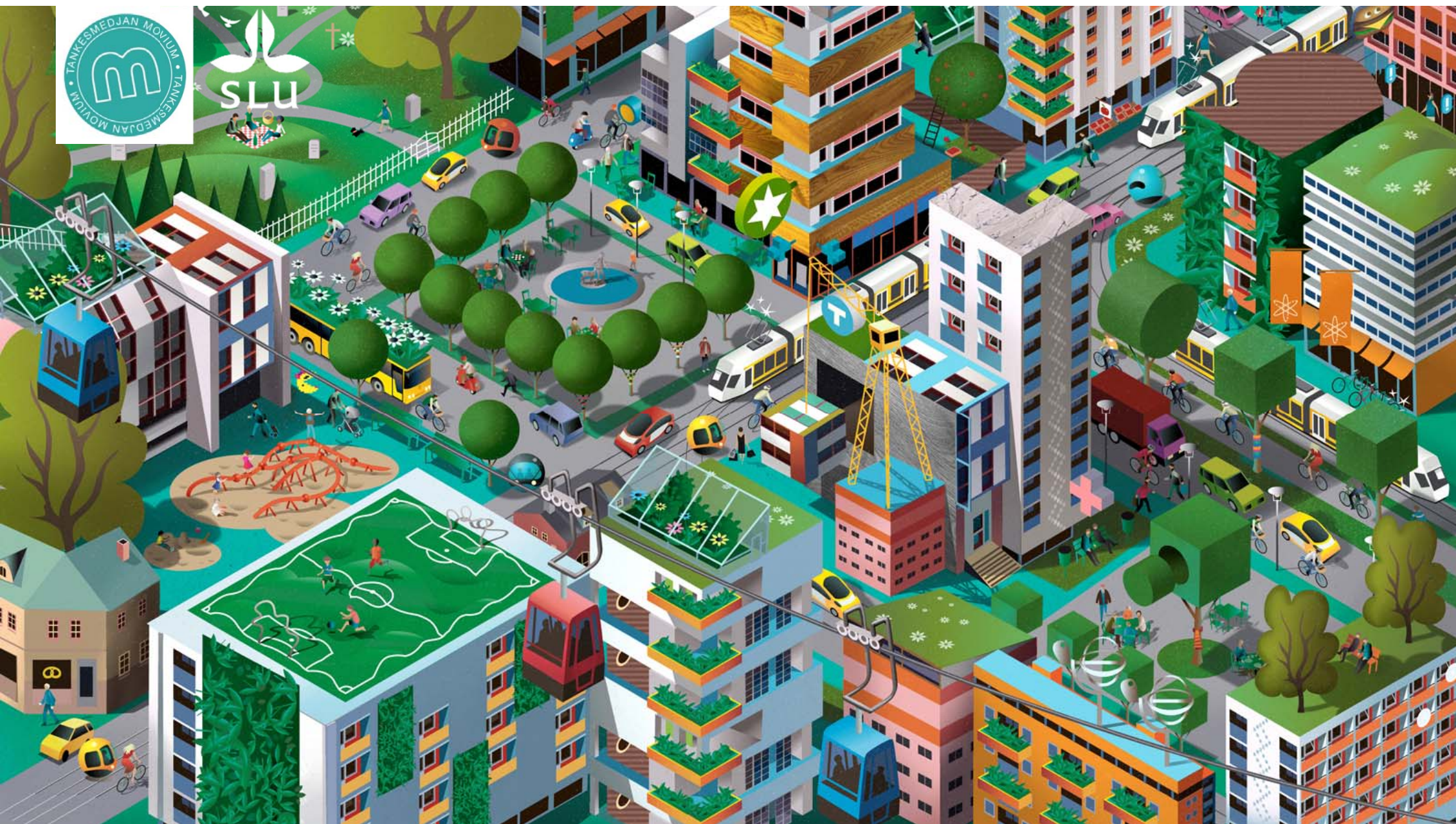




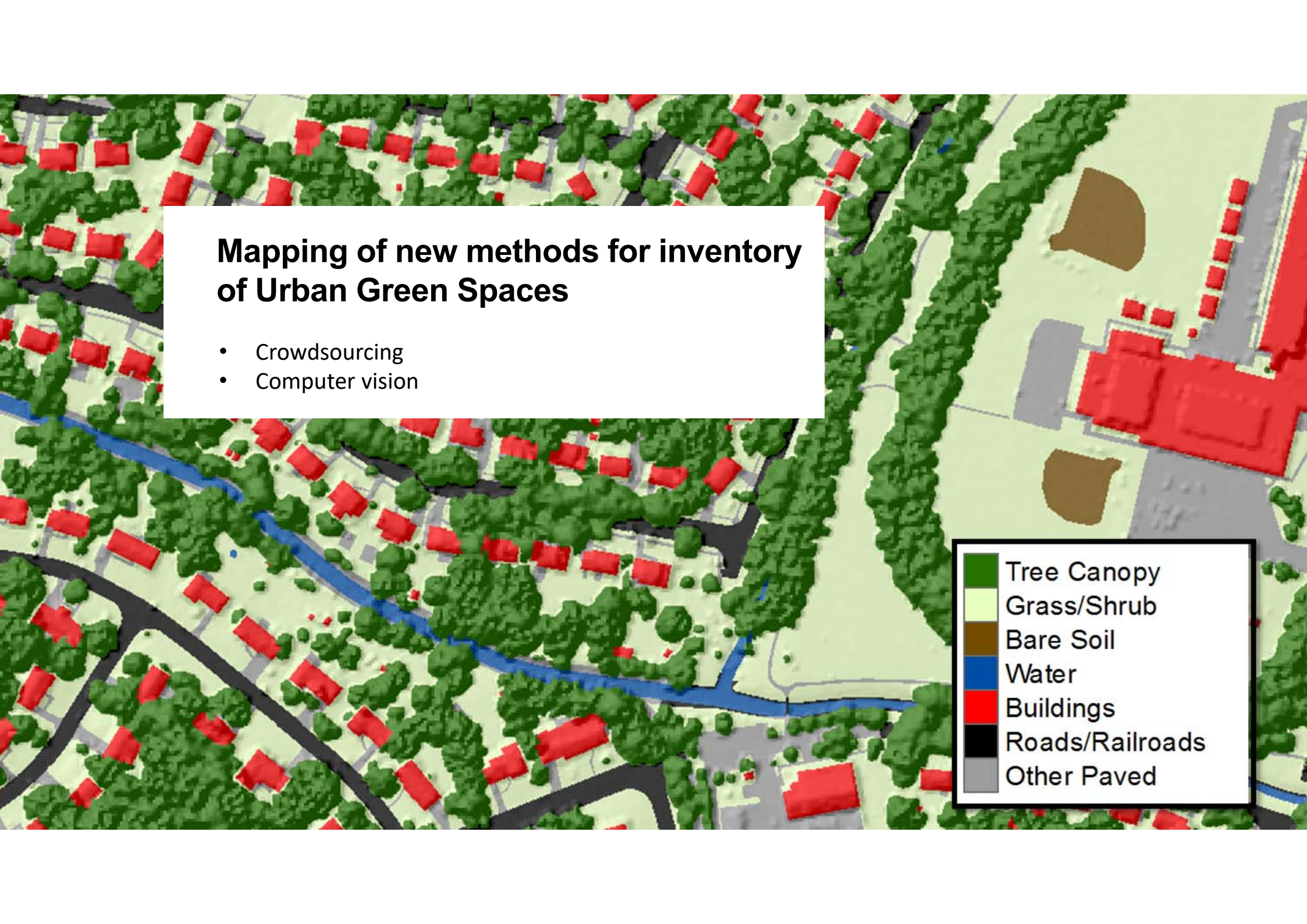
SLU Environmental monitoring and assessment

Program: Built environment

Decision support

Researchers + Data



An aerial photograph of a suburban neighborhood with a color-coded map overlay. The map uses various colors to represent different land features: green for trees, light green for grass, brown for bare soil, blue for water, red for buildings, black for roads, and grey for paved areas. A white text box is overlaid on the left side of the image.

Mapping of new methods for inventory of Urban Green Spaces

- Crowdsourcing
- Computer vision

	Tree Canopy
	Grass/Shrub
	Bare Soil
	Water
	Buildings
	Roads/Railroads
	Other Paved

Crowdsourcing in environmental monitoring



← → ↻ 🔒 <https://www.tradportalen.se/Observations.aspx>

Minimera sökalternativen ▲

Trädslag Ask (Fraxinus excelsior)	Syfte -- Alla --	Skyddsvärde Alla	Startdatum []	Slutdatum []	
Stamomkretsintervall [] cm - [] cm	Trädstatus -- Alla --	Hålstadium Alla	Trädets ID []	Län Skåne län	Kommun Alla kommuner
Omgivning -- Välj --	Åtgärdsbehov -- Välj --				

Visa sökresultat i
☐ Lista ☒ Karta ☐ Exportera Minst 1 sökargument måste anges!

