

## What's New in Carmenta Engine 5.11

Carmenta Engine 5.11 adds support for developing Carmenta Engine for Android™ applications in C# using Xamarin technology. It also brings the full 3D visualization and 3D analysis capability to Android devices.

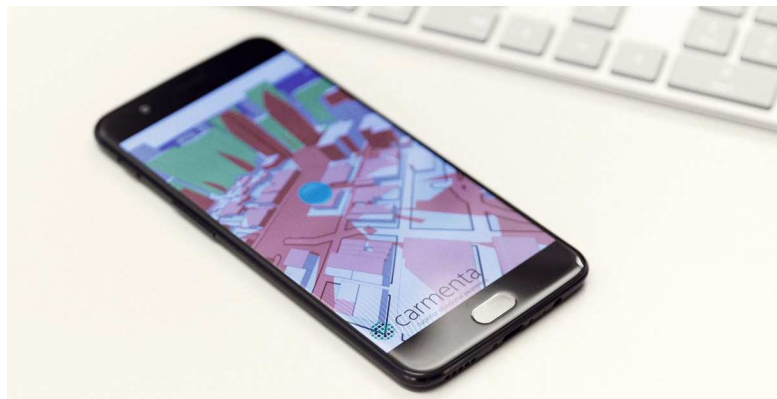
In addition, the new version includes significant improvements in the support for nautical charts, with built-in visualization according to S-52 Presentation Library 4.0 and the NATO AML Portrayal Specification.

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

### 3D Maps and 3D Analysis in Carmenta Engine for Android™

Android devices that support OpenGL ES 3.0 now have access to the full Carmenta Engine OpenGL rendering pipeline.

This makes it possible to use 3D GlobeView maps on Android. Hardware accelerated analysis functionality such as Terrain Warning and 3D Line of Sight are also fully supported.



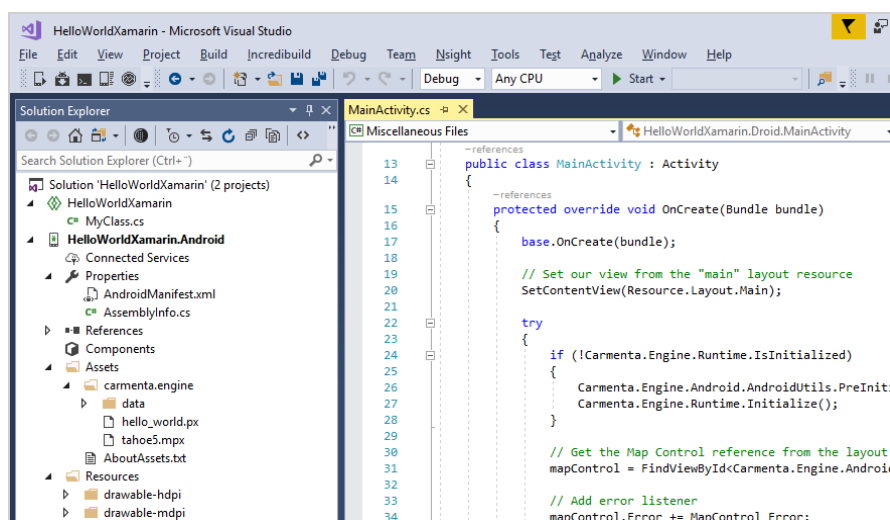
The Carmenta Engine 3D Line of Sight functionality running on an Android phone.

## Support for .NET based Android Development using Xamarin

Carmenta Engine 5.11 introduces a new .NET API that is compatible with Xamarin, the cross platform .NET implementation that is freely available in newer versions of Microsoft Visual Studio.

The new API makes it possible to create Carmenta Engine based Android apps using C#. This significantly lowers the Android development threshold for .NET developers who are already familiar with the Carmenta Engine .NET API on Windows.

It also makes it straightforward to re-use code from existing .NET based Carmenta Engine applications in the Android app development.



Working with a Carmenta Engine based Xamarin Forms application in Visual Studio 2017.

## Nautical Charts according to S-52 Presentation Library 4.0

The S52Visualizer component, part of the Carmenta Engine Nautical Extension, has been updated to render nautical charts according to the S-52 Presentation Library version 4.0.

The visualizer also has a number of new properties that can be used to control aspects of the visualization, e.g. to increase the amount of details in the chart.

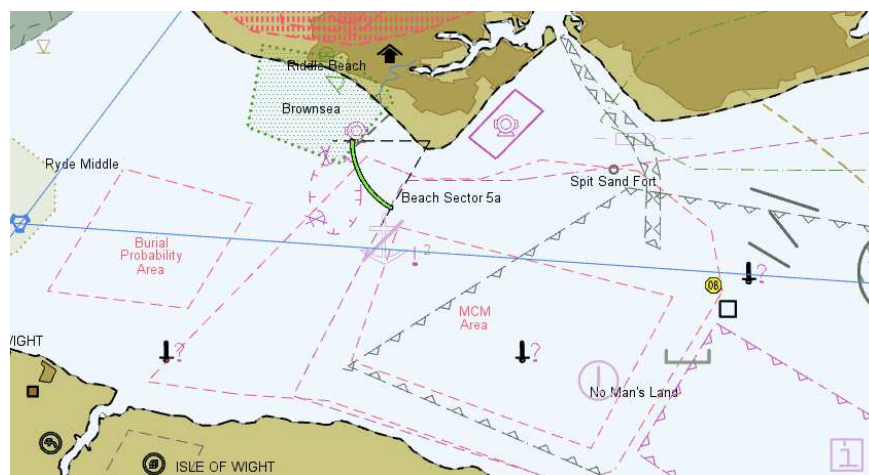


A nautical chart visualized according to S-52 4.0.

## Support for the NATO AML Portrayal Specification

Additional Military Layers (AML) is a NATO initiative (STANAG 7170) designed to enhance situational awareness in the marine and littoral environment. Carmenta Engine has had support for S-57 AML data since version 5.6.

The new version brings built-in support for the AML Portrayal Specification which provides a standardized symbology for vector AML datasets.



NATO AML test data visualized according to the AML Portrayal Specification.

## Other Notable Improvements

### Radar Plots in 3D

The PlotLayer component which provides optimized rendering of radar plots and other highly dynamic information can now be used in 3D GlobeView maps.

### New Distribution Format for the SDK Documentation

The Carmenta Engine SDK and Carmenta Studio documentation is now distributed in HTML format and displayed in the default web browser. The new format also has improved typography and provides improved searching and indexing functionality.

### Drag and Drop Visualization in Carmenta Explorer

It is now possible to drag and drop geodata files and folders to Carmenta Explorer to directly visualize the data.

### More Metadata for DTED Files

Metadata fields from the DTED headers, such as accuracy and security classification, can now be retrieved via the DataSetInfo class.