



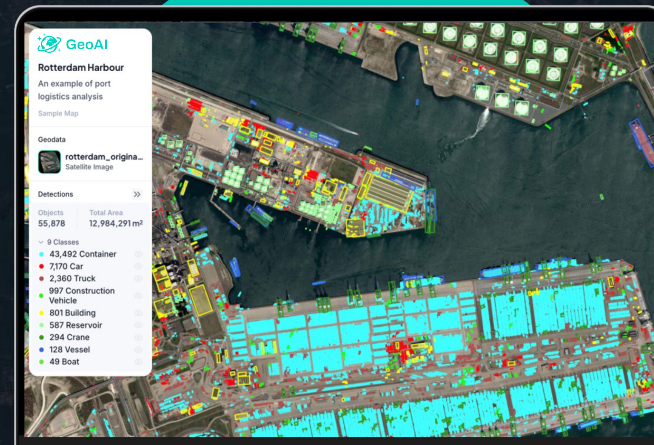
GeoAI

From Pixels to Actions



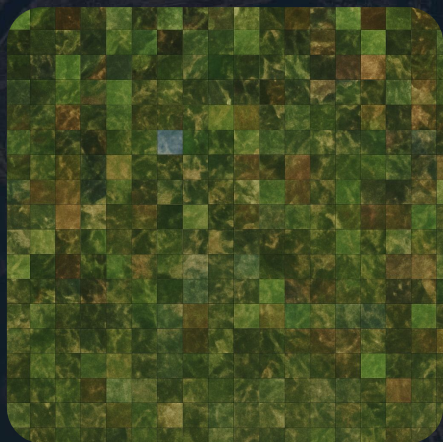
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Problem

EO data



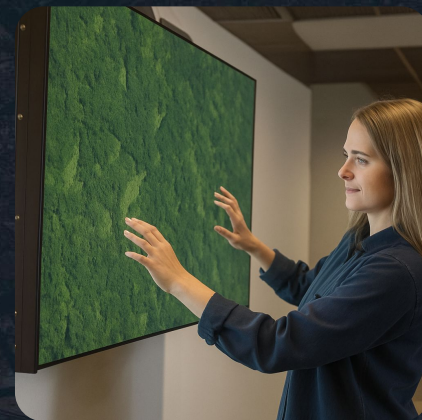
- petabytes every day
- massive & complex
- expensive to analyse
- **90% is not used at all**

How to easily turn raw data into the answers industries need?



Where? How many? What type?
What change? Since when?

Users



- do not need petabytes of raw imagery
- need timely, reliable insights, reports & answers
- **95% are non-technical users**