Minimera kartan ▲

Zoom: 13 Lng: 13.151335774317431 Lat: 55.65836221959345

Karta **Satellit**

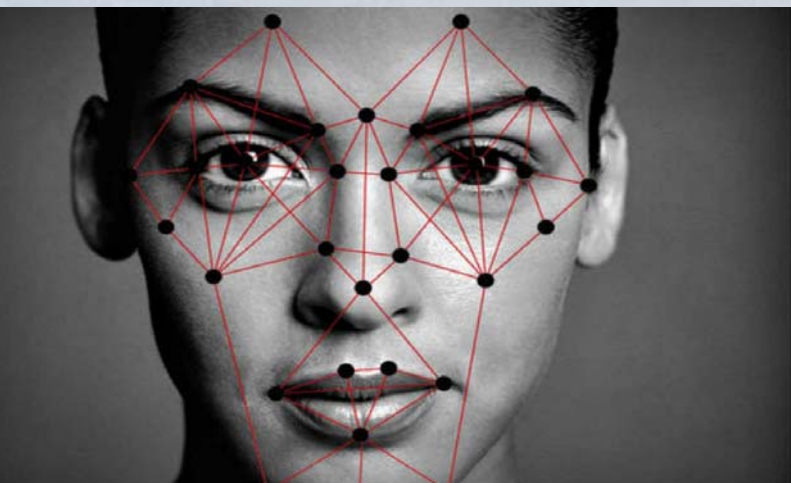
A map view of the SLU Artdatabanken interface. It shows a map of a region in southern Sweden, with several yellow location pins indicating tree observations. The map includes labels for roads like E22 and E108, and place names like Stora Uppåkra, Knästorp, and Stora Råby. A legend on the right explains the map controls and the meaning of the pins.

Förklaringar till kartan
Använd zoomverktöget till vänster eller musens skrollhjul för att zooma in på kartan. Alla träd motsvarande sökkriterierna visas oftast ej samtidigt på kartan utan antalet träd i ett område ökar ju mer du zoomar in.
Vid maximal inzoomning sker ingen filtrering och då kan du även klicka på ett specifikt träd för att se mer information om det.
Klickar du på ett träd vid lägre zoomnivå så zoomas du in maximalt på just det trädet.

