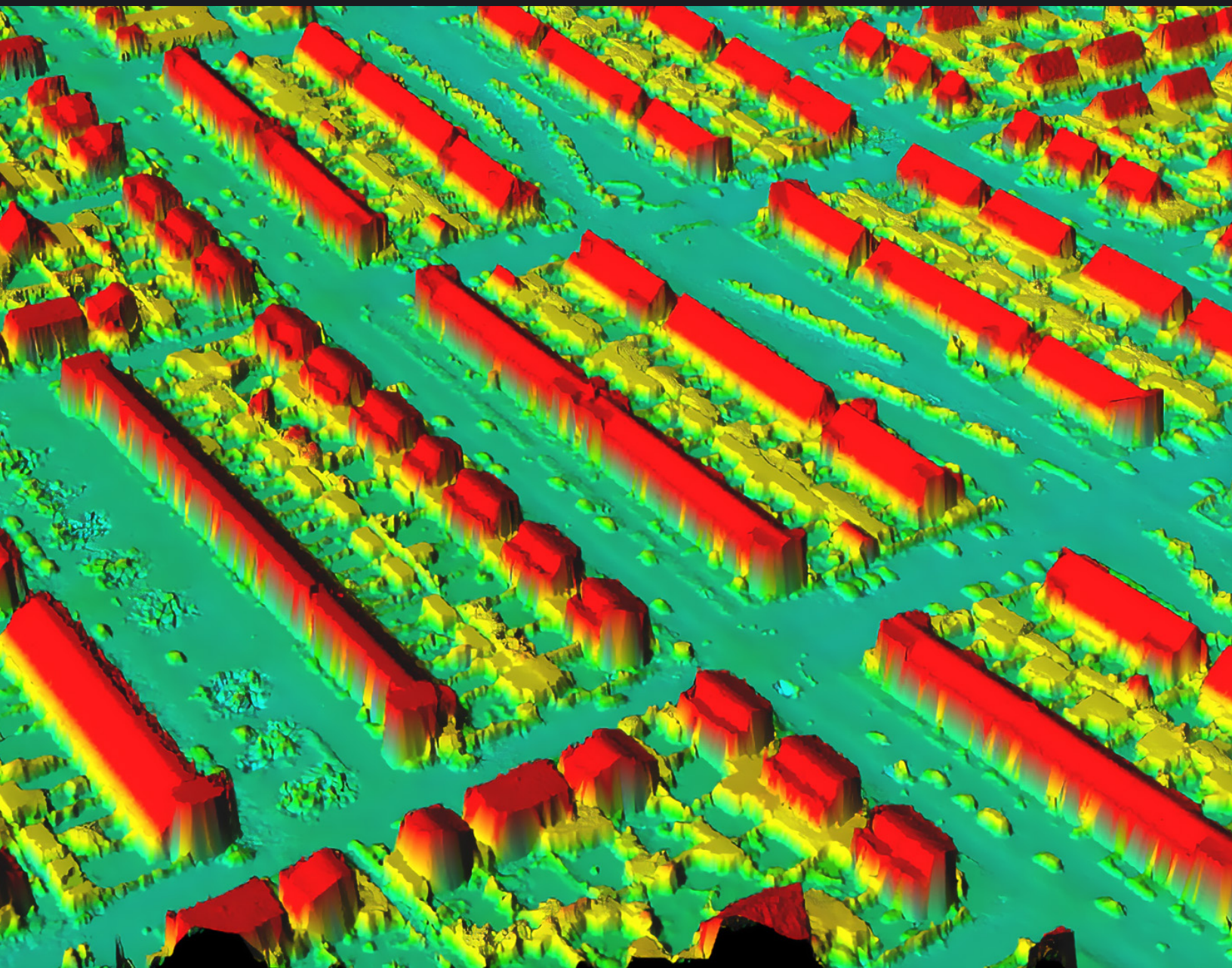
