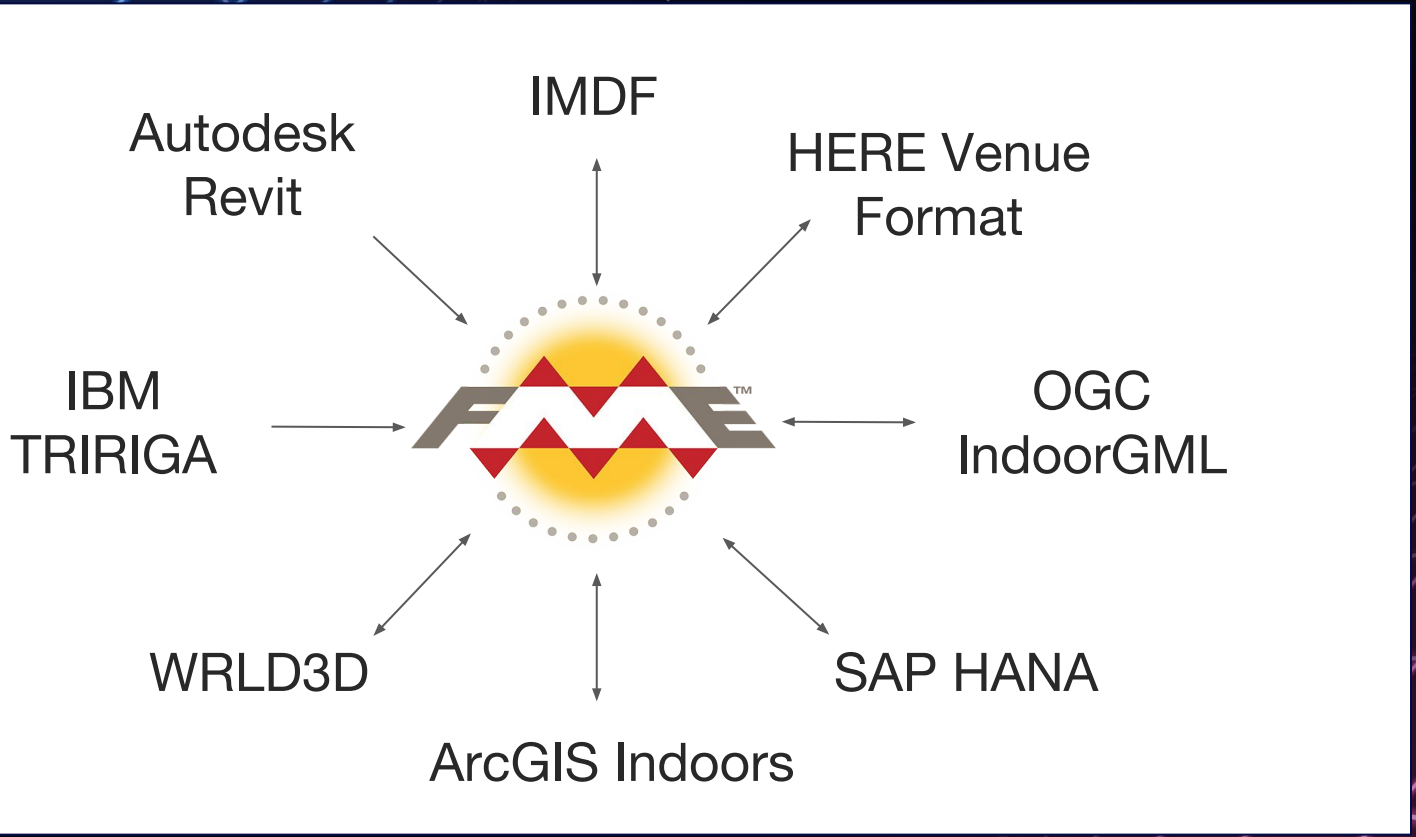


2. Getting your venue into **indoor navigation** apps

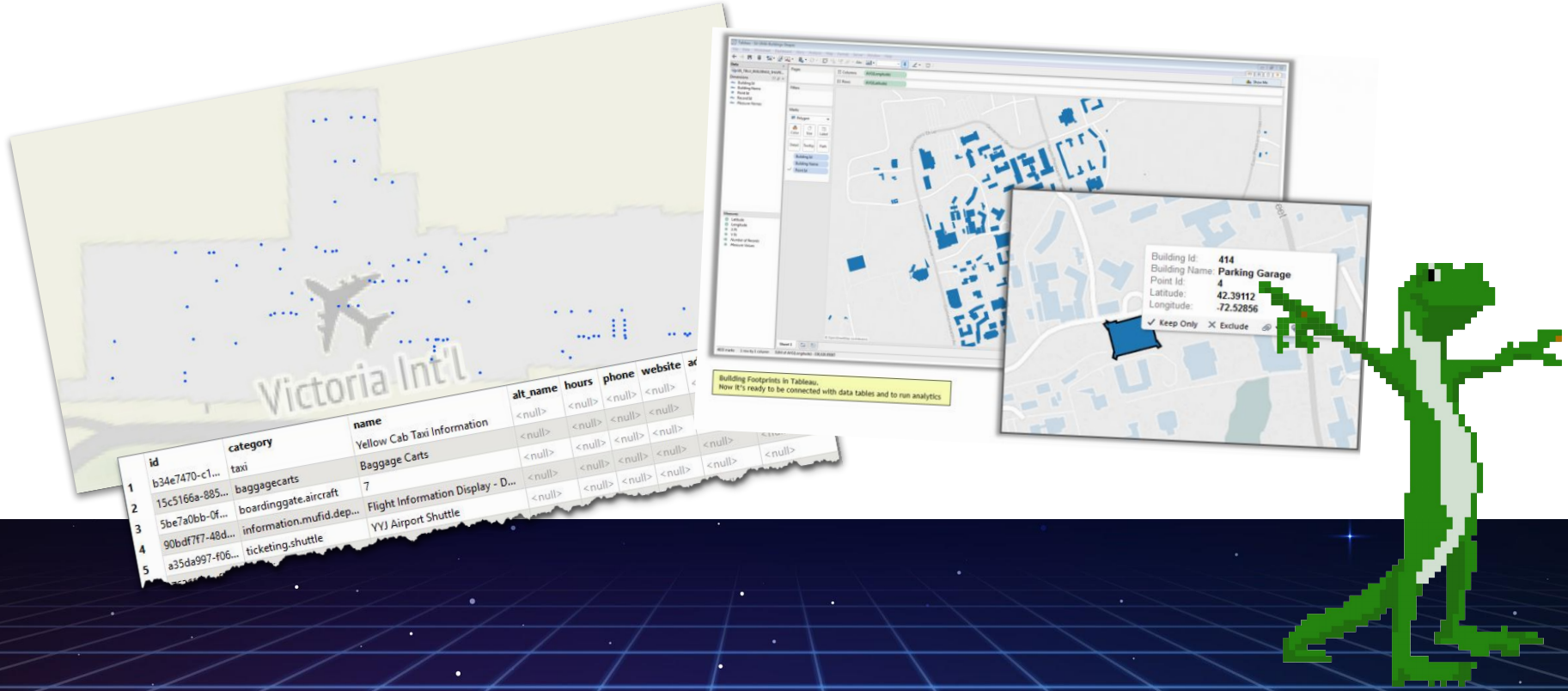


Indoor Mapping Challenges

- Must **integrate** multiple sources to produce an indoor map.
    - GeoJSON, Revit, IFC, CAD (Autodesk, Bentley), Civil 3D, Esri Geodatabase, databases, CityGML …
- Must **transform** inconsistent data.
- Must **comply** with specifications of the indoor format, e.g. IMDF, HERE, ArcGIS Indoors, IndoorGML.
    - Strict data models and explicit spatial relationships.
- Venues constantly change, so maps need to be updated **automatically**.


IMDF
Autodesk Revit
HERE Venue Format
IBM TRIRIGA
OGC IndoorGML
WRLD3D
SAP HANA
ArcGIS Indoors

Venues Using FME to Generate Indoor Maps



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3. Exploring your data
in X Reality

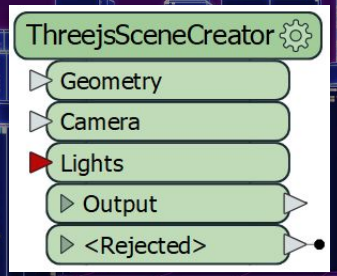
Scenario: Augmented Wayfinding

1. Create floor network dataset.
2. Use the ShortestPathFinder.
3. Write to FMEAR format.
4. Make a webpage that opens the FME AR app.