Träd

SLU Artdatabanken – 70 million reports

Computer vision



Luke Skywalker

94.5%



Image: Courtesy of medium.com

Crowdsourcing and computer vision



Environmental monitoring –
Amateurs may report

Image: Courtesy of PlantNet

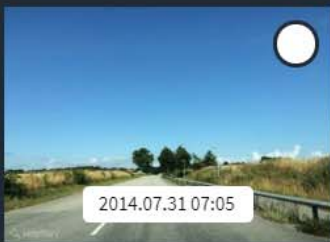
Crowdsourcing



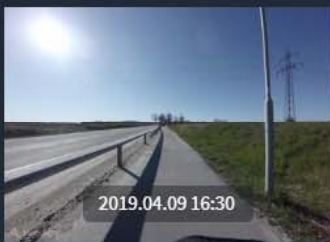
FLER VIDEOR



Original



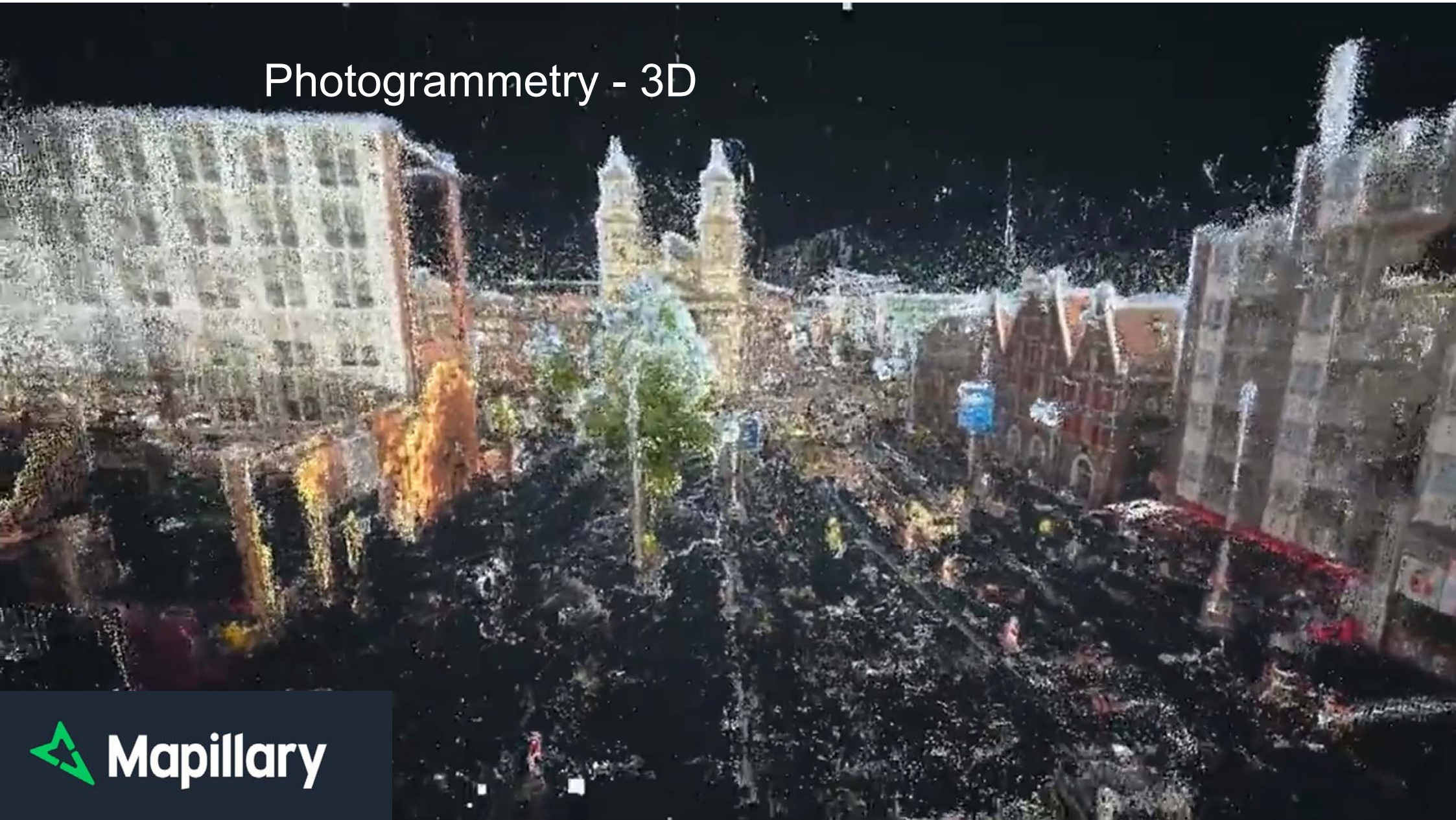
Compare it to



Crowdsourcing



Photogrammetry - 3D



Photogrammetry and augmented reality

22 cm

19 cm
21 cm