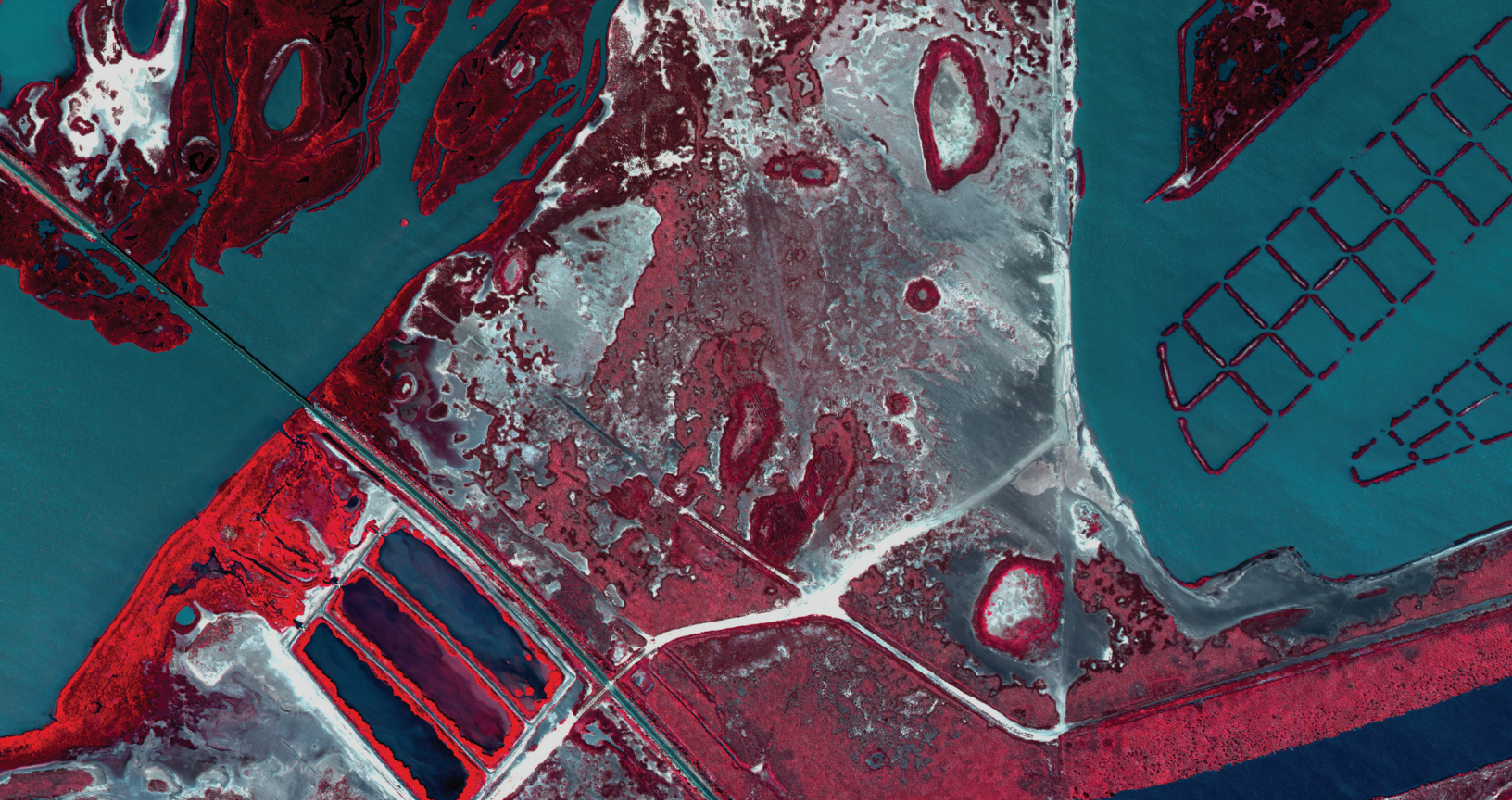
OCTAVE

