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# Scaling-Up Innovations for Solution Enablement

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# AI dominated the agenda in Davos





# Orienting business towards scalable innovations



Transformative  
Partnerships

Competitive  
Open Data  
Initiatives



# Finding where people live ... to connect them



Naivasha, Kenya population density



# SpaceNet: open-data initiative for image analysis



Inspired by  
ImageNet,  
enable  
innovation in  
machine learning  
for geospatial  
data



# SpaceNet: two-fold approach



## Open Data

Very high  
resolution  
satellite imagery  
+ labeled training  
data

## Competitions

Public  
challenges  
against remote  
sensing analysis  
problems



# SpaceNet: initial data set



## Rio de Janeiro, Brazil

50cm WV-2 mosaic

8-band MSI

1,900 km<sup>2</sup>

220,594 building  
footprints (252 km<sup>2</sup>)

## Extracting building footprints

3-week period

42 developers

242 solutions

5 winners

\$35,000 award



# SpaceNet: upcoming public data releases



## More Satellite Imagery

### Imagery for Additional Cities



Las Vegas,  
Nevada



Khartoum,  
Sudan



Shanghai,  
China

Imagery: 30cm WV-3 imagery + 8-band MSI  
Building Footprints: 300,000+

## Point of Interest Data

### Potential Points of Interest Such As



Utility  
Locations



Agriculture  
Fields



Infrastructure  
Development

Provided for Rio de Janeiro, Brazil

# SpaceNet: data available today



Menu

aws.amazon.com

Products • Solutions • Pricing • Software • Support • Customers • Partners • Ecosystem • Storage • Public Sector

Sign in • My Account • Create an AWS Account

Resources

Large Datasets Repository (Public)

Datasets with AWS

HR 985 Pings on AWS

Common Crawl on AWS

Amazon S3 Image Dataset

**SpaceNet on AWS**

HydP on AWS

Texas Tree on AWS

BBOD on AWS

GOGLT on AWS

Sentinel-2 on AWS

Open Data on AWS

Get Started for Free

Create Free Account

## SpaceNet on AWS

SpecialNet is a corpus of commercial satellite imagery and labeled training data being made available at no cost to the public to foster innovation in the development of computer vision algorithms to automatically extract information from remote sensing data.

The current SpecialNet corpus includes approximately 1,900 square kilometers full-resolution 50 cm imagery collected from DigitalGlobe's WorldView-2 commercial satellite and includes 8-band multispectral data. The dataset also includes 220,594 building footprints derived from this imagery which can be used as training data for machine learning. This dataset is being made public to advance the development of algorithms to automatically extract geometric features such as roads, building footprints, and points of interest using satellite imagery. The first area of interest (AOI) to be released is of Rio De Janeiro, Brazil.

Note that this is an initial release of the data. Some areas of interest to be added quickly.

### Accessing the SpaceNet Data on AWS

The SpecialNet dataset is being released in several areas of interest. All AOIs are using a similar directory structure and data format. The imagery is GeoTIFF satellite imagery and corresponding GeoJSON building footprints. You can use the following AWS CLI commands to examine all the datasets in the dataset (details of the structure below).

```
aws s3 ls s3://spacenet-dataset --request-payer=requester
```

For more detailed information on how to access specific files within the dataset, see [here](#).

The spacenet-dataset S3 bucket is provided as a Requester Pays bucket; see [here](#) for more information.

#### CSV and GeoJSON Fields Description

Each AOI contains two logical directories, `srcData` and `processedData`. The `srcData` directory contains the "raw" representation of the remote data (i.e. full imagery mosaic) and vector data (i.e. vector AOI building footprints). The `processedData` directory contains data that is formatted to be consumed by machine learning algorithms (i.e. cropped to 255

### Project Updates

First Name\*

Last Name\*

Email Address\*

Phone\*

Company Name\*

Industry\*

Country\*

State\*

Postal Code\*

Level of AWS Usage\*

User Case\*

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