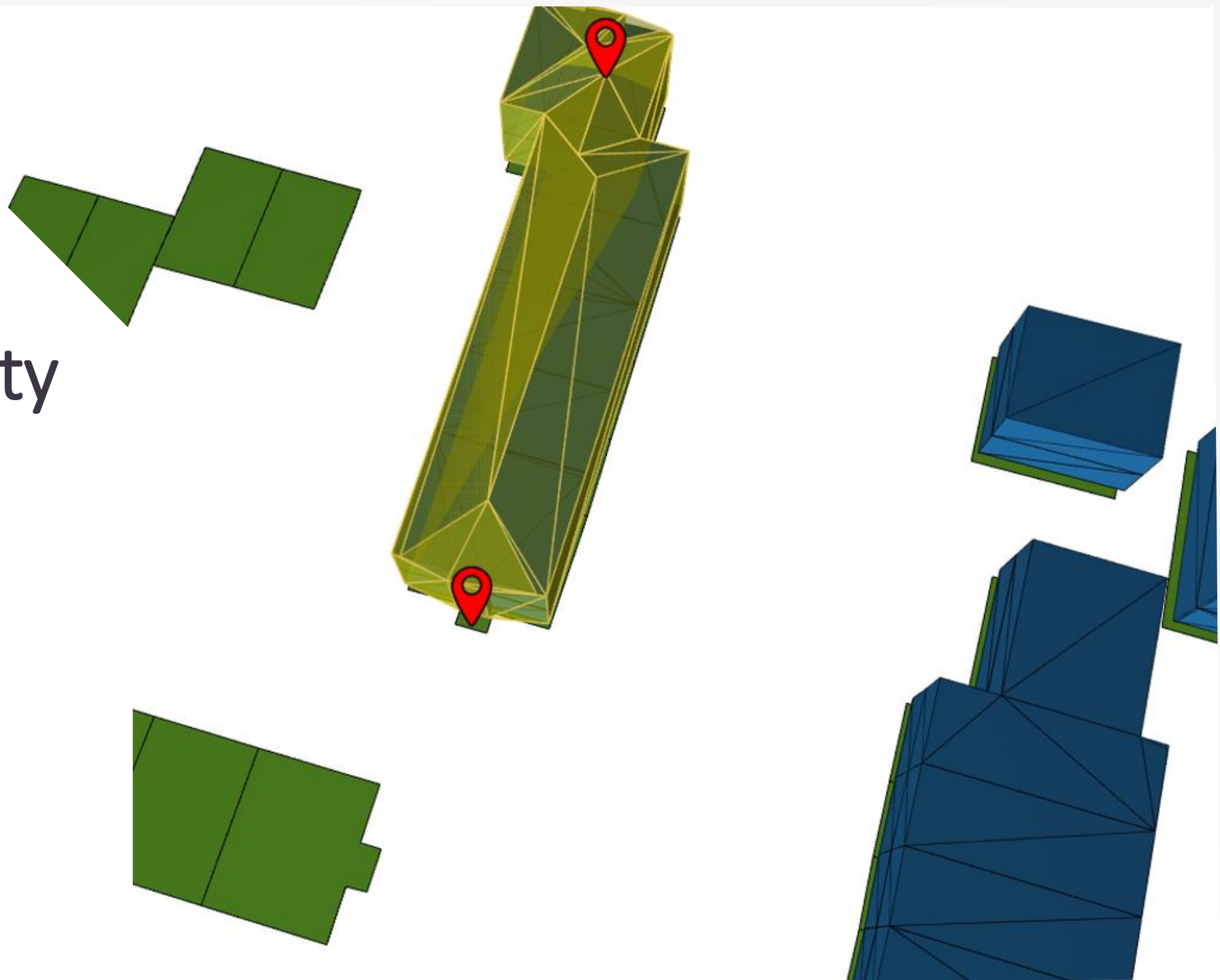


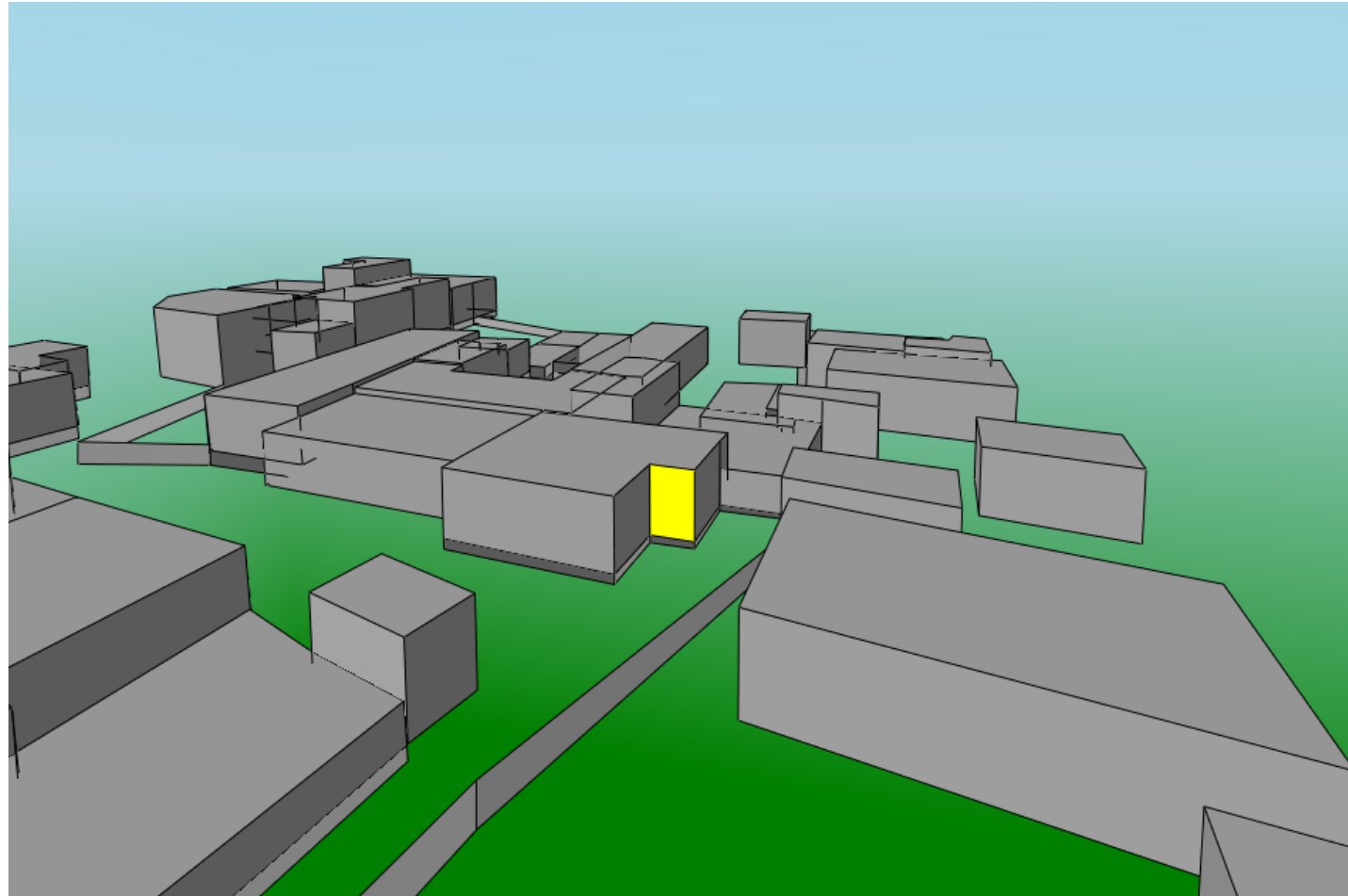
3D Data Quality

Seb Lessware
CTO, 1Spatial



Data Quality more important than ever

- Automation of data capture
- Training AI Systems
- Automation of processes
- Connected Systems
- Design data, BIM -> GIS
- Data Sharing, APIs and Metadata
- Automated Analytics