BROCHURE

Creating accurate representations of Earth from remotely sensed data

Photogrammetry





Transform imagery from a pretty picture to a highly accurate information source

Photogrammetry is the art, science and technology of connecting imagery to accurate locations on the Earth's surface and creating accurate representations of the Earth from remotely sensed data. Whether it be for large, statewide mapping missions, high-resolution imagery of a single 20-hectare project or a highly accurate feature extraction, Octave has the correct fit for your photogrammetry needs.

Because requirements vary depending on project type, offerings are divided into three product categories: production, project and stereo photogrammetry.

Production photogrammetry

Production photogrammetry products are engineered to rapidly process massive volumes of incoming spatial data and to create or update large spatial databases. Designed to streamline the workflows of commercial and government photogrammetry and production mapping customers, these products facilitate the timely and accurate delivery of immense quantities of data.

Octave ImageStation

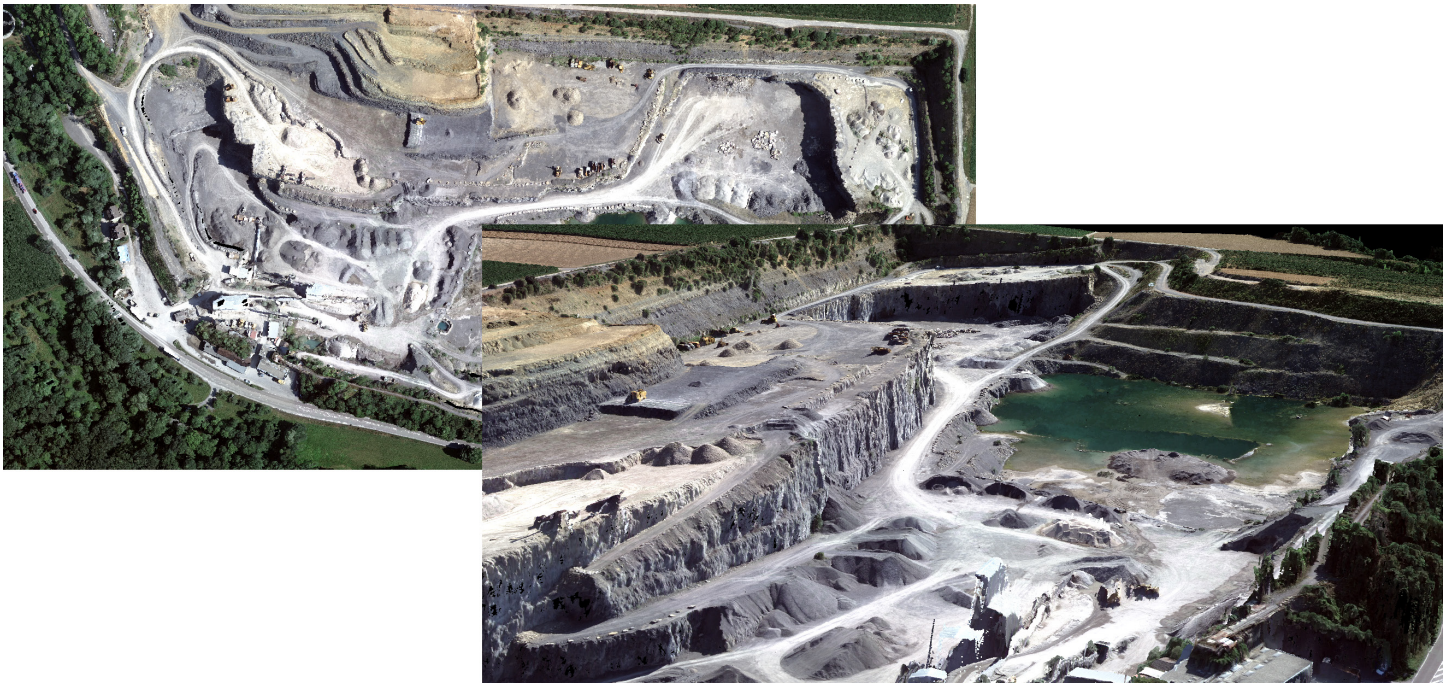
Designed from the ground up for high-volume photogrammetry and production mapping customers, Octave ImageStation (formerly ImageStation) streamlines and automates processes while still supporting the most comprehensive photogrammetric workflow on the market. It is a photogrammetry factory, efficiently and powerfully moving large quantities of raw spatial information to an actionable and exploitable format.