30 cm

23 cm

KATAM



Operative forest mapping with drones and artificiell intelligens

height, diameter, volume, species

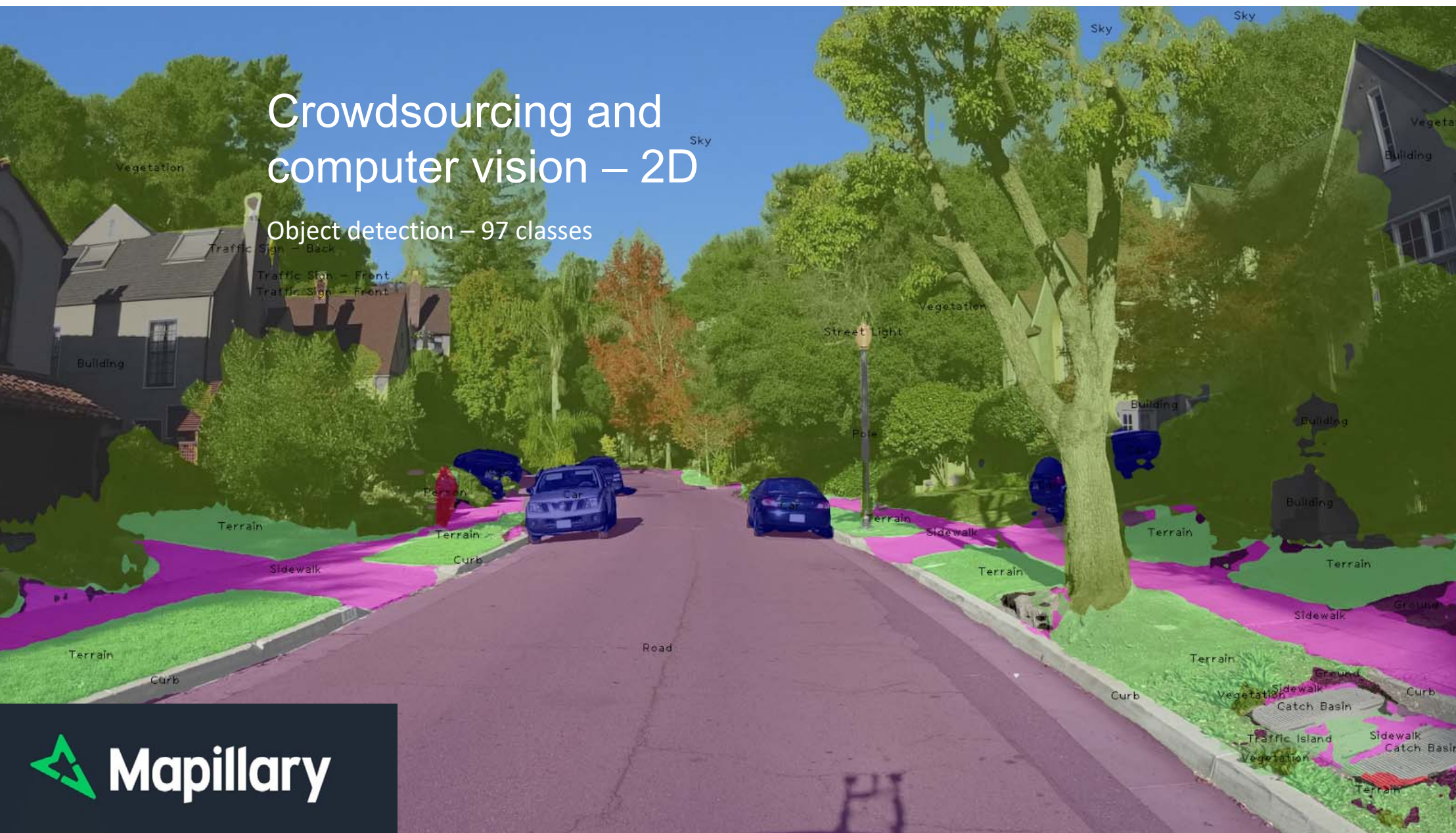
Jonas Bohlin, SLU forest

Jörgen Wallerman, SLU forest

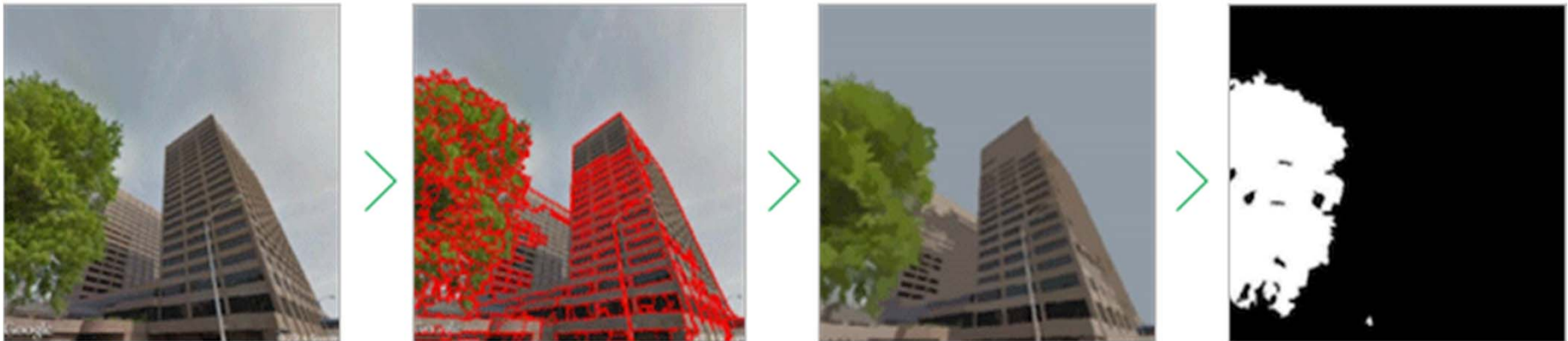


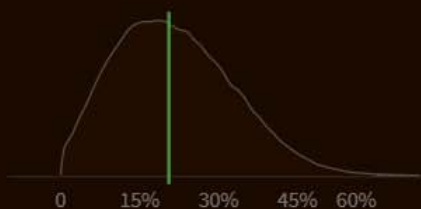
Crowdsourcing and computer vision – 2D

Object detection – 97 classes



Green View Index

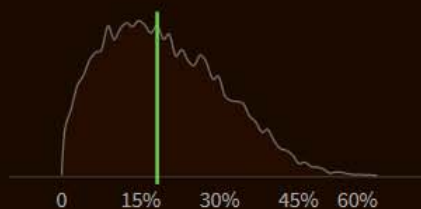




Amsterdam

Green View Index ● 20.6%

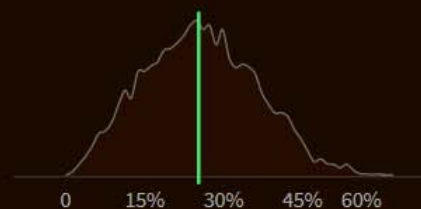
Population Density 4,908/km²



Boston

Green View Index ● 18.2%

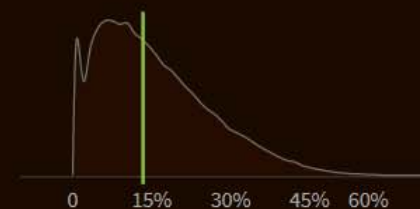
Population Density 5,344/km²



Cambridge

Green View Index ● 25.3%

Population Density 6,586/km²



Cape Town

Green View Index ● 13.4%

Population Density 1,100/km²



London Tree Canopy Cover



Search the map to discover tree canopy cover across London.

Search for a location:



Visit an area of interest:

Select an area



Adjust transparency



Show/Hide Boroughs

Show/Hide Wards (2014)