No-Code Catalogue of Automated Rules

1integrate

Rules

EA MapEdit

FCRM

Full Datasets

Hard Rules

Base Flood Zone 2

Base Flood Zone 3

- Base Flood Zone 3 Fluvial Has Duplicate Points
- Base Flood Zone 3 Fluvial Has Spikes
- Base Flood Zone 3 Fluvial Mandatory Field Empty
- Base Flood Zone 3 Fluvial Must Be Larger Than 10 sq metres
- Base Flood Zone 3 Tidal Has Duplicate Points
- Base Flood Zone 3 Tidal Has Spikes
- Base Flood Zone 3 Tidal Mandatory Field Empty
- Base Flood Zone 3 Tidal Must Be Larger Than 10 sq metres

Defended Area

Flood Flow Route

Flood Information Location

Flooded Community

Main River

Modelled 2D

Modelled Flood Group

Modelled Flood Outline

Modelled Information Location

Modelled Measurement

Recorded Flood Group

Recorded Flood Measurement

Recorded Flood Outline

Hard Rules - 2.1

Soft Rules

Soft Rules - 2.1

Base Flood Zone 3 Tidal Has Duplicate Points

Gov projects > EA MapEdit > FCRM > Hard Rules > Base Flood Zone 3 > Base Flood Zone 3 Tidal Has Duplicate Points

Description

Must not be duplicate points in consecutive vertices

Comments

Rule For

base_flood_zone_3_tidal objects

Rule Template

Dup Point Template

Check That

has_duplicates

Built-in Function

Equals

false

Constant (Static) Value (Boolean)

The input geometry.

base_flood_zone_3

Attribute Value

Created by

sebl@1spatial.com

October 18th 2023, 10:09:19 pm

Updated by

sebl@1spatial.com

November 20th 2024, 12:16:49 pm

Open Data	Finished
Check Hard Rules	174 / 174 features valid 100% / 100% required
Check Hard Rules	1 / 1 features valid 100% / 100% required
Check Hard Rules	7748 / 7748 features valid 100% / 100% required
Check Hard Rules	148 / 149 features valid 99.32% / 100% required
Hard Rules Threshold	Paused
Check Soft Rules	Not Started
Check Soft Rules	Not Started
Copy To	Not Started