GeoAI: One Platform, Countless Applications



AI service for geospatial analysis

Turns raw aerial, drone and satellite imagery into information & answers



Custom EO use cases

To monitor, detect, inspect



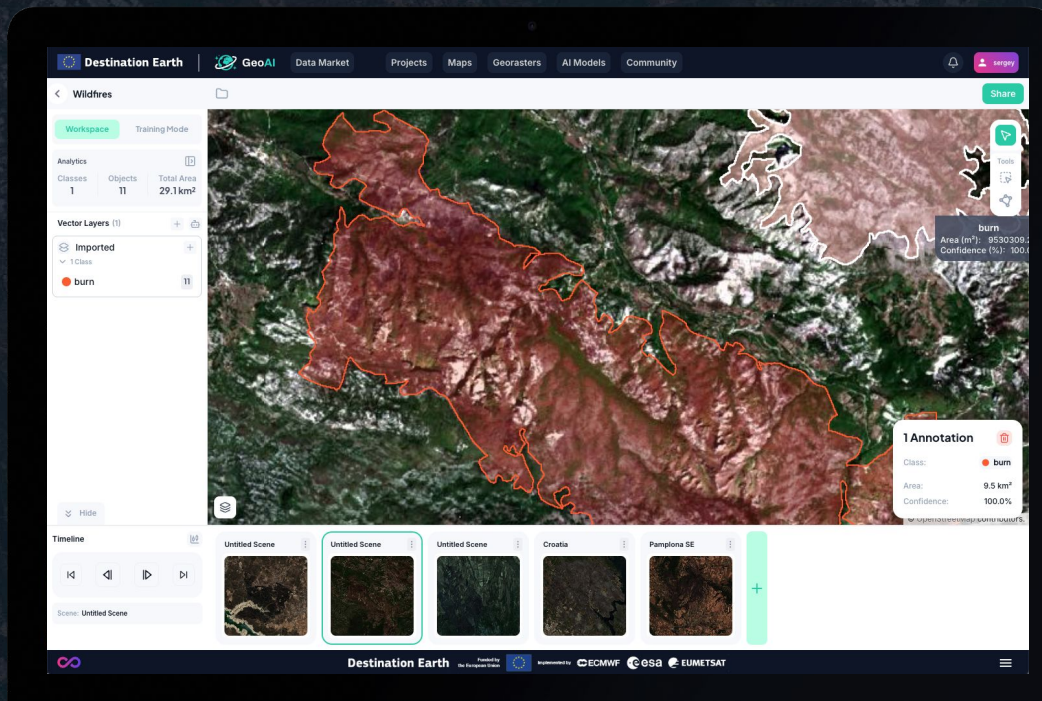
User Friendly

No GeoSpatial or AI expertise required



Cost-efficient and scalable

Up to 98.7% time reduction



Simple Workflow

4

Simple steps for Instead
of weeks/months of work
and inflated budgets

1



Upload/Connect to EO data

2



Select/Create **AI Model** for your custom task

3



Apply **AI Model** one-time or continuously

4



Get Insights, Decide and Act

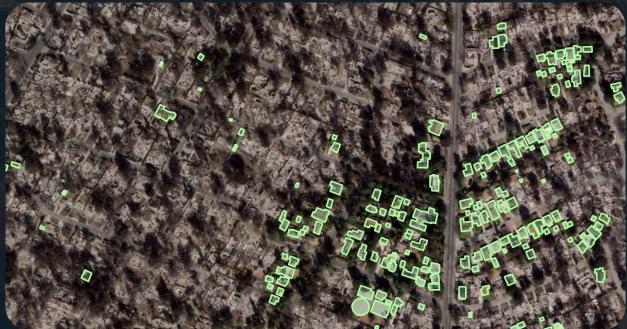
Applications Our Customers Enable



Smart Cities



Disaster Response



Insurance



Energy



Use Cases



Case 1: Early detection of refugee camps

What we know now:

- Location: Ituri province, Democratic Republic of Congo, on a remote hilltop
- Population: Tens of thousands of people, including children and families
- Challenges: Limited access to essential services like water, sanitation, and healthcare
 - Timely locating and providing support is crucial



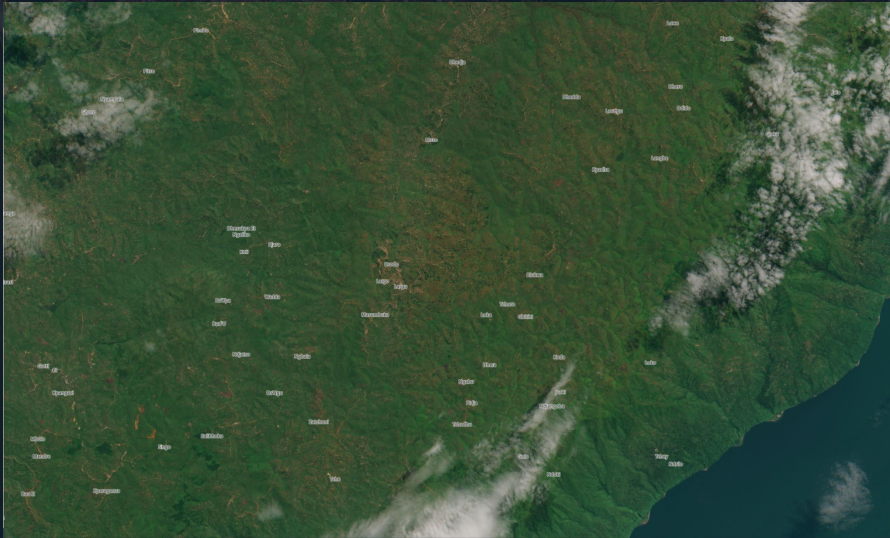
Technical challenges to address:

- Early detection of such camps
- Global coverage (ideally)
 - Low costs of analysis
- Estimation of population
- Camp details
 - Building footprints
 - Roads

Can you tell the difference?

