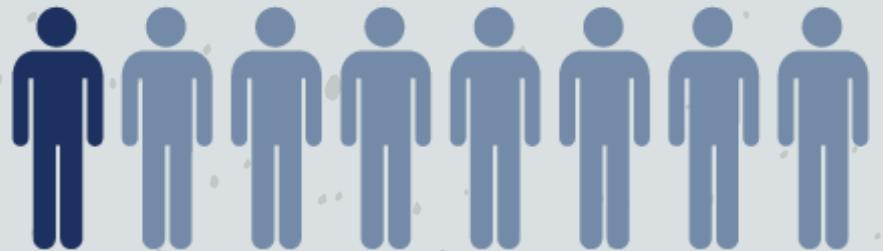


# "AIternativity" Artificial intelligence for Alternative energy

THE EARTH NEEDS US TO CHANGE



# Problematics



**1 OUT  
OF 8**

people in the world  
**do not have access to**  
electricity

**Number**

**1**

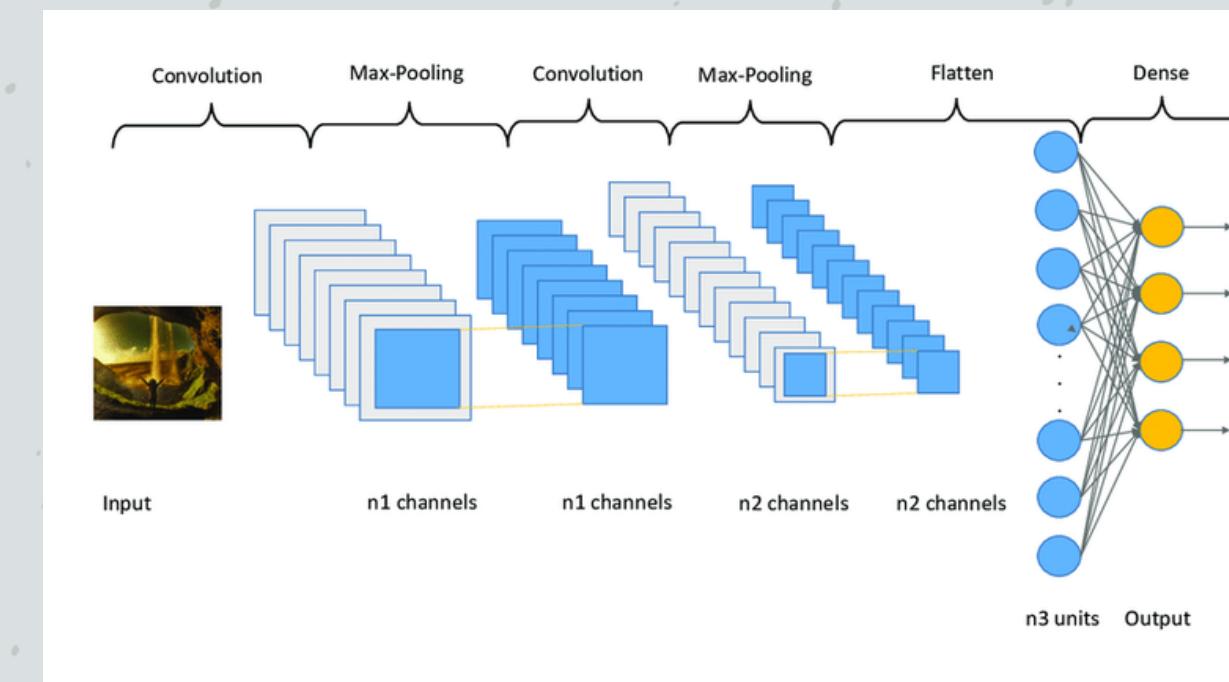
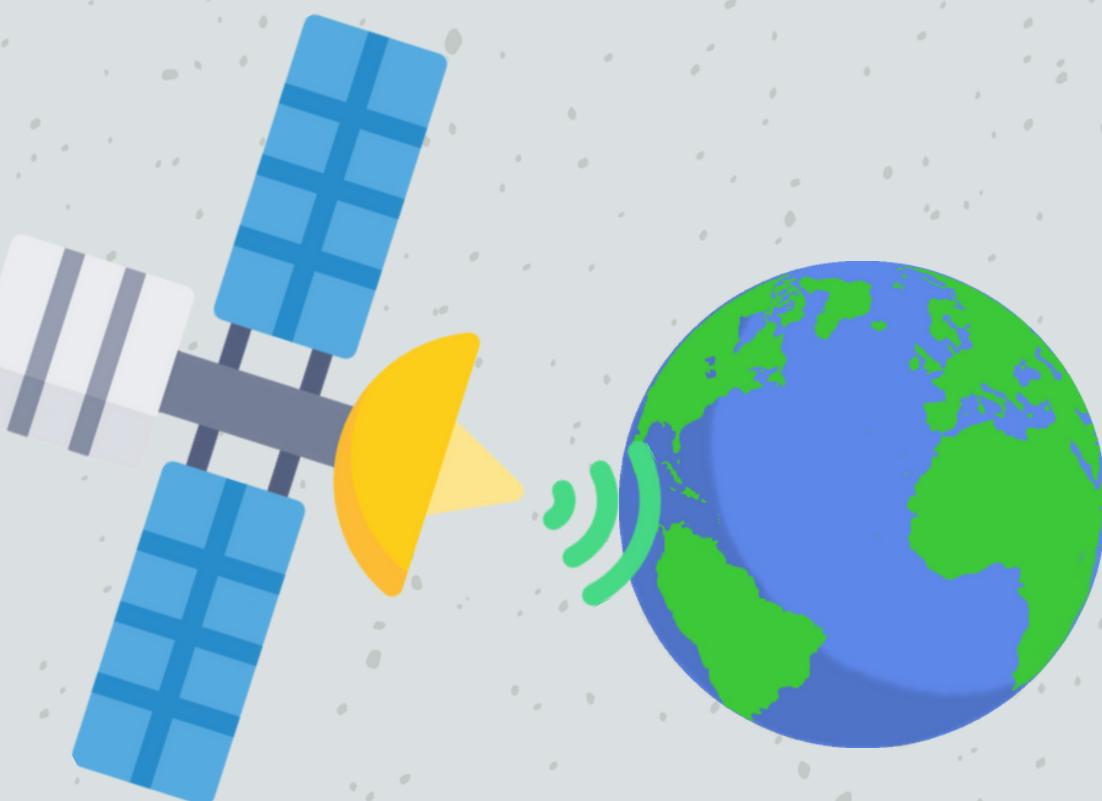
reason for climate  
change is **fossil fuel**  
**burning**