Dashboard

GLOBAL SPECIFICATION

FINISHED AT

SUBMITTED BY

Include Rejected

Active Users

9

Active Projects

8

Active Assignments

13

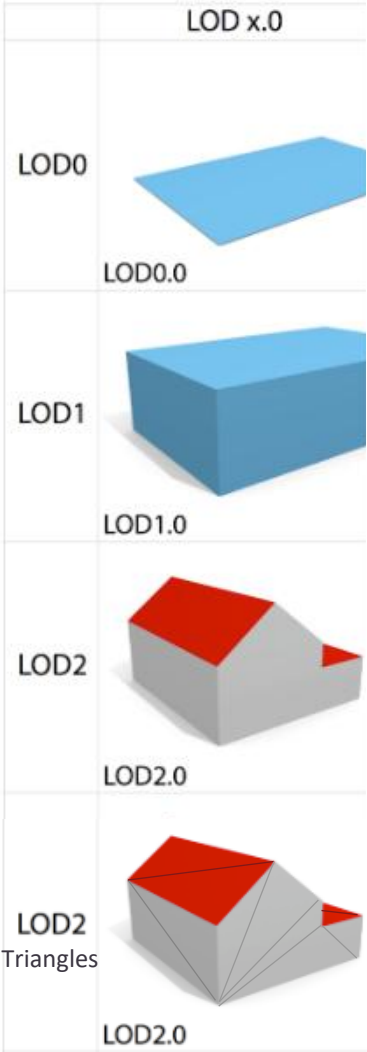
Submissions

79

Submissions per project

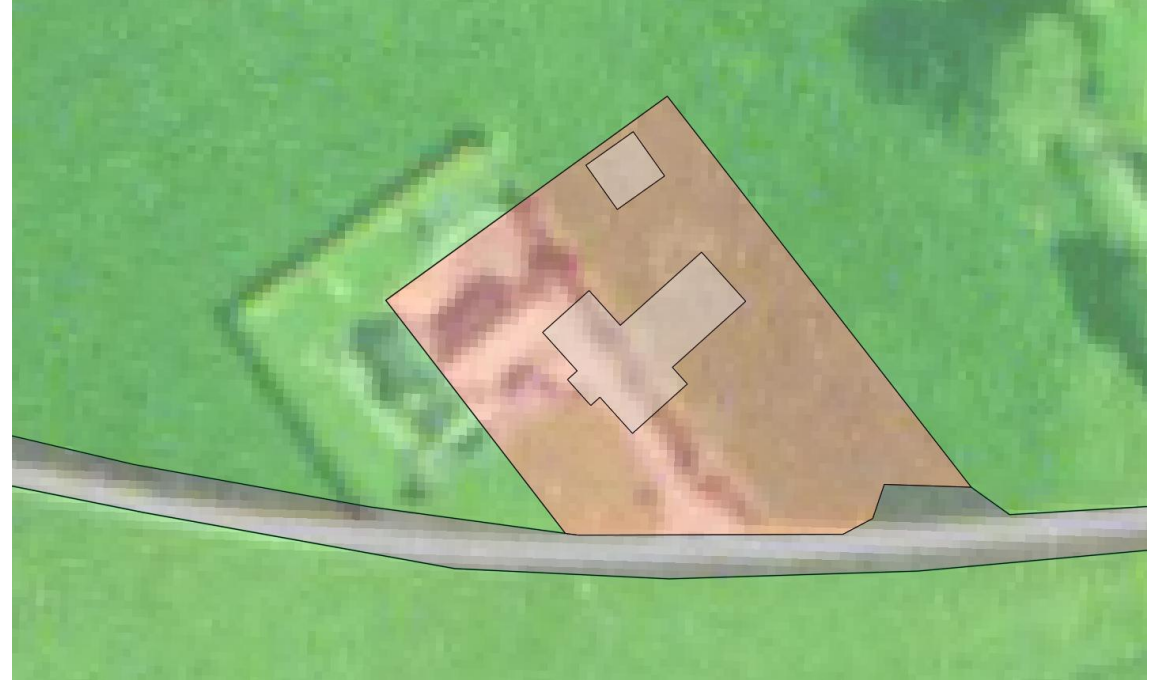
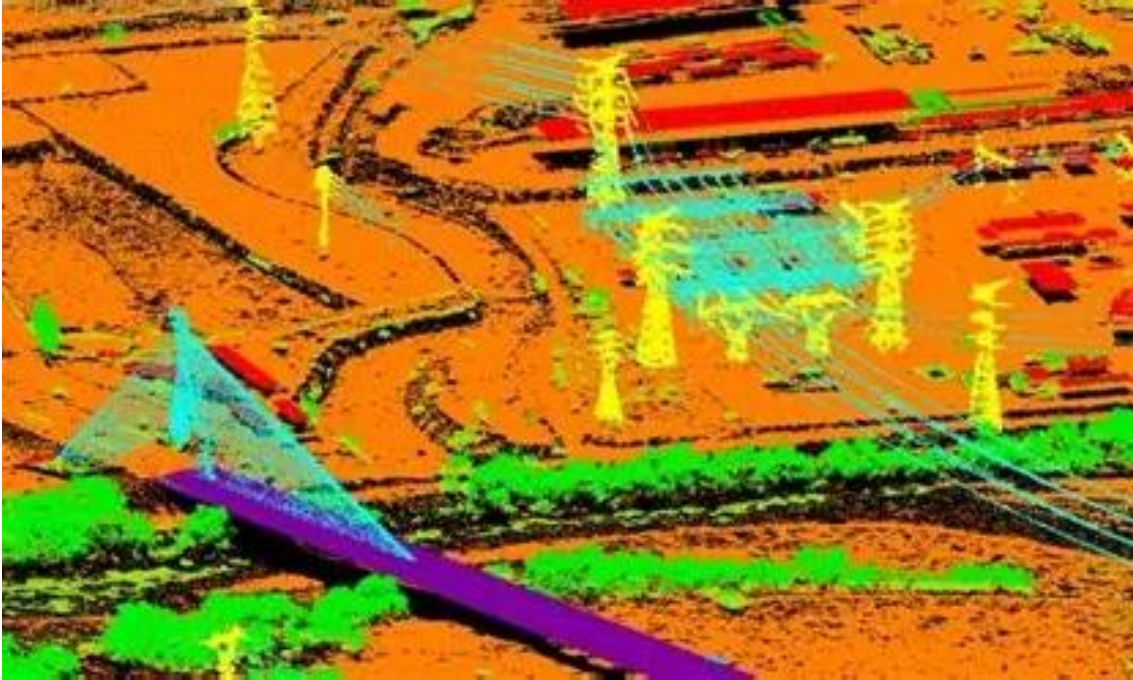
Submissions per day