Simplified project creation gets your projects up and running quickly. Early verification of orientation and triangulation quality means less labor lost trying to fix problems. GIS- and computer-aided design (CAD)-based 3D feature collection and editing save time by working directly in your native database.

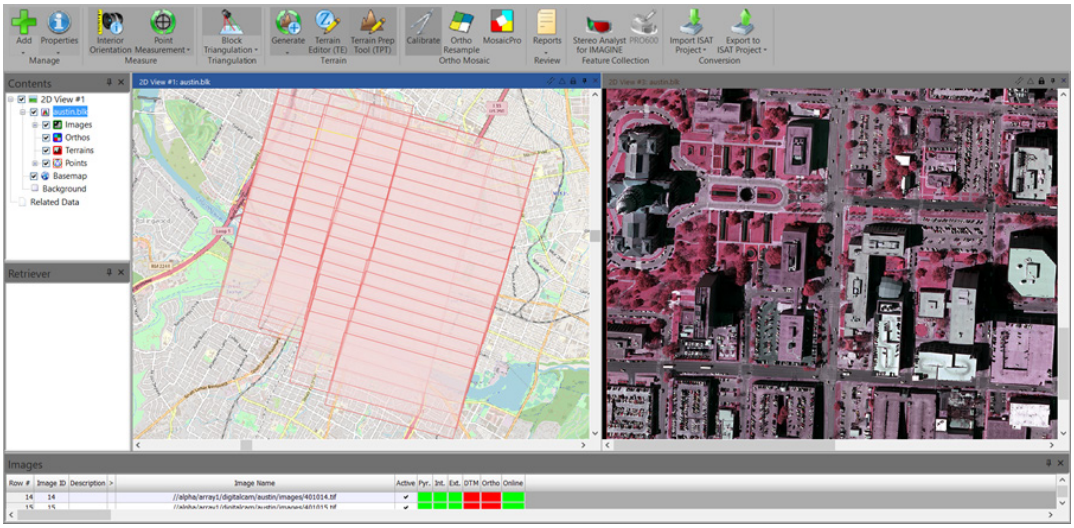
Digital terrain model (DTM) collection and editing ensure the accuracy of your elevation data with a few simple validation steps. Dense matching with the semi-global matching (SGM) algorithm creates highly dense, highly accurate point clouds from your imagery, eliminating the need for more expensive data collection flights.

Streamlined, multiuser orthophoto and mosaic production using aerial and satellite imagery puts the power of state-of-the-art technology to work to create planimetrically accurate and aesthetically pleasing orthophotos.

ImageStation within the Octave GeoMedia (formerly GeoMedia) context facilitates the creation of continuous, topologically accurate and attributed map layers stored in a variety of open formats. This integration further enhances the process of creating and/or updating your GIS through the use of photogrammetric techniques that directly store your data as an asset within a corporate database. ImageStation is offered in components, allowing you to customize your solution to meet your exact specifications.



Top-down and iso views of point cloud created using SGM correlation from 10 cm GSD DMC imagery in ImageStation



The Octave Imagine Photogrammetry workspace includes easy to use project and layers panels and linked viewers as part of its integration with Octave Imagine.

