

What's New in Carmenta Engine 5.9

The new version of Carmenta Engine provides the ability to perform real time line of sight calculations in detailed 3D city environments. It also makes it easy to present large point data sets as heatmaps.

Other improvements include a new, modern look-and-feel for the developer tools included in the SDK and many improvements to the API documentation.

For a full list of features and improvements in this release, please refer to the release notes that are included in the installation packages.

Line of Sight Analysis in Detailed 3D City Environments

The Carmenta Engine Visibility Analysis Extension has been extended with a component that performs real time line of sight calculations in detailed 3D city environments.

Unlike a traditional DEM-based line of sight analysis, this calculation e.g. makes it possible to discover that a vehicle is visible through an archway. It can also determine that an observer only sees the top three floors of a building.

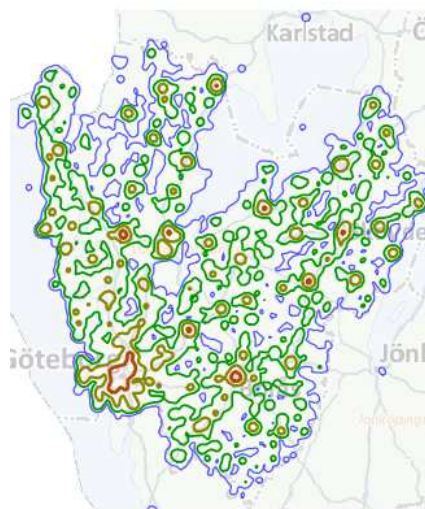
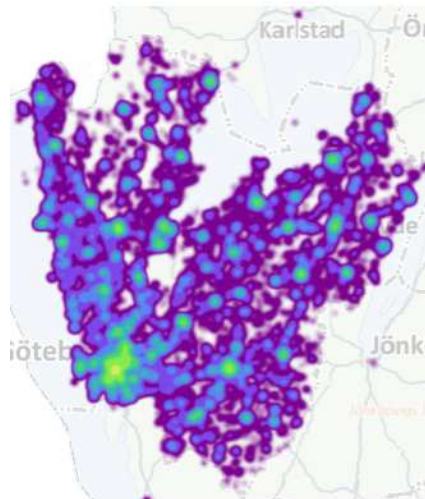


A screenshot from the new 3D line of sight sample in Carmenta Engine 5.9.

Dynamic Heatmap Presentations

The new DensityDataSet component can be used to quickly calculate the density of large point feature sets.

The point density can be used directly to create heatmap presentations. It can also be used as inputs to other Carmenta Engine operators such as the contour line generation.

