Putting insight in the hands of decision makers

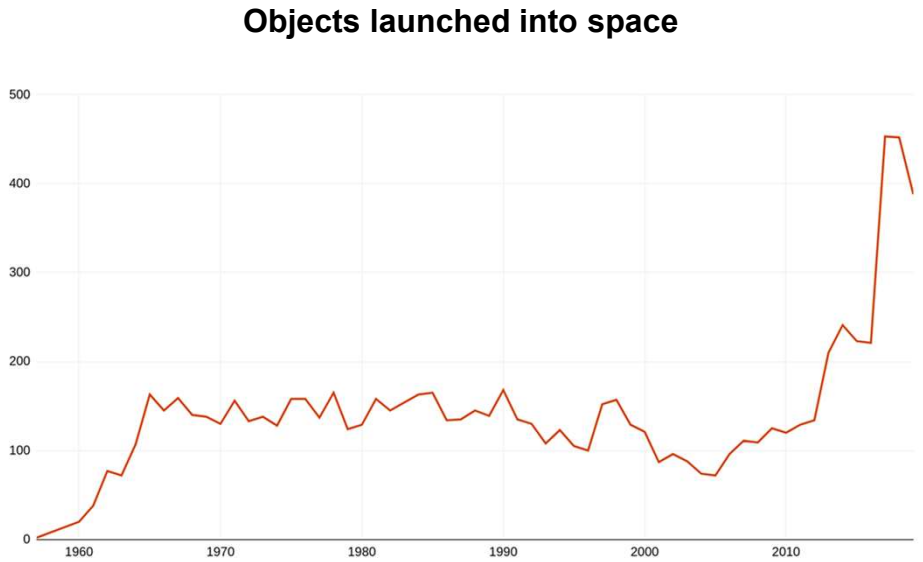
Innovations for Urban Monitoring and Mapping

Understanding Risk West and Central Africa
November 2019

developmentSEED

More data

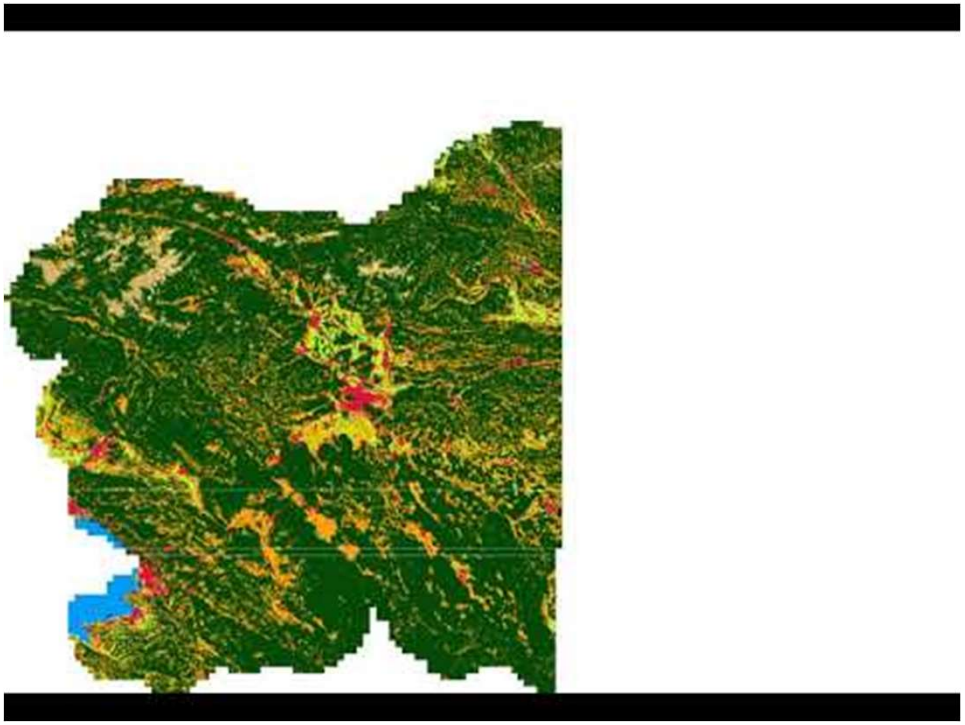
Our capacity to produce data is growing at a fast pace. Hundreds of satellites circle the Earth sending back petabytes of imagery and readings every day. Advances in AI allows us to analyze this at higher speed.