Project photogrammetry

Project photogrammetry products are ideal for users who work with smaller quantities of raw imagery and varied types of data, such as raster, vector, GIS and LiDAR. These projects involve a wide variety of different data formats and sensors, and are generally set up as the first step of a greater processing workflow, including steps such as change detection or image classification.

Octave Photogrammetry

A fully functional photogrammetry system packaged in a user-friendly environment, Octave Imagine Photogrammetry (formerly IMAGINE Photogrammetry) provides results even for photogrammetry novices. Even though it is designed for a wide variety of users, it does not cut corners on either features or accuracy. State-of-the-art photogrammetry technology such as full analytical triangulation, digital terrain model generation, orthophoto production, mosaicking and 3D feature extraction have been included in the easy-to-use environment. By automating precision measurement and including flexible operations such as terrain editing (including stereo) and feature extraction, Imagine Photogrammetry increases productivity while ensuring high accuracy.

Tight integration with Octave Imagine (formerly ERDAS IMAGINE) means this is the ideal photogrammetric package for projects involving varied types of data and further processing and analysis of airborne and satellite imagery.

Imagine Photogrammetry offers functional add-on modules that greatly expand its already powerful central capabilities.

Octave Imagine Terrain Editor (formerly IMAGINE Terrain Editor) facilitates the visualization, verification and editing of DTMs in stereo.

With Octave Imagine DSM Extractor (formerly IMAGINE DSM Extractor), you can generate dense and highly accurate point clouds from your stereo imagery using the SGM algorithm. Using this algorithm not only creates an accurate, dense point cloud with high-definition hard edges on rooftops, but it also RGB encodes or false-color infrared (FCIR) encodes the point cloud output, combining for an image-like quality dataset. Sparse terrain data can also be generated using traditional pixel correlation techniques.