Reset to all of London

 Tree canopy cover

The data presented is a high resolution map of



MAYOR OF LONDON

Leaflet | Powered by Esri



Farmer receives data
through FMS



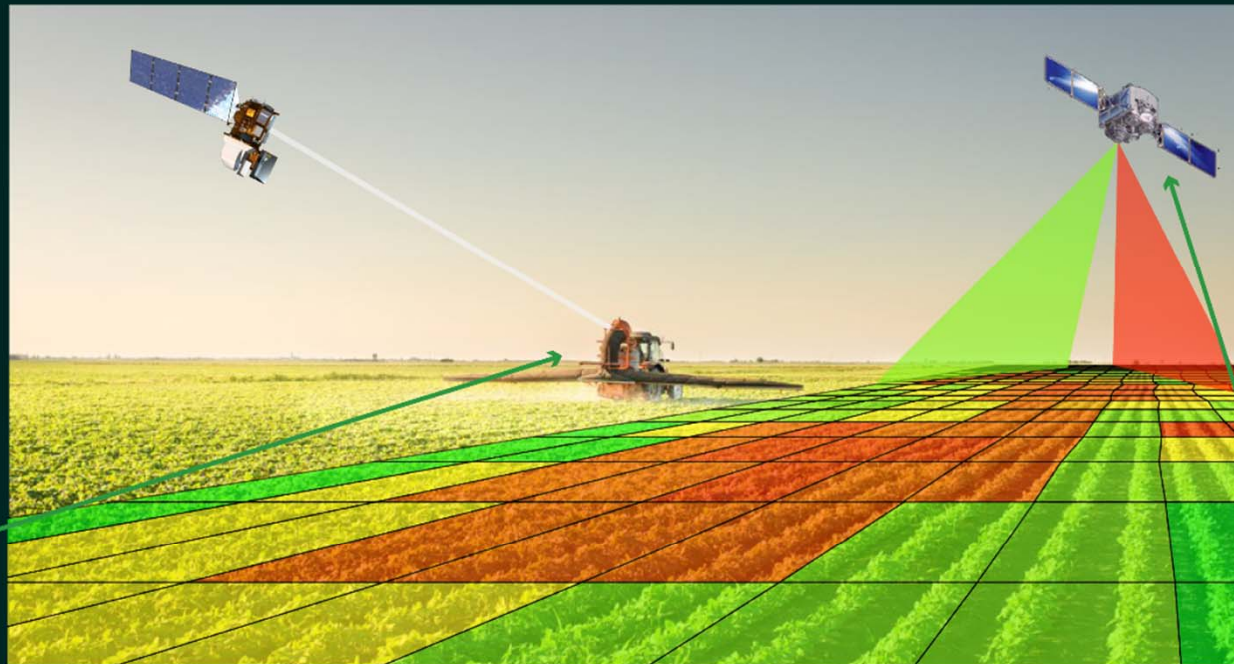
Vultus API deliver
to FMS



Cloud processing,
analysis and calibration



Variable Rate