Source: Online Index of Objects Launched into Outer Space, UNOOSA

fastai-serving

At Development Seed we support organizations to run ML on imagery, and do so at scale. We do this by building open technologies like Chip-n-Scale, fastai-serving.



LULC mapping in Slovenia
Query Planet project with ESA Phi Lab and Sinergise

Label Maker

Label Maker makes it easier to generate label data and packages satellite imagery with data from OpenStreetMap.

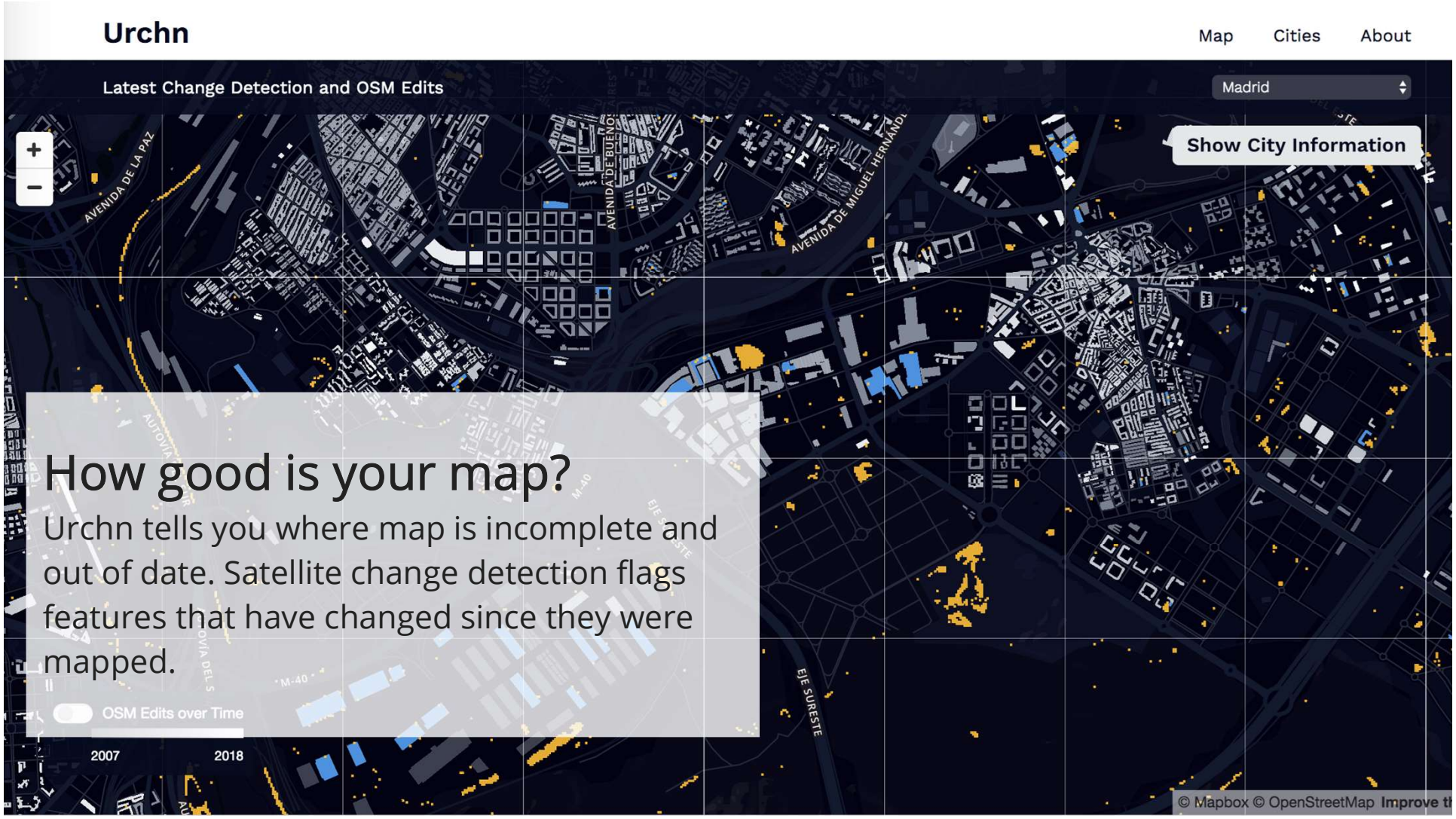
More about Label Maker

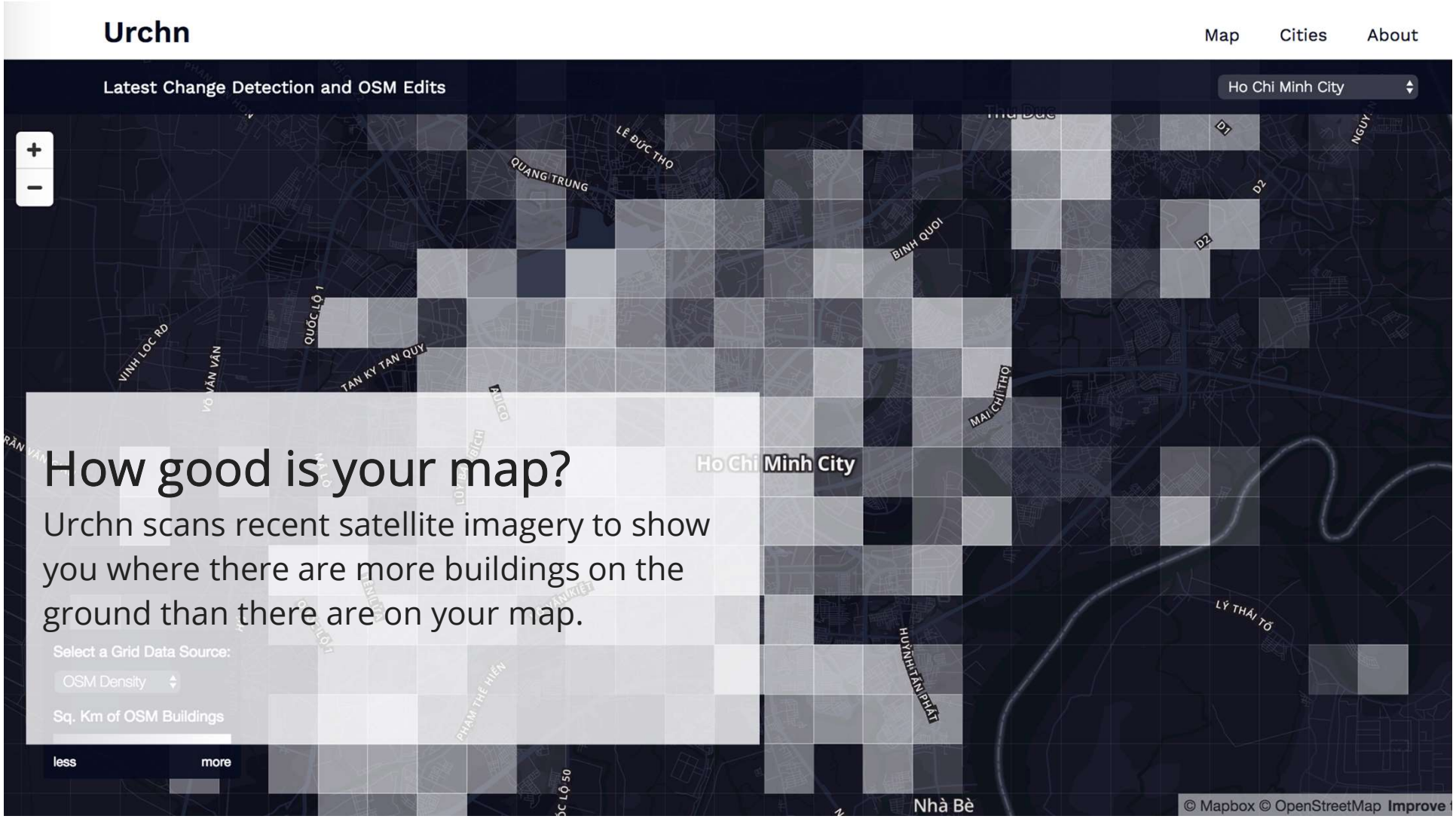
Putting this data in the hand

We need to be building tools that put data in hands of decision makers in ways they can consume it:

- Open tools that allow people to **see under the hood**, and understand what is going on.
- Tools that **combine data streams** so they can draw insight from a richer set of inputs.

Urchn


Urchn
Map
Cities
About
Latest Change Detection and OSM Edits
Madrid
Show City Information
How good is your map?
Urchn tells you where map is incomplete and out of date. Satellite change detection flags features that have changed since they were mapped.
OSM Edits over Time
2007
2018
AVENIDA DE LA PAZ
AVENIDA DE MIGUEL HERNÁND
EJE SURESTE
M-40
© Mapbox © OpenStreetMap Improve t


Urchn
Map
Cities
About
Latest Change Detection and OSM Edits
Ho Chi Minh City
How good is your map?
Urchn scans recent satellite imagery to show you where there are more buildings on the ground than there are on your map.
Select a Grid Data Source:
OSM Density
Sq. Km of OSM Buildings
less
more
Ho Chi Minh City
Nhà Bè
© Mapbox © OpenStreetMap Improve