3D is Bigger, More Complex, More to go wrong

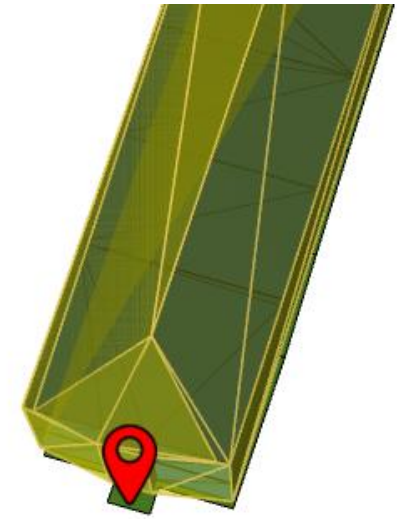


1 Surface			
4 Vertices			
8 Ordinates			
6 Surfaces		x 6	
24 Vertices		x 6	
72 Ordinates		x 9	
9 Surfaces		x 9	
42 Vertices		x 11	
126 Ordinates		x 16	
24 Triangles		x 24	
72 Vertices		x 18	
216 Ordinates		x 27	

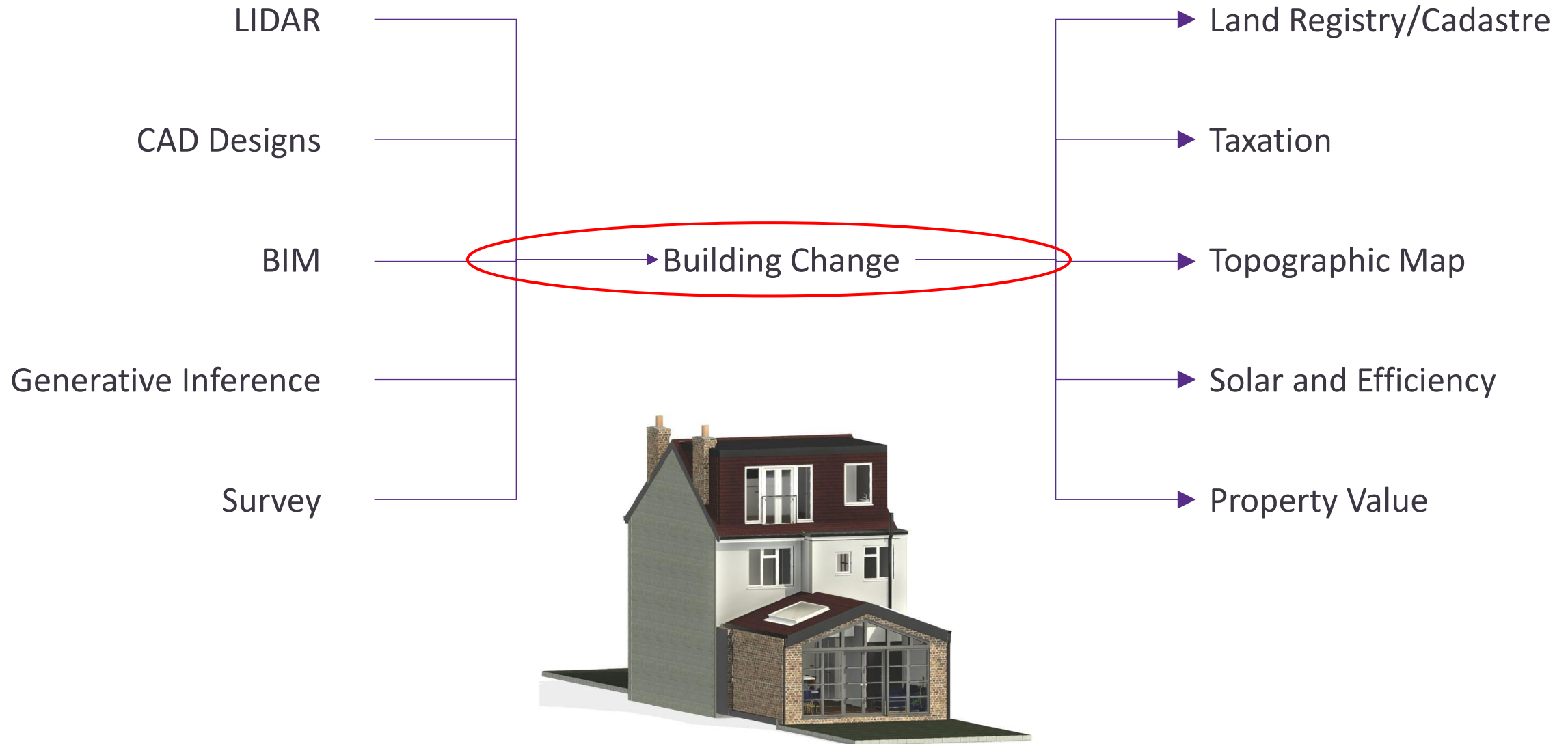
3D is (usually) more accurate



3D is (usually) more detailed than 2D

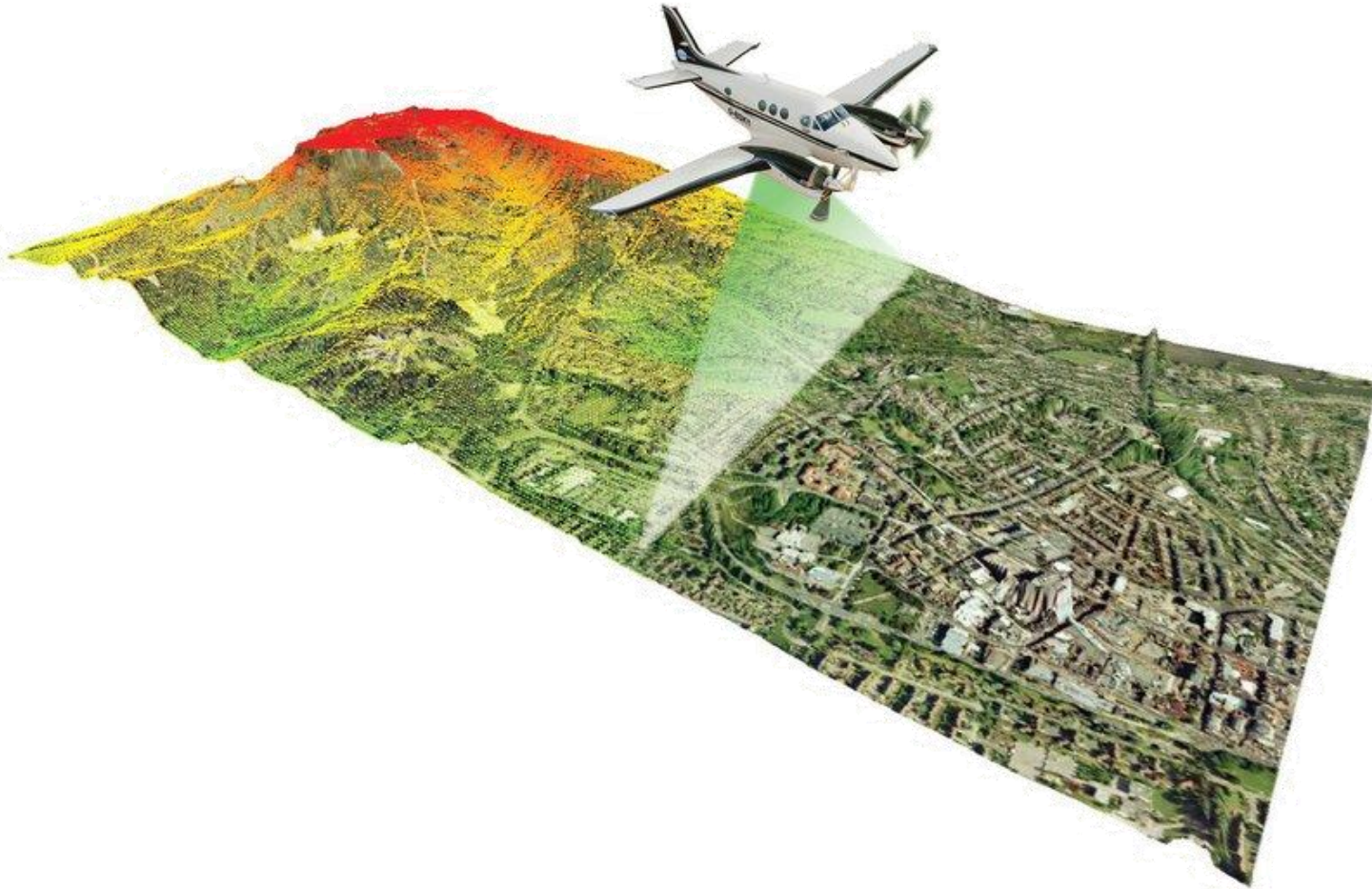