Scenario: Augmented Objects

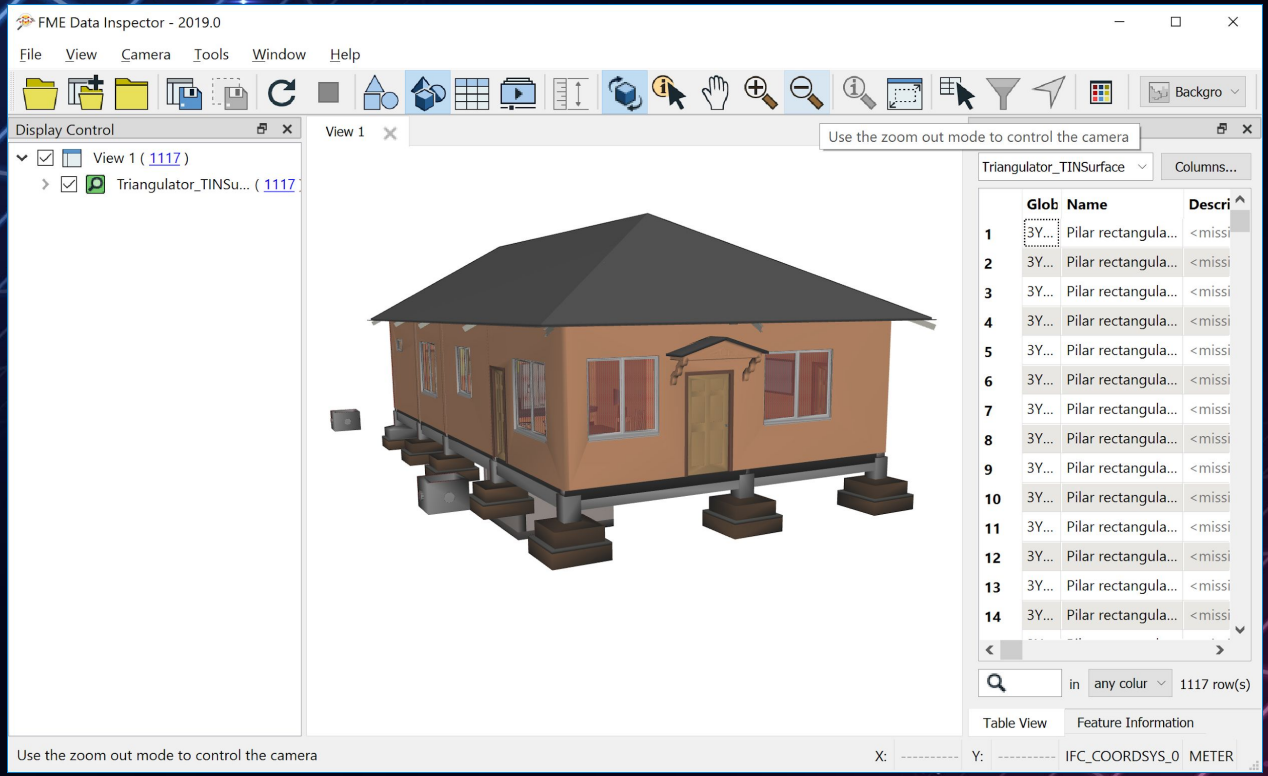
1. Create/load your floor plan.
2. Change existing objects, e.g.color or texture.
3. Add new objects, e.g. furniture, annotations, action heroes.

Scenario: Virtual Scenes



1. Read a 3D model.
2. Use the ThreejsSceneCreator.
3. Write the scene and host it locally or on the web.
4. Put on your headset and explore!

