

LULC



Imagery

LuxCarta has applied its tuned artificial intelligence algorithms to a continuously updated supply of raw Sentinel-2 satellite imagery to create BrightEarth™ products. The company's classified imagery release is a 23-class land use/land cover (LULC) that seamlessly integrates with the 10m BrightEarth cloud-free global mosaic and DTM.



LuxCarta uses imagery provided by the European Space Agency (ESA) to produce its BrightEarth product line. The Copernicus Sentinel-2 mission uses a constellation of two polar-orbiting satellites placed in the same sun-synchronous orbit, phased at 180° to each other. Its 290 km swath width and high revisit rate makes it an ideal source for BrightEarth products and monitoring changes on the Earth's surface. This constant supply of raw imagery allows us to display seasonal change, monitor urban growth and illustrate the impact of natural/manmade disasters.

## Classification

LULC helps divide the Earth's surface into definable areas that can be queried, monitored and assessed over time. LuxCarta has developed manual processes for pulling land classifications out of raw imagery. These procedures have been automated using artificial intelligence and applied to our 10m global mosaic, accurately dividing the world's landmass into more than 20 categories.

## Supported Industries



Defense and Homeland Security



Environment



Utilities



Entertainment and Media



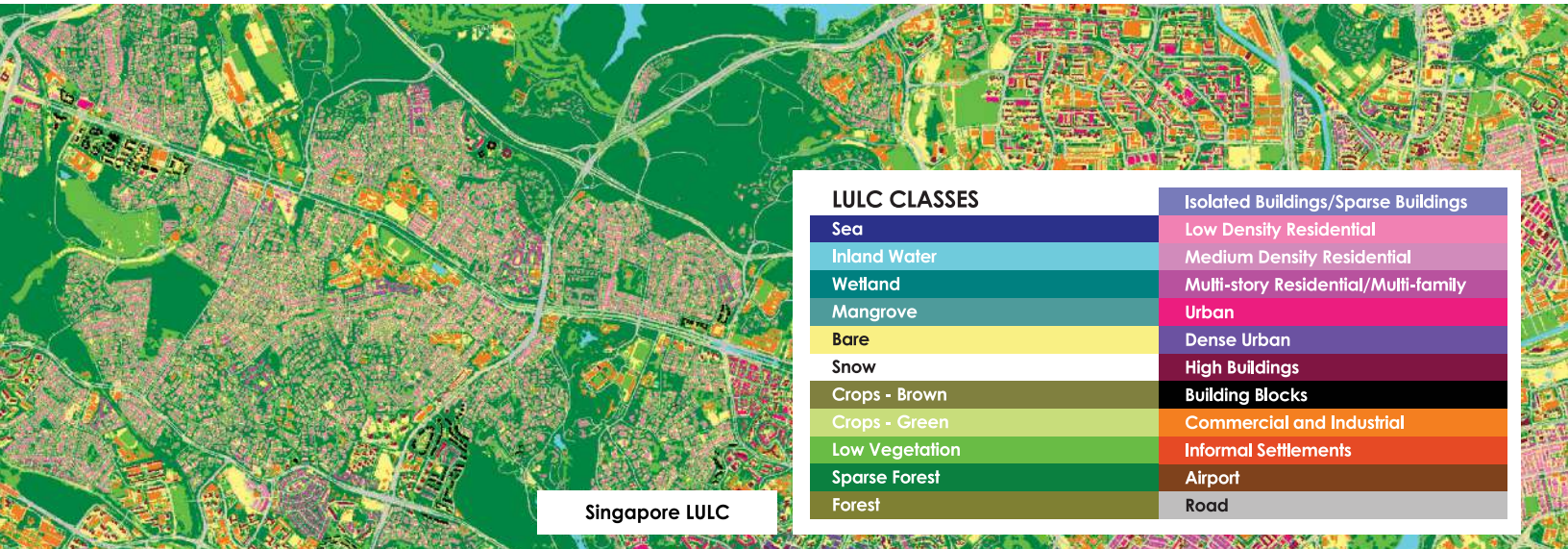
Flight Simulation



Mining

And more....





Singapore LULC

LULC CLASSES	
Sea	Isolated Buildings/Sparse Buildings
Inland Water	Low Density Residential
Wetland	Medium Density Residential
Mangrove	Multi-story Residential/Multi-family
Bare	Urban
Snow	Dense Urban
Crops - Brown	High Buildings
Crops - Green	Building Blocks
Low Vegetation	Commercial and Industrial
Sparse Forest	Informal Settlements
Forest	Airport
	Road

## Why BrightEarth?

- 10m global land use/land cover
- Seamless integration between the BrightEarth global mosaic, LULC and DTM
- Accurate and consistent global classification
- Leading LULC class segmentation
- Continuous updates
- Created in the cloud; delivered via the cloud
- Ease of use - download only the area you require

### Licensing

- Public sector, enterprise or integrator
- Per AOI, region or the whole earth

## Product Specifications

- Format: 16-bit, GeoTIFF, JPEG2000, ECW; other formats available
- Streaming: to integrated applications via XYZ Tiles protocol
- Projection: Geodetic\*
- Datum: WGS84
- Resolution: 10m spatial resolution
- Absolute positional accuracy: sub pixel\*\*
- Imagery source: Sentinel-2
- Vintage: Current year with possible older imagery

\*Only projection supported through online delivery; UTM and other coordinate systems available upon request

\*\*Absolute positional accuracy of 5-8m (CE90)

## Just the Beginning

The BrightEarth 23-class LULC is our current product offering. LuxCarta's R&D is dedicated to automating existing classification techniques and introducing more categories to this BrightEarth product.

## About BrightEarth

BrightEarth is LuxCarta's product line created using AI-enhanced production techniques. BrightEarth web services offer high-resolution building, road and tree extraction, 23-class land use/land cover (LULC) and digital terrain model (DTM) creation using a variety of imagery sources in real time. It also incorporates a seamless cloud-free global mosaic, 23-class LULC as well as time-of-day population maps derived from Sentinel-2 imagery at 10m, updated at regular intervals. These innovative products — based on more than 30 years of geospatial and remote sensing expertise — are ready for immediate download or accessible via APIs in support of a system-level integration. There is no place in the world that LuxCarta can't illuminate with BrightEarth.

### For more information:

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or visit [www.luxcarta.com](http://www.luxcarta.com)

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