A **complete shift** to alternative energy sources will **save over**  
**250,000 lives** by 2050.

# Solution



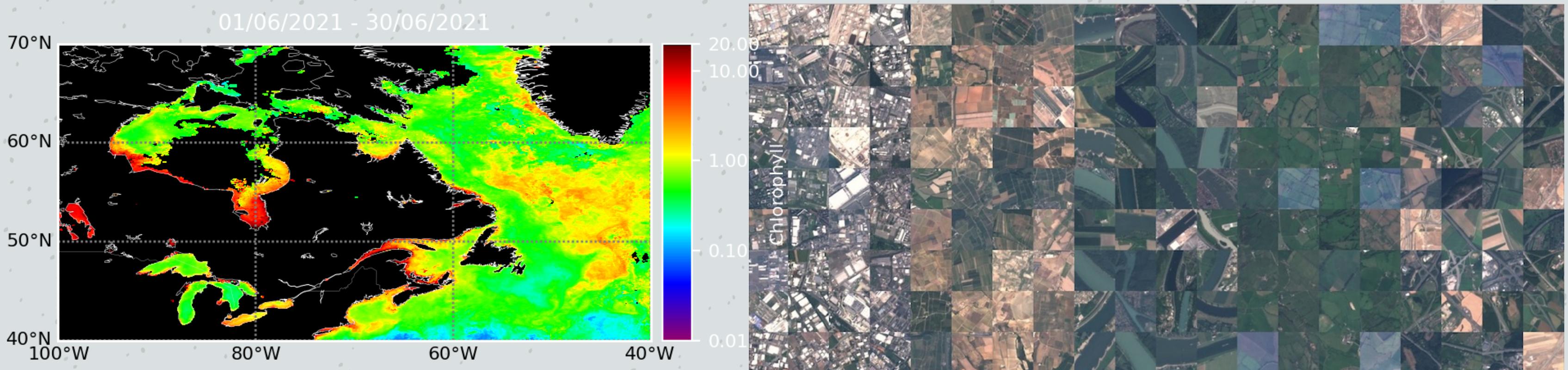
**AIternativity is a dynamic AI-based software that classifies the landscape using satellite imagery and evaluates renewable energy potential in selected areas.**