Don’t just ***inspect*** your data …

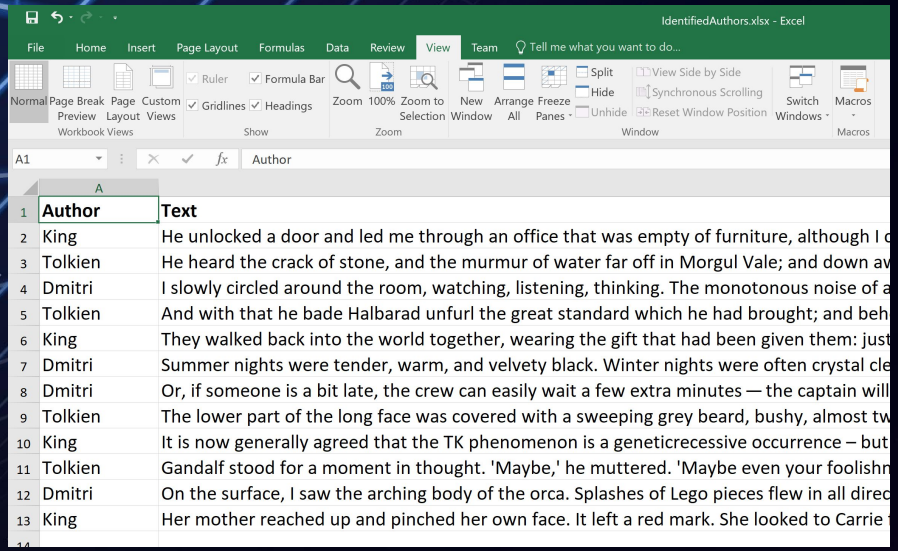


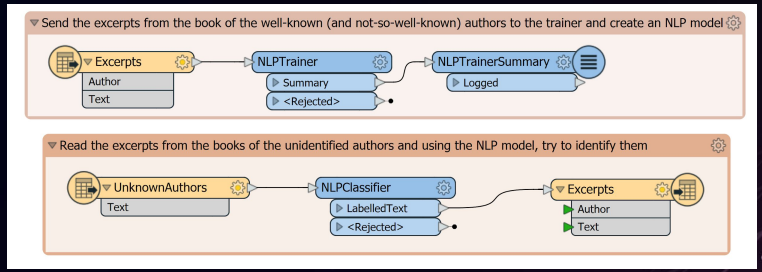
... experience it.