- Sentinel 2, ESA Mission (Copernicus program)
- Global Coverage
- Free Usage

Timestamp 1



Timestamp 2



Urban Footprint Model

- GeoAI model trained to recognize urban areas
- Applied to Sentinel 2 images
- Goal: see how the footprint changes over time (rapid change)

Timestamp 1



Timestamp 2



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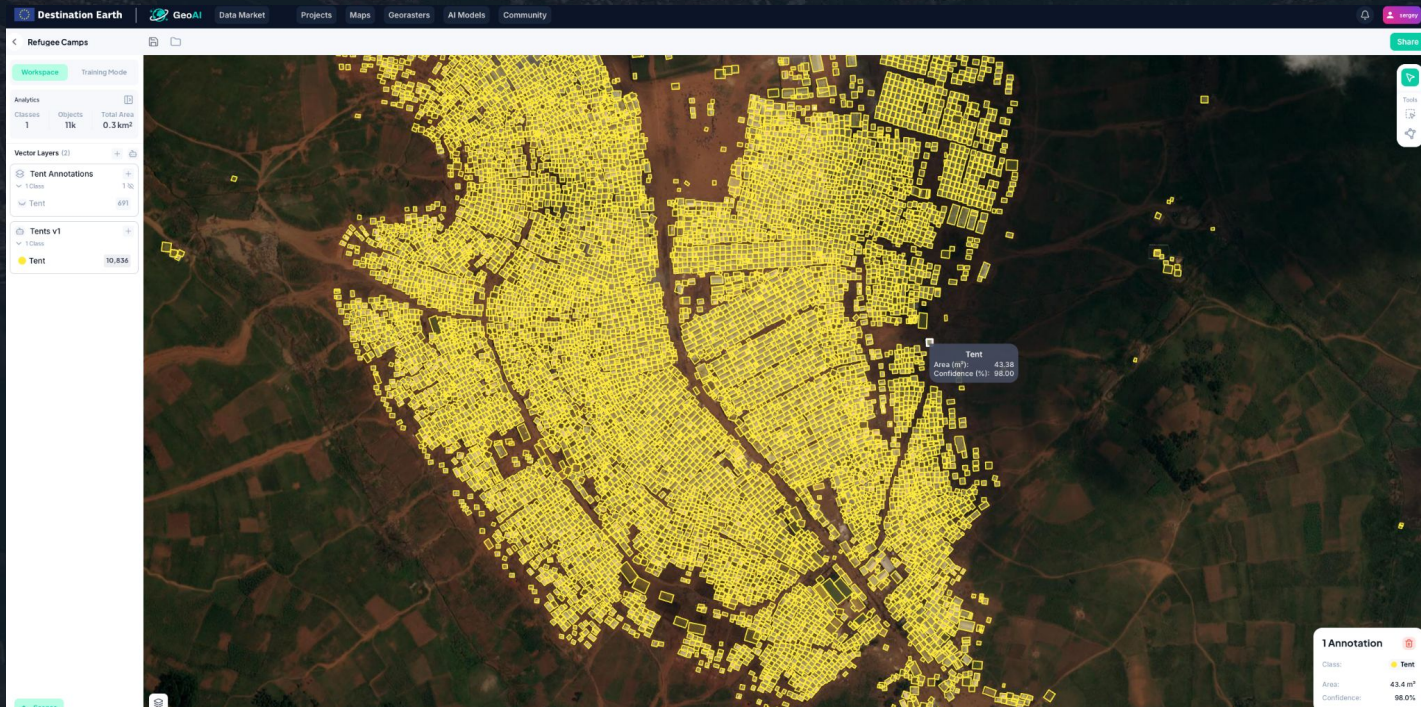
High resolution image

- Commercial satellites / Aerial platforms / Drones
- Might be costly but high resolution brings benefits
 - We can measure / count