# Data usage



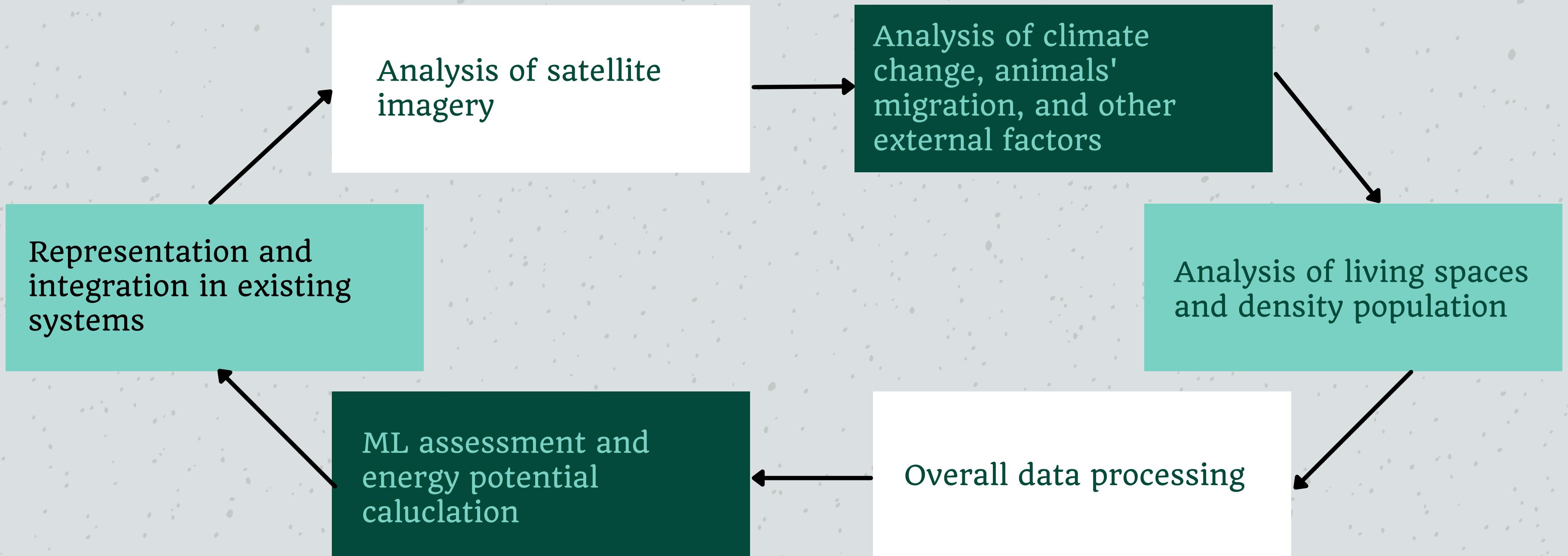
1. **Eurosat** is a dataset for land use and land cover classification, based on Sentinel-2 satellite with in total 27,000 labeled and geo-referenced images.
2. **Basemap** is a extension to Matplotlib library for plotting 2D data on maps that enables the to plot geographical data on a map and add various map features.