6. **Artificial intelligence** and **machine learning**

Natural Language Processing

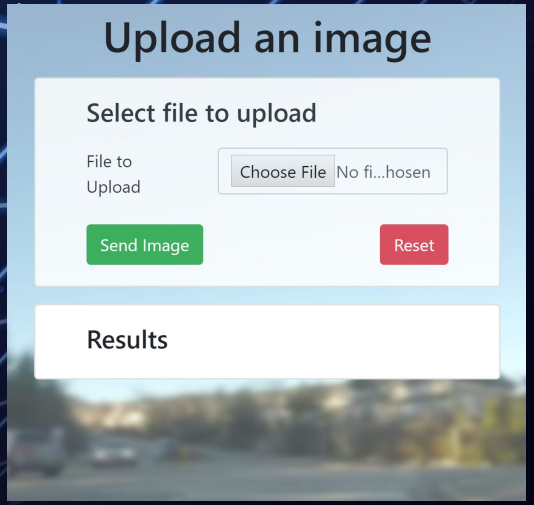
fme.ly/languageDetector

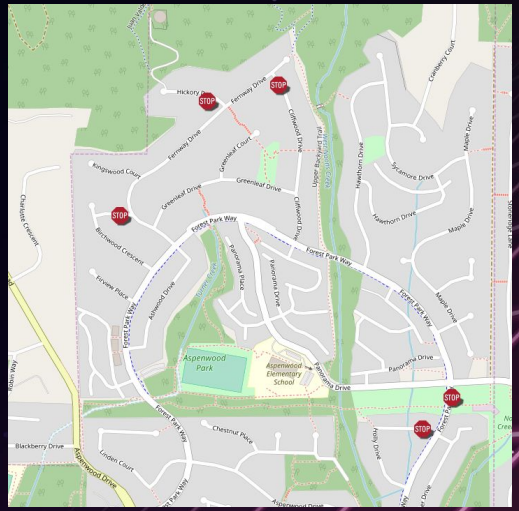




Raster Object Detection

fme.ly/stopSign





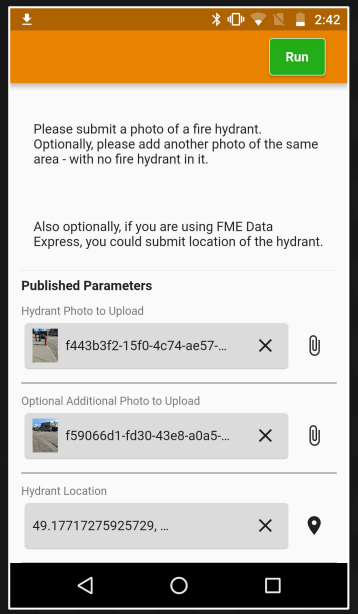
7. FME on Mobile

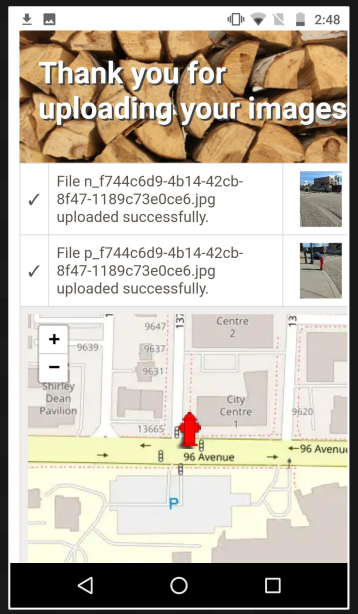
FME Data Express

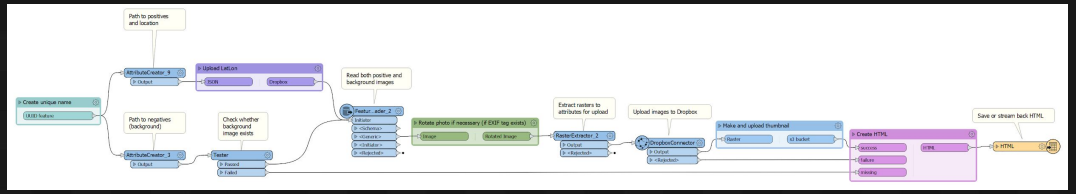
Making it easy for anyone to run FME Workspaces as apps on their mobile device.

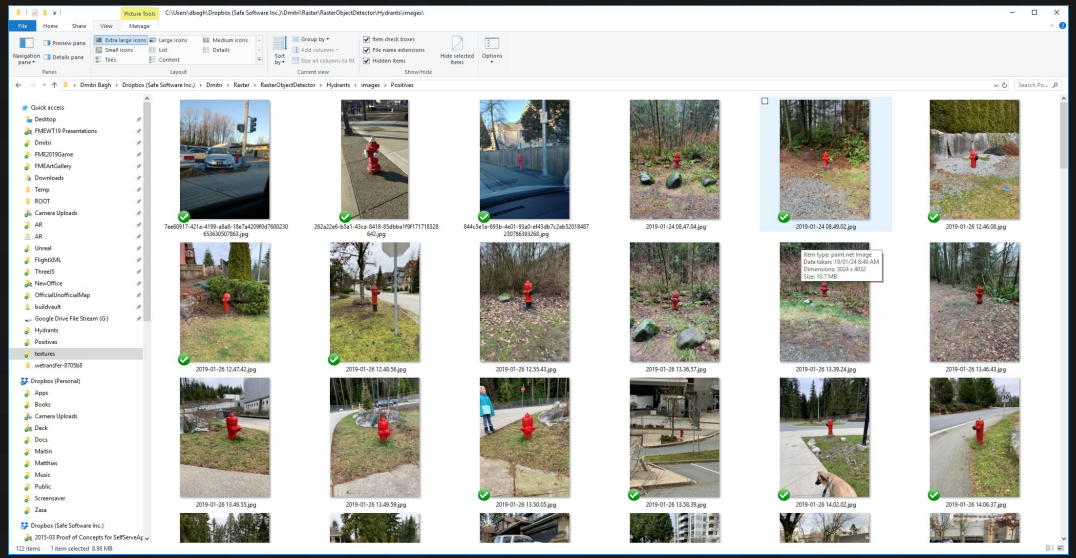
- Leverage device info like location and camera.
- Control permissions with tokens.

Example: Hydrant Collector App









Questions?