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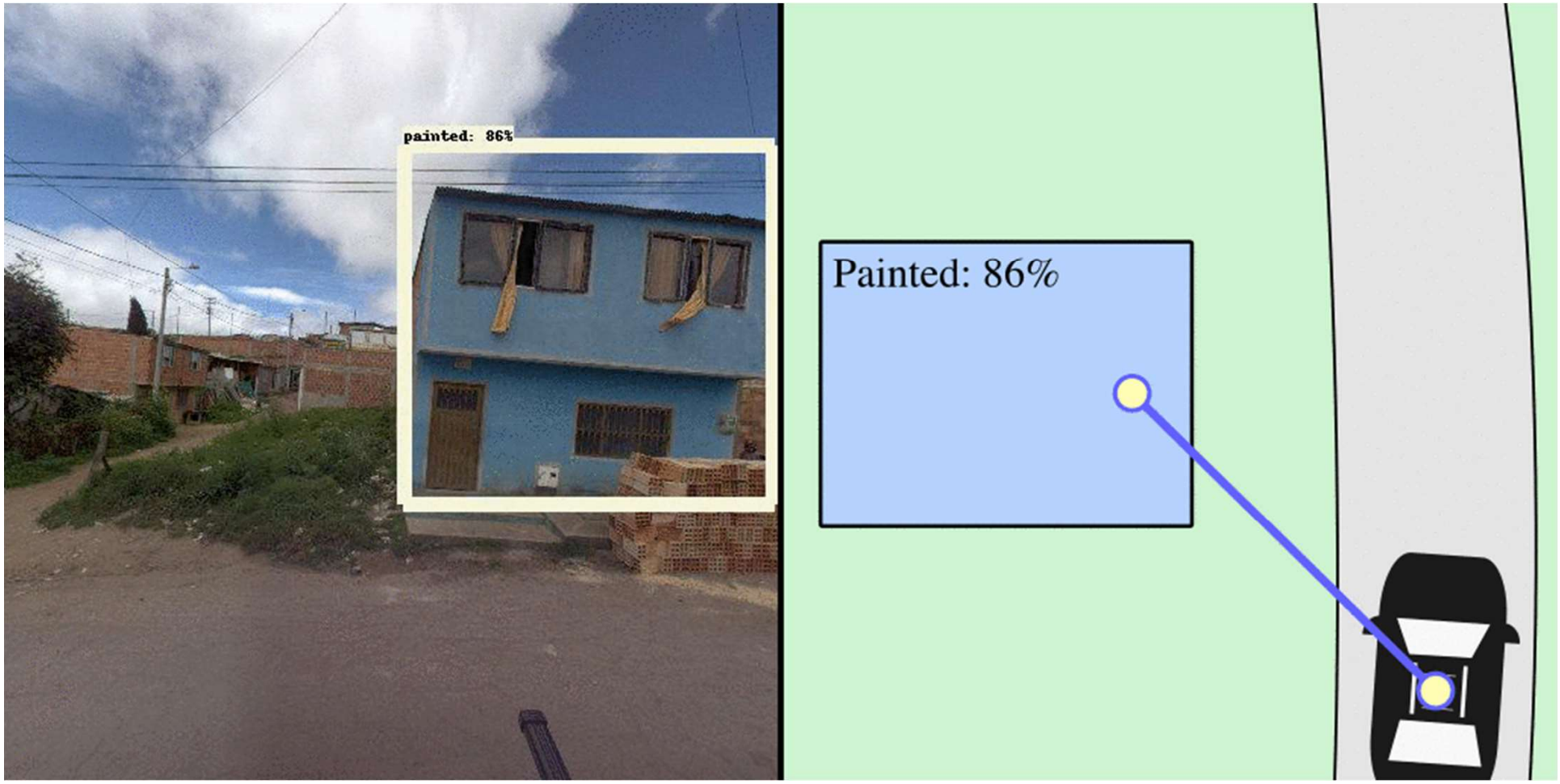
Cities
About
Latest Change Detection and OSM Edits
de Madrid
Majadahonda
Pozuelo de Alarcón
Boadilla
Villaviciosa de Odón
Móstoles
Leganés
M-509
M-50
M-40
BUS/VAO
AUTOVÍA DEL NOROESTE
AUTOVÍA DEL SUROESTE
Urban Dynamics
We show you where cities are growing and changing before the construction finishes.
Select a Grid Data Source:
PCM Density
Change Layer
Unedited Since Change
OSM Edit