More frequent update means more automation needed



Types of Quality

1. Capture Metadata: Accuracy, precision, provenance etc.



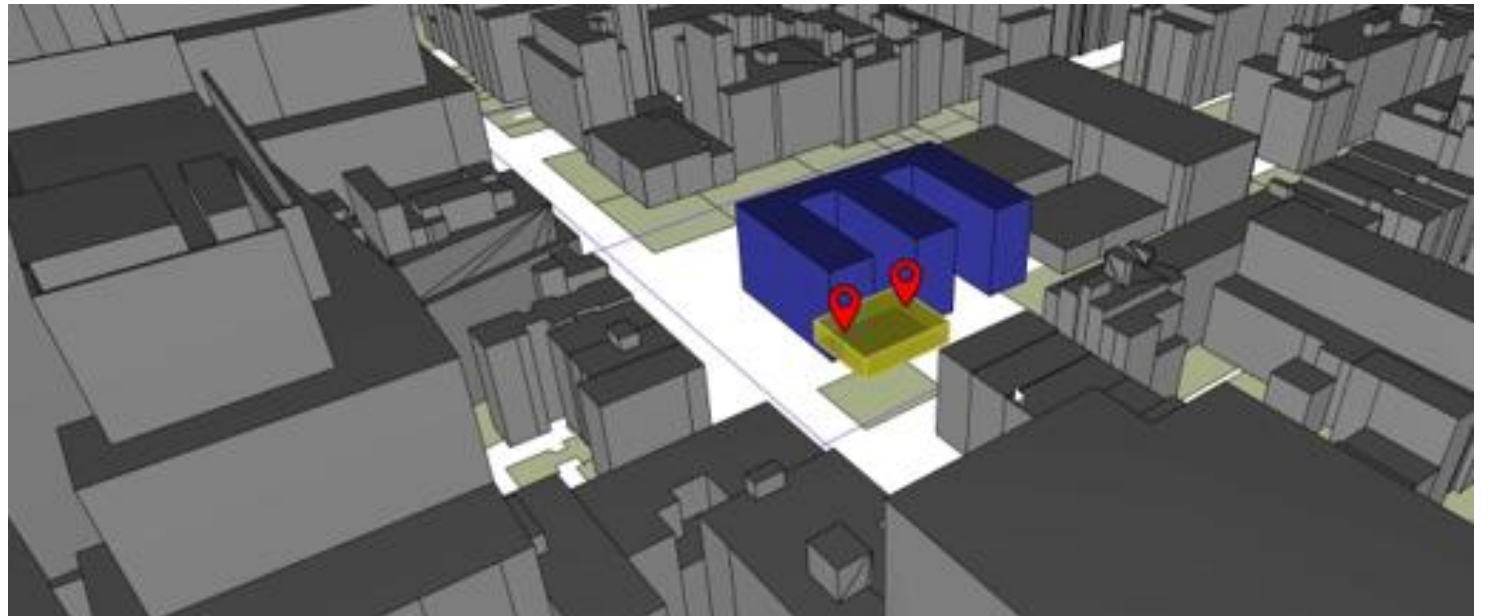
Types of Quality

1. Capture Metadata: Accuracy, precision, provenance etc.
2. Rules: Independent feature errors



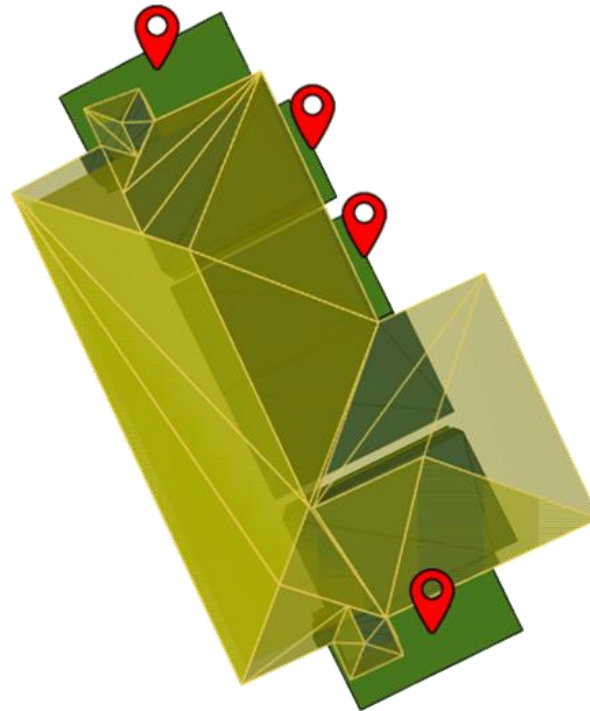
Types of Quality

1. Capture Metadata: Accuracy, precision, provenance etc.
2. Rules: Independent feature errors