Technology



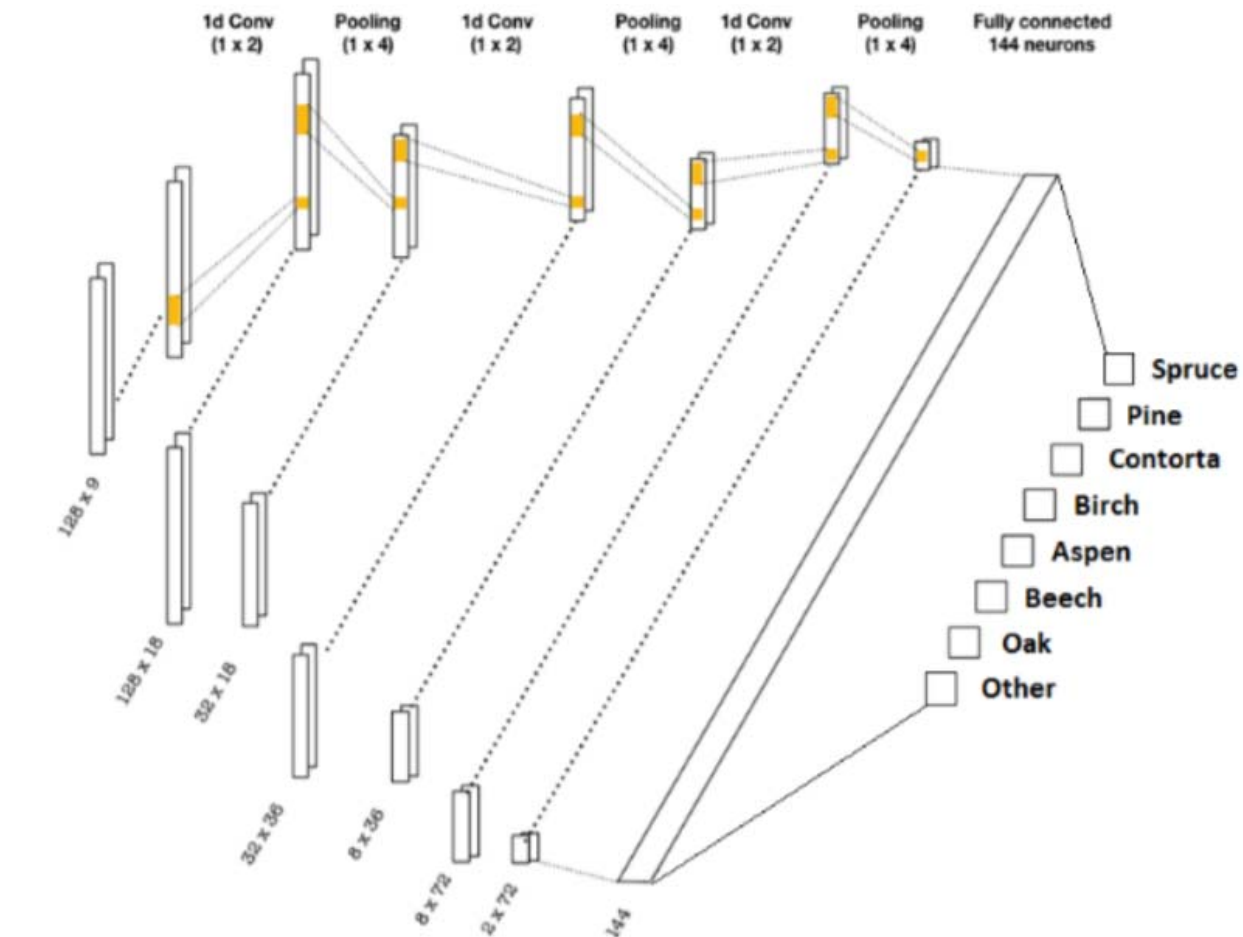
Spectral analysis

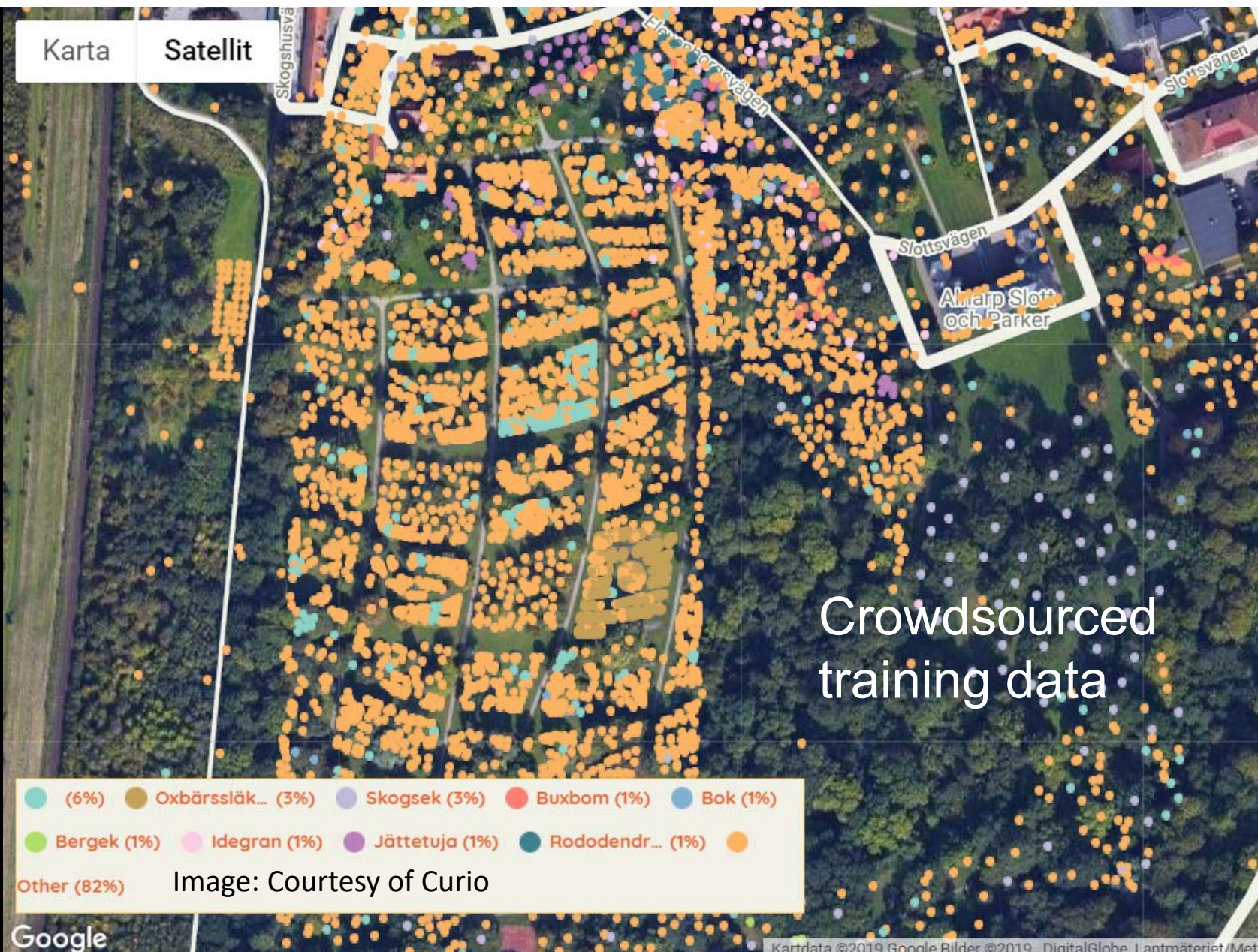



VULTUS

Neural Networks for tree species classification using Sentinel-2, NFI and Google Earth Engine

André Wästlund, SLU







Thank you!

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