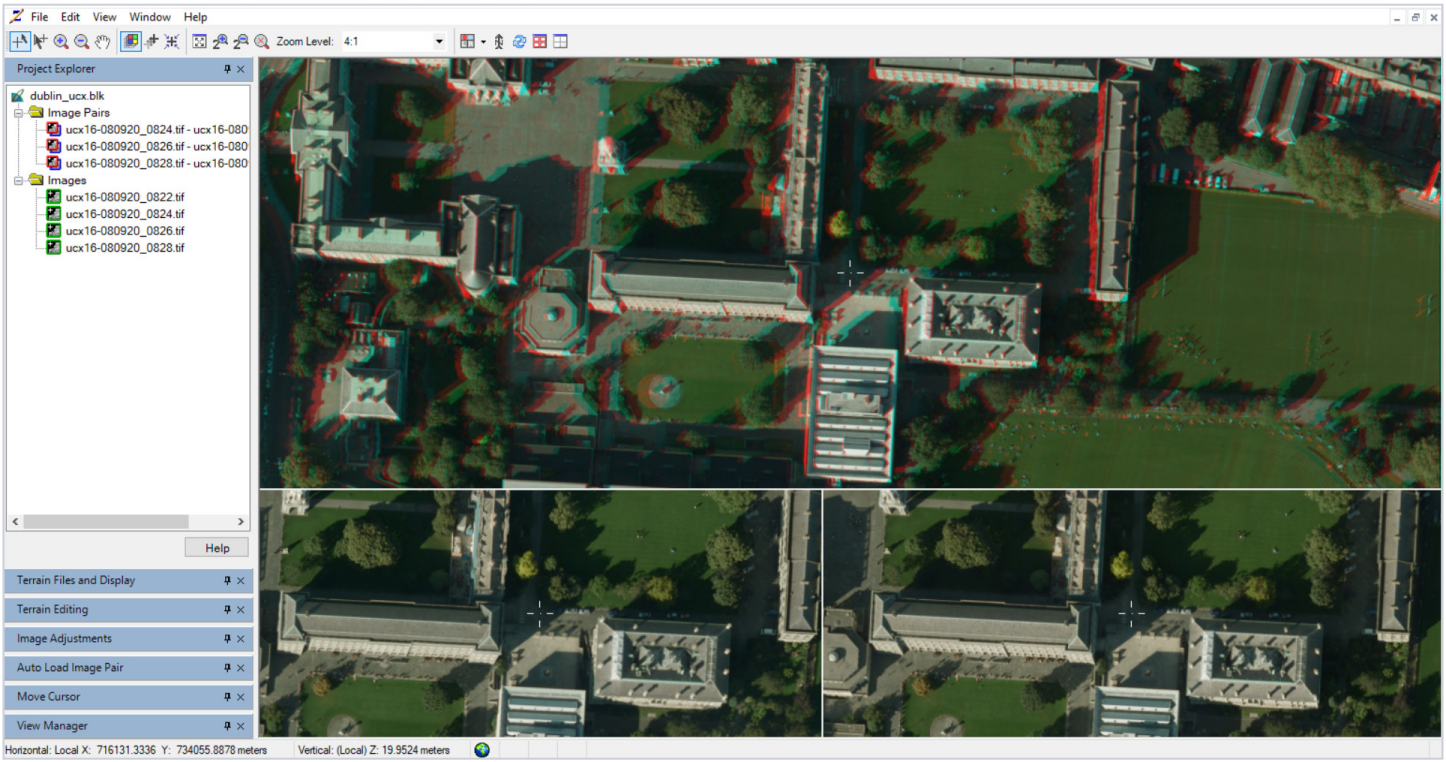
Stereo photogrammetry

If you want to work within a GIS or CAD product (GeoMedia, ArcGIS or MicroStation) to extract features or edit maps or terrain using stereo image pairs, a stereo photogrammetry product might be ideal for you.

ImageStation

ImageStation Stereo for GeoMedia enhances the feature collection capabilities of GeoMedia by providing stereo image display with on-the-fly enhancement, smooth roam and dynamic zoom with photogrammetrically accurate 3D cursor tracking and stereo vector superimposition. ImageStation DTM for GeoMedia extends ISSG's capabilities to include collection and editing of terrain data.

ImageStation Stereo Display, ImageStation Feature Collection and ImageStation DTM Collection provide stereo image and vector display, feature collection and editing and DTM collection and editing in the MicroStation environment.



Find new developments using dedicated change detection tools.

