



LuxCarta has applied its tuned artificial intelligence algorithms on a continuously updated supply of raw Sentinel-2 satellite imagery to create BrightEarth™ imagery products. The initial release is a global mosaic, a seamless cloud-free* 10-meter resolution image of the entire Earth in bright and natural color. The imagery mosaic can be provided as files (e.g., GeoTIFFs), streamed to integrated applications via XYZ Tiles protocol or rendered with BrightEarth DTM as CDB.

*Estimated at 99.8% cloud free



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 LuxCarta's dynamic BrightEarth products and monitoring changes on the Earth's surface.

BrightEarth products

are ideally suited for the following use cases:



Insurance: risk assessment, catastrophic-loss reduction, response planning for natural catastrophes



Defense and homeland security: simulation & training, mission planning/rehearsal



Environment: monitoring, planning, and management; floods, forest damage and water pollution



Utilities: planning and management; energy transmission, telecom



Entertainment and media: scenery development for computer games, movies and news programs



Flight simulation: military and commercial aviation training



Mining: environmental impact assessments [EIA] and site remediation

And more....



Mount Taranaki, New Zealand



Bering Glacier, Alaska

Why BrightEarth?

10m global landmass availability

Ease of use - download only the area you require

Unparalleled accuracy, color balancing and realism

Scheduled updates (semi-annually)

Flexible licensing options

Data options: raw files, streaming or 3D tiles

Created in the cloud; delivered via the cloud

Licensing

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

Technical Specifications

- Format: 8-bit, GeoTIFF, JPEG2000, ECW; other formats available
- Streaming: files (i.e., GeoTIFFS, COGS, ECW, JP2) streamed to integrated applications via XYZ Tiles protocol or rendered with BrightEarth DTM as CDB
- Projection: Geodetic*
- Datum: WGS84
- Resolution: 10m spatial resolution
- Absolute positional accuracy: sub pixel**
- Imagery source: Sentinel-2
- Vintage: Current year with possible older imagery for cloud removal

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

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

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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