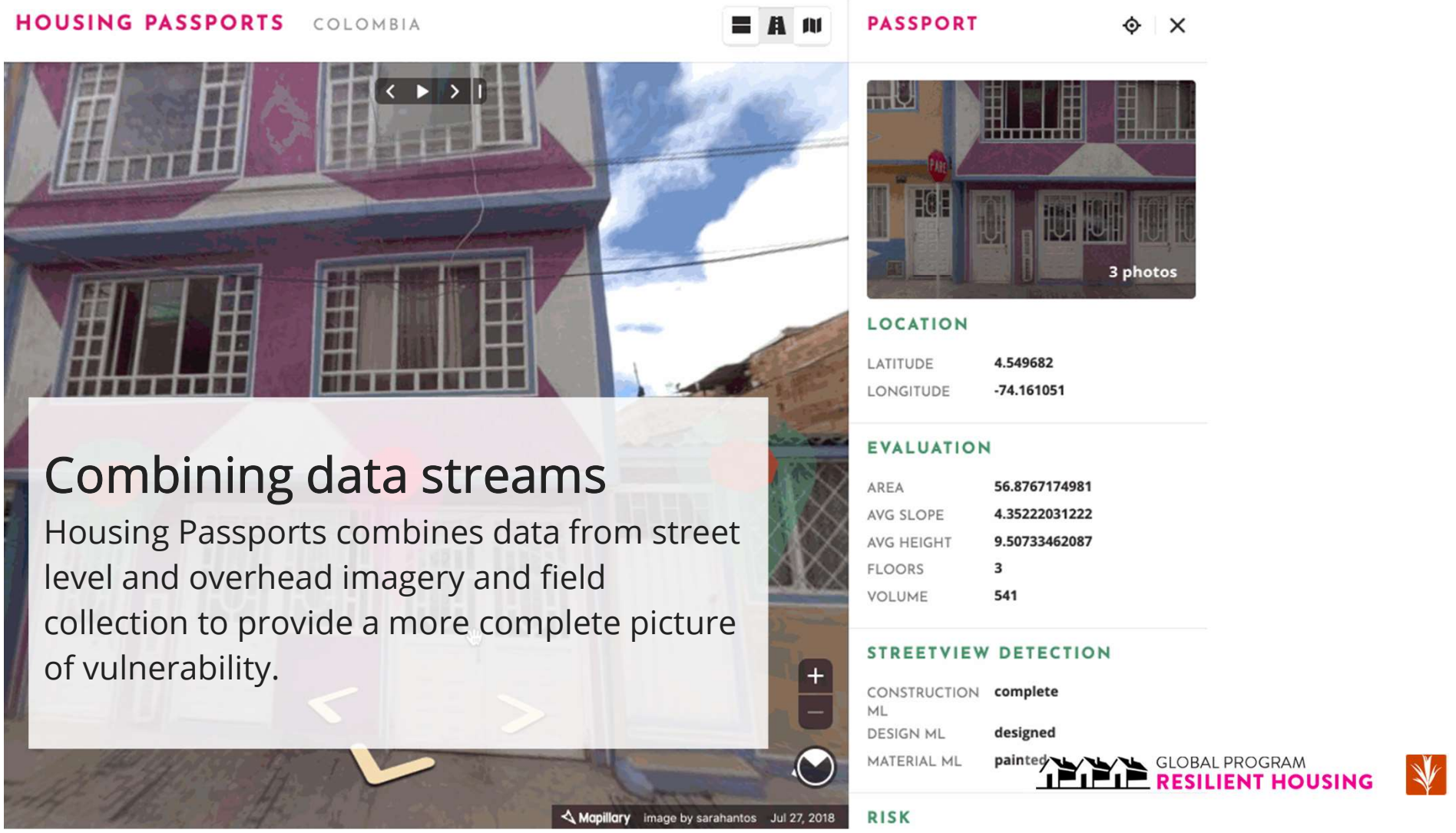
Housing Passports



GLOBAL PROGRAM
RESILIENT HOUSING

Predictions & Footprints

Relating predicted characteristics to building footprints.


HOUSING PASSPORTS
COLOMBIA
PASSPORT
3 photos
LOCATION
LATITUDE 4.549682
LONGITUDE -74.161051
EVALUATION
AREA 56.8767174981
AVG SLOPE 4.35222031222
AVG HEIGHT 9.50733462087
FLOORS 3
VOLUME 541
STREETVIEW DETECTION
CONSTRUCTION ML complete
DESIGN ML designed
MATERIAL ML painted
RISK
Mapillary image by sarahantos Jul 27, 2018
Combining data streams
Housing Passports combines data from street level and overhead imagery and field collection to provide a more complete picture of vulnerability.
GLOBAL PROGRAM
RESILIENT HOUSING

HP Mobile

Housing Passports mobile, a proof of concept that brings inference to the field.

More info

More about Housing Passports:

- Building better before the next disaster
- Finding vulnerable housing in street view images

Want to know more?

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