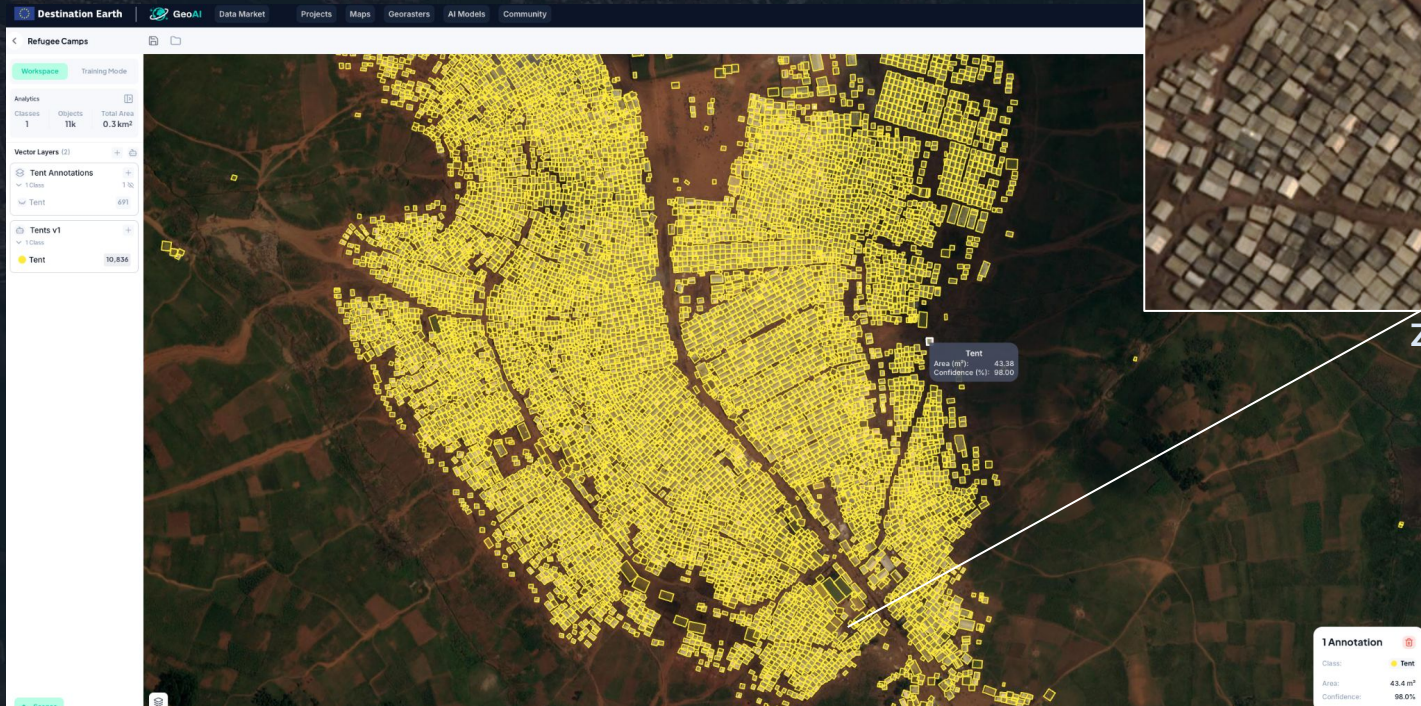
Structure Detection Model

- Get structure footprints
- Allows to get the area and dimensions



Structure Detection Model

- Get structure footprints
- Allows to get the area and dimensions



Case 2: Extreme events damage assessment: wildfires



Challenge

- Wildfires are becoming more frequent, intense, and destructive
- Lack of access to continuous, automated post-event analysis
- Target groups:
 - Public Sector & Government Agencies
 - Insurance & Reinsurance Companies
 - NGOs & International Organizations
 - Forestry & Land Management Firms
 - Climate Research Institutions & Think Tanks