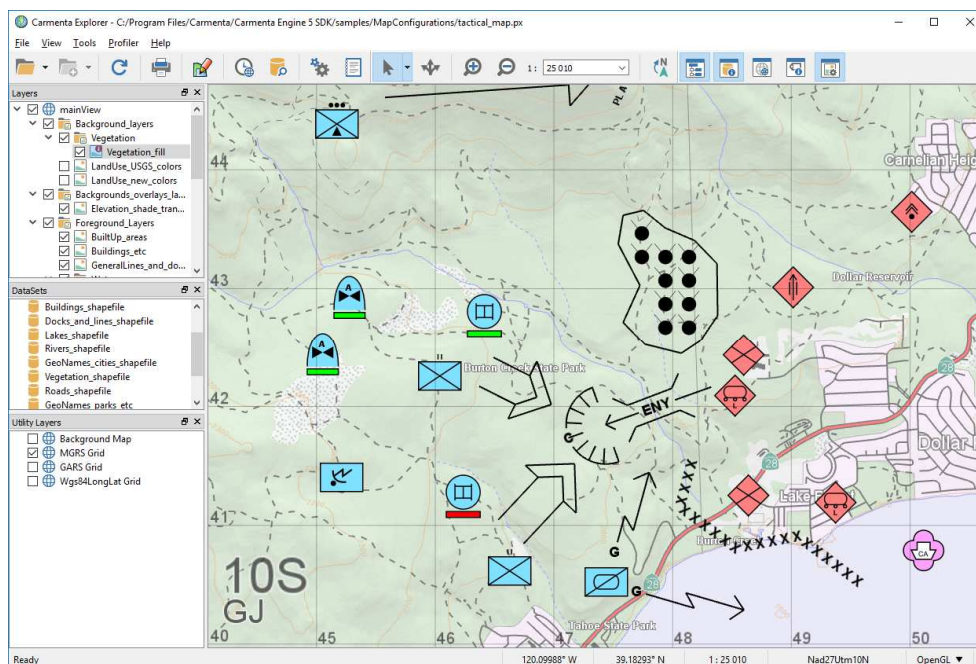
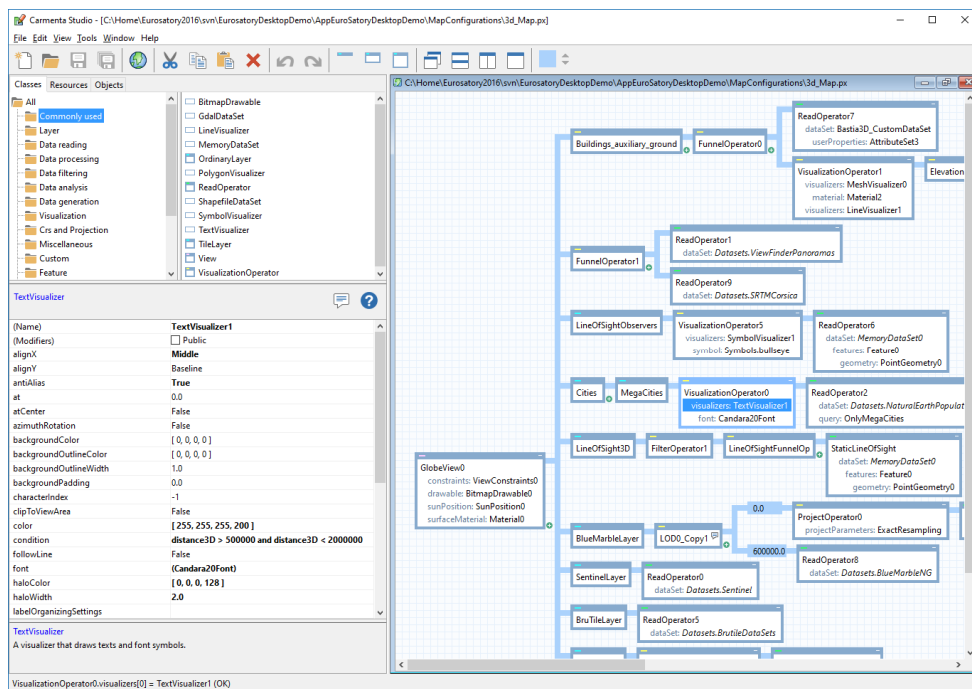


Two screenshots from the DensityDataSet API documentation.

Modern Look-and-Feel for Carmenta Explorer and Carmenta Studio

Carmenta Explorer and Carmenta Studio, the developer tools included in Carmenta Engine SDK, have been updated with a new, modern look and feel.

The updated applications also work great on high DPI screens.



The updated SDK applications Carmenta Studio (top) and Carmenta Explorer (bottom).

Other Notable Improvements

Improved Parallelism

TileLayer and other tiling components can now optionally load and render multiple map tiles in parallel. This improves the performance on systems with many CPU cores.

Local cache for OGC WMTS Connections

The OgcWmtsLayer component can now be configured to store downloaded map tiles in a local disk cache for faster subsequent access and to support off-line availability.

The cache is automatically flushed if the WMTS service has changed.

Automatic Change Detection in Web Service Connections

All Carmenta Engine components which connect to OGC web services can now automatically detect when the services have been updated.

New Blend Mode for Map Layers

Map layers can now be configured to use the multiply blend mode. This blend mode can greatly improve the clarity of semi-transparent overlays such as hillshading or line of sight viewsheds.

When using hardware accelerated map rendering, the multiply blend operation is performed entirely by the graphics card.

Improved SDK Documentation

The SDK documentation has been updated with many new code snippets that demonstrate how to use common classes, methods and properties from C#, C++ and Java.