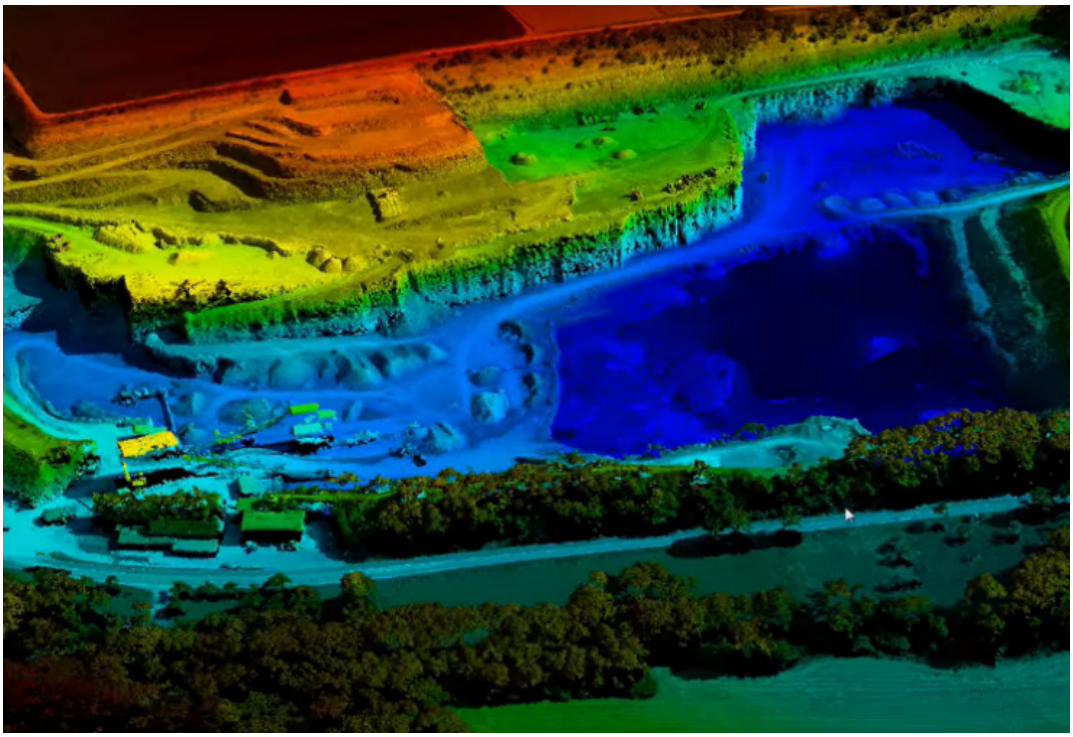
Octave Extensions for ArcGIS

Octave Extensions for ArcGIS (formerly ERDAS Extensions for ArcGIS) provide powerful stereo viewing, feature collection and terrain editing capabilities within the ArcGIS environment. Stereo Analyst for ArcGIS furnishes you with a comprehensive toolbox for creating and revising a comprehensive database of feature data. Adding stereo visualization to your GIS not only improves the interpretation of images, but it also greatly enhances the precision of feature collection, leading to greater accuracy in your resulting layers. Tightly integrated with ArcGIS, Stereo Analyst for ArcGIS enables stereo collection inside a familiar environment.

Two optional add-ons are offered that extend Stereo Analyst's functionality. Octave Terrain Editor for ArcGIS (formerly ERDAS Terrain Editor for ArcGIS) enables you to update a geodatabase terrain file. FeatureAssist for ArcGIS offers a great variety of roof structures you can collect in the Esri Multipatch format.

Pro600

Pro600 products are specially designed to optimize production-mapping organizations that use MicroStation. Pro600 CART enables 3D feature collection and editing in those environments, while Pro600 DTM provides a variety of tools for terrain modeling. Both Pro600 products use technology including stereo viewing from Octave's Imagine Photogrammetry product line, allowing CAD and GIS users to benefit from the robust, high-throughput capabilities trusted by mapping professionals worldwide.



Extract 3D point clouds with Imagine DSM Extractor.

Product and interaction

Open or create your photogrammetry project directly in Imagine with the Imagine Photogrammetry suite.

Raster backdrops based on the ultra-fast ECWP streaming protocol can be directly consumed in Imagine and Imagine Photogrammetry.

ImageStation projects can be directly consumed in GeoMedia for ortho creation and mosaicking.

Work directly on photogrammetry projects in GeoMedia with ImageStation Stereo for GeoMedia, ImageStation DTM for GeoMedia, ImageStation OrthoPro and ImageStation PixelQue.

Use Stereo Analyst for ArcGIS to work directly inside your ArcGIS environment and collect models in a 2D/3D stereo viewer.

Raster backdrops can be streamed by Octave Alto Data Management (formerly ERDAS APOLLO) using the ultra-fast ECWP streaming protocol.

Pro600 uses our fully integrated stereo viewer inside MicroStation products, supporting 2D/3D viewing and DGN feature collection.

A product for every user

Octave offers a full range of photogrammetry products that afford ideal solutions for every type of photogrammetry customer. Whether your photogrammetric workflow involves rapid processing of large quantities of imagery, getting imagery ready for specific projects or working within a separate GIS or CAD product, Octave has a product geared to meet your requirements.

All products in the lineup are backed by Octave's extensive background in remote sensing and photogrammetry and a proven track record of incorporating customer experience into product improvements. Combining this rich history and a laser-like focus on accuracy and high throughput, Octave's photogrammetry products ensure top-notch results for any workflow.

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.