# Deploy scheme



AIternativity  
AI for Earth



# Machine Learning model

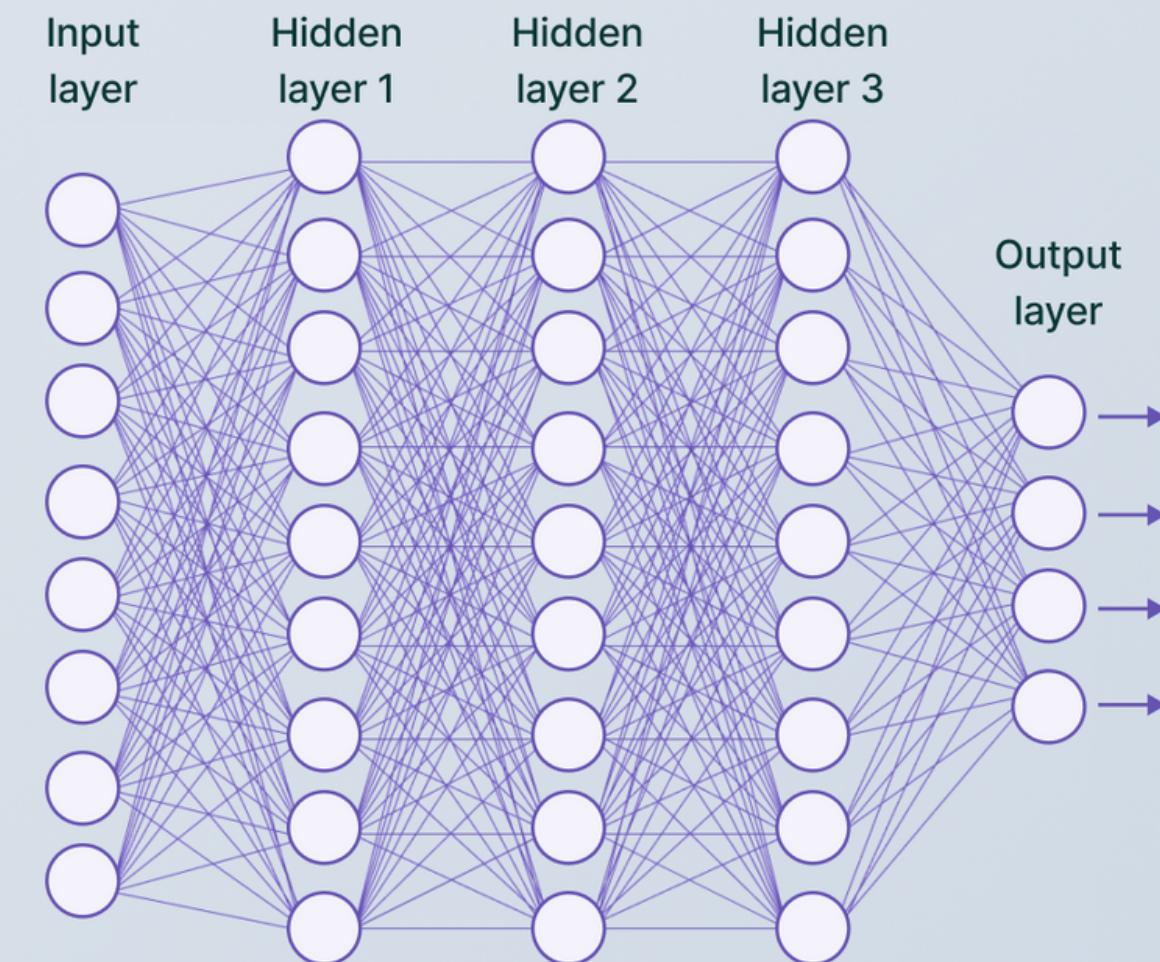


```
learn = cnn_learner(data, models.resnet50, metrics=error_rate)
```

```
lr = 3.63E-03
learn.fit_one_cycle(6, slice(lr))
learn.lr_find()
learn.recorder.plot()
```

Total time: 39:03

epoch	train_loss	valid_loss	error_rate	time
0	0.332222	0.173543	0.057778	06:35
1	0.193767	0.105599	0.036296	06:29
2	0.145421	0.090552	0.030185	06:29
3	0.121932	0.072717	0.023519	06:29
4	0.095987	0.060132	0.019444	06:29
5	0.082530	0.058717	0.018889	06:29