3. Rules: Within-dataset errors (Completeness, Logical, Positional, Thematic, Temporal, Useability)
 - a) Geometric
 - b) Semantic



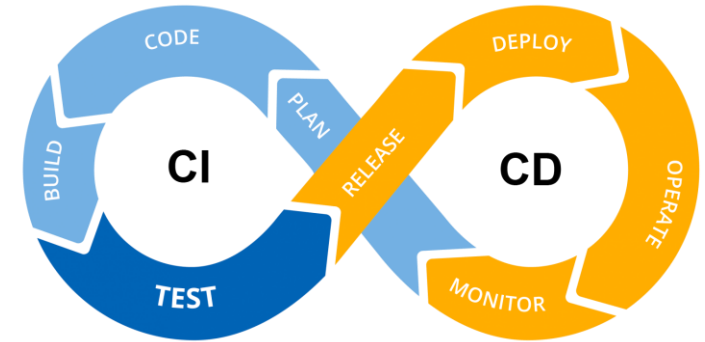
Types of Quality

1. Capture Metadata: Accuracy, precision, provenance etc.
2. Rules: Independent feature errors
3. Rules: Within-dataset errors (Completeness, Logical, Positional, Thematic, Temporal, Useability)
 - a) Geometric
 - b) Semantic
4. Rules: Between-dataset errors
 - a) Geometric
 - b) Semantic



Strategy

1. Be the authoritative, referenceable, national register
2. Automate, Automate, Automate
3. Treat data like code, use 'Continuous Integration'
4. Metadata -> Feature -> Within Dataset -> Between Datasets
5. If 3D is more accurate, use it to Improve 2D positional accuracy
6. Tolerate differences to reduce false positives (e.g. 2D will always be different to 3D)



3D Data Quality

Seb Lessware
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