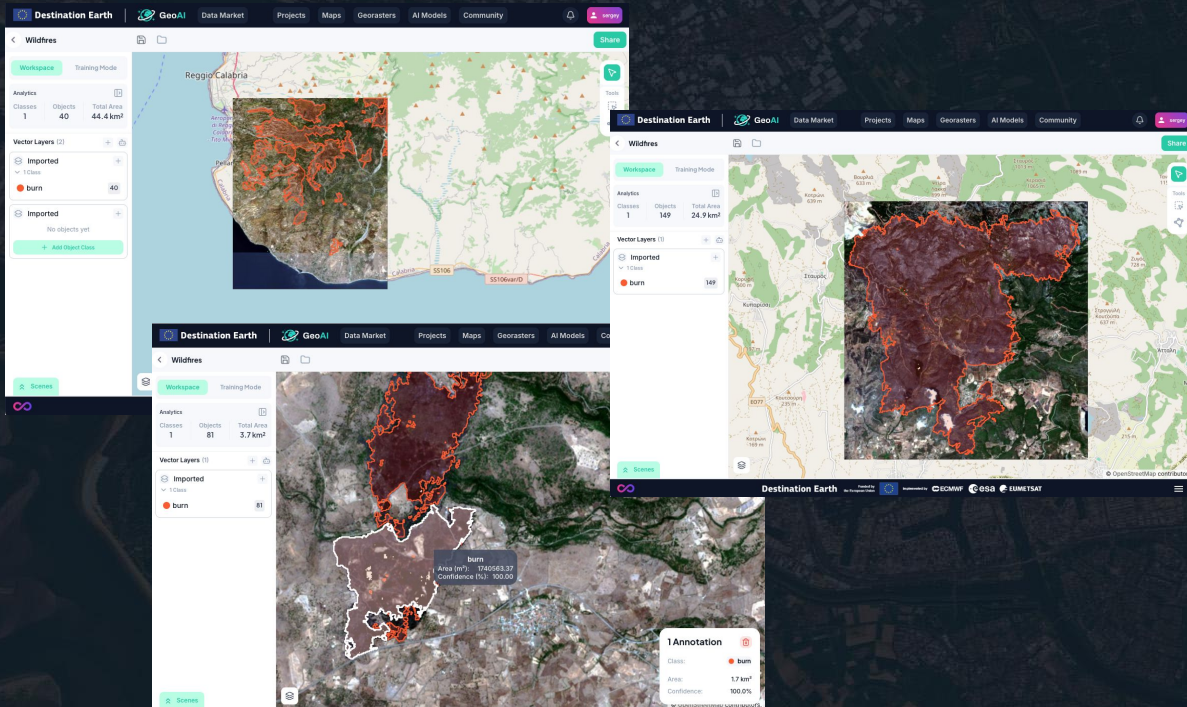


Technical challenges to address:

- Locate wildfires areas
- Global coverage (ideally)
 - Low costs of analysis
- Estimation of total area
 - Destroyed land type

GeoAI Workflow

Provide examples of burnt areas so that AI can “learn” what it means and how it looks

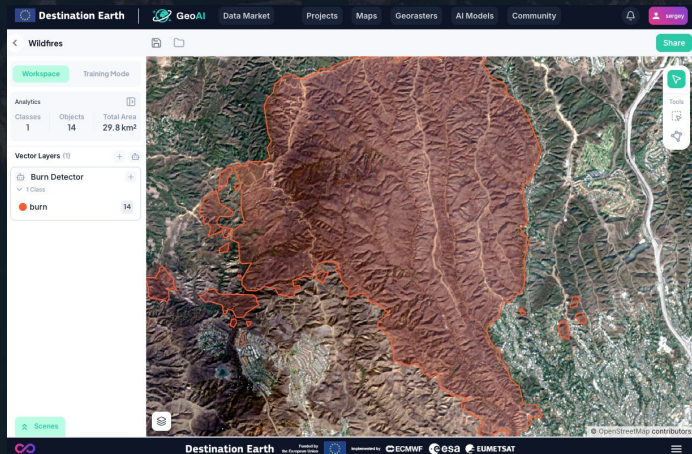


AI Model

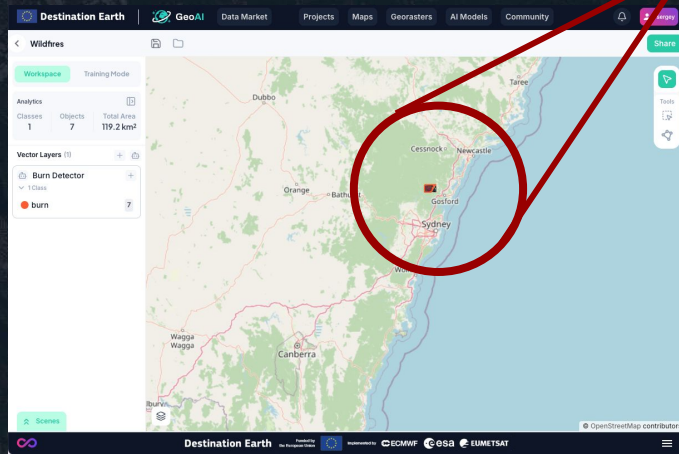
GeoAI Workflow

Apply the model on new data

Recent LA fires



Largest Australian Fire in 2020



We plan to make burned areas detection model available for DestinE users

Thank you!

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