# Results



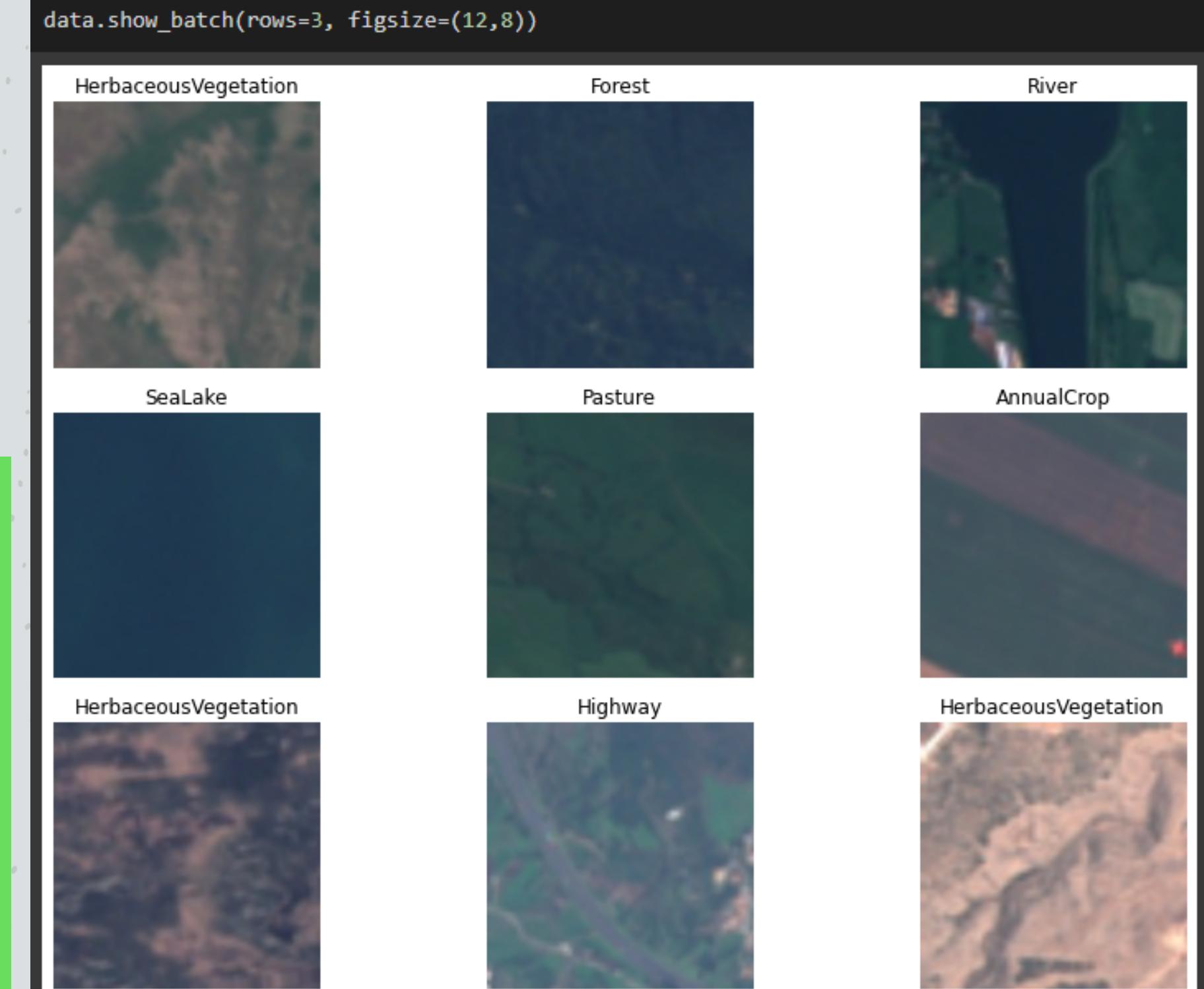
Imagery evaluation

A large satellite image showing a mix of green vegetation and brownish soil or water bodies.

LANDSCAPE TYPE	PLAIN
ACCURACY	98,6%
POTENTIAL	HIGH

[CALCULATIONS](#)

[HOME](#)



# Business model



## Subscription-based plan for commercial and non-profit organizations

### Cost of implementation:

- Targeted advertising = \$20,000/year
- App support, upgrades = \$18,000/year
- Servers = \$2,000

Total: ~\$40 000

### Sources of income

- Government/non-profit subscription - \$1000/month (\$12000/year)
- Commercial Subscription - \$5,000/month (\$60,000/year)

Total: ~\$72 000

# Current contract agreements



Alternativity  
AJ for Earth



# IMPACT & UNIQUENESS

The project has **no** existing analogues.

## BEFORE

- Energy consumption is based on oil sources that are **not sustainable** or electric energy is **too expensive**
- Not all people have access to electric energy

## AFTER

- Identified the most effective energy source for their region
  - Spend money efficiently
  - Got cheap and affordable energy

**Thank you for your attention!**