BrightEarth
On Premises

BrightEarth™ On Premises (BEOP) is LuxCarta's leading AI-driven solution for generating actionable geospatial data from satellite imagery – entirely behind your firewall. Designed for simple integration to secure environments, BEOP offers a robust and accurate on-site software suite, enabling users to automatically derive geospatial data from their own imagery. It excels in accurately detecting critical landscape features, including buildings, roads, trees, and walls, ensuring timely and reliable insights.

Key Features

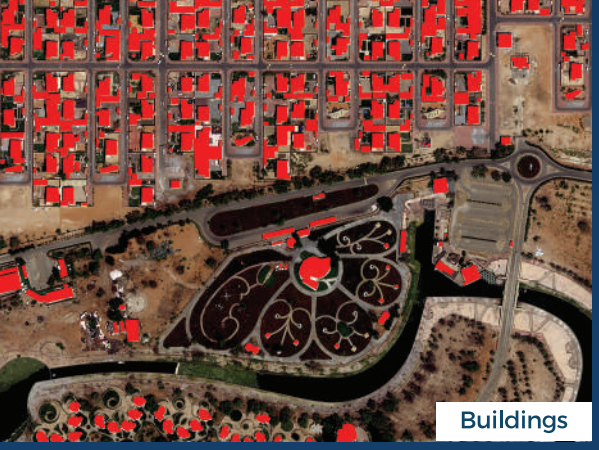
AI-driven Feature Detection
Automatically detect and vectorize key landscape features – such as buildings, roads, trees, and walls – with exceptional accuracy. Achieve over 90% precision using cutting-edge AI algorithms trained on high-resolution satellite imagery (30cm and 50cm)

Comprehensive Landscape Analysis
Extract detailed semantic attributes, including building heights, roof shapes and colors, as well as tree heights and colors. Generate high-quality 3D geospatial outputs to seamlessly integrate into your applications

Customizable Models
Fine-tune detection models to align with your specific imagery and ground truth data, ensuring improved accuracy and adaptability for similar environments

Scalable & Secure Onsite Deployment
Deploy effortlessly within your internal infrastructure, maintaining complete control over data privacy, security, and licensing – all within your secure network

Easily export your data in the popular shapefile format, with the option to convert it into many vector formats, ensuring seamless compatibility with your existing tools and workflows.


Buildings


Vegetation


Roads


Walls

Roof Types

Recommended Configuration

Hardware
Intel Core i7 with 12 cores, 32GB RAM, Nvidia RTX 2080Ti GPU (12GB VRAM)

Software
Supports Ubuntu 22.04+, CUDA 12.x, and GDAL library compatibility

Imagery Requirements
Optimized for nadir satellite images at 30-50cm resolution

BrightEarth on Premises – At a Glance

Feature	Description
GUI	Command Line
Building footprints	2D footprints
Buildings	3D building polygons (footprints with height value)
Tree footprints	Trees as points or 2D canopy contours
Tree polygons	3D points or canopy contours
Variable height options for 3D data	Shadow detection (monoimagery) and advanced photogrammetry (stereoimagery)
Walls*	Unfinished buildings or fence structures
Hedges*	Ground cover/low vegetation
Roads	Optimized OSM roads to imagery via AI
Roads (New)	Full AI-extraction (deep learning)

*Items needs to be a minimum 30cm-1m in size to be captured

Looking to improve the speed and accuracy of your derived geospatial data?
Contact us today for a personalized demo: sales@brightearth.com I www.brightearth.ai

LuxCarta

BrightEarth is powered by LuxCarta, one of the world's leading map data companies.

BrightEarth is LuxCarta's platform that utilizes AI-enhanced production techniques to generate high-resolution geospatial data including 3D buildings and vegetation, as well as roads, 18-class land use/land cover (LULC) and digital terrain models (DTM) from a variety of imagery sources. BrightEarth products are made available through a cloud version "On Demand," a software version for use on private networks "On Premises" as well as directly from LuxCarta "Production Services." These innovative products — based on more than 30 years of geospatial and remote sensing expertise — are ready for immediate download in a variety of standardized data formats or as 3D tiles.

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