

What's New in Power Portfolio 2020

# What's New in Power Portfolio 2020

29 October 2019



# Contents

Power Portfolio Overview	5
Release Highlights	5
Producer Suite	5
ERDAS IMAGINE <sup>®</sup>	5
ImageStation <sup>®</sup>	5
GeoMedia <sup>®</sup>	5
Provider Suite	6
Platform Suite	6
Producer Suite	7
ERDAS IMAGINE	7
New Platforms	7
Image Chain Printing	7
Optimal Seamline Generation	7
MIE4NITF	7
Create Image Pyramid	7
Enhance Contrast Using CLAHE	8
GeoMedia	8
Excel Data Server	9
SQL Server Spatial Data Server	9
Warehouse Connections Command	9
Spatial Modeling	9
Explorer Window	9
Raster Band Selection	10
Geotagged Images	10
Drag-and-drop	10
ImageStation	10
New Platforms	10
Satellite Support Enhancements	10
DTM Collection Improvements	11



	User-Defined Styles for DTM Features	. 11
	Manual DTM Point Collection	. 11
	Drape Features Command	. 11
	Stereo Roam Performance Improvements	. 11
	64-bit Mosaicking	. 11
	ECW Output	. 12
	Burn Features Command	. 12
	3D Input Device Support	. 12
Pro	vider Suite	. 12
Е	RDAS APOLLO	. 12
	New Platforms	. 12
	New Catalog Client	. 12
	Advanced Logging Charts	. 13
	AOI Notification Service	. 13
	ECWP Browser Streaming Lives Again	. 13
G	eoCompressor	. 13
	Performance Improvements	. 13
	GeoCompresser Viewer	. 14
E	RDAS ECW JP2 SDK	. 14
	Performance Improvements	. 14
	New Platform	. 14
Pla	tform Suite	. 14
G	eoMedia Smart Client	. 14
	Platform Changes	. 15
	4K Display Support in Workflow Manager	. 15
	Integrated Log Console	. 15
G	eoMedia <sup>®</sup> WebMap	. 16
	GeoMedia WebMap Mobile for Field Data Editing	. 16
	Mobile Publisher for GeoMedia WebMap Mobile Configurations	. 16
	Performance Improvements	. 17
G	eospatial Portal	. 18



Enhanced Measurements in Geospatial Portal - Consumer	18
Groups for Layers in Geospatial Portal - Consumer	18
Support for Custom Layer Graphics in Geospatial Portal - Consumer	18
Information Bar in Geospatial Portal – Consumer	19
Extrude Analysis Results in Geospatial Portal - Classic	19
Display Extruded Data in Geospatial Portal – Consumer	19
Contact Us	20
About Hexagon	20
Copyright	21
Product Documentation Terms of Use	21
Use Of This Document	21
Disclaimers	21
Limitation Of Liability	21
Indemnification	21
Use Of Software	22
Links To Third Party Websites	22
Trademarks	22
Procedure For Making Claims Of Copyright Infringement	22
US Government Restricted Right	22
International Use	22
Revisions	23
Applicable Law	23
Questions	23



# **Power Portfolio Overview**

Understanding change and deriving the information you require to make mission- and business-critical decisions is imperative to you. With creative and intuitive interfaces, smart workflows, and automated technologies, the Power Portfolio from Hexagon's Geospatial division can transform multi-source content into actionable information.

For simplicity, the Power Portfolio organizes our products into suites, combining the best photogrammetry, remote sensing, GIS, and cartography technologies available. The Producer, Provider, and Platform suites contain the globally recognized products that you rely on every day.

- Producer Suite Collect, process, analyze, and understand raw geospatial data
- · Provider Suite Easily compress, manage, and deliver your data across desktop, web, and mobile applications
- Platform Suite Create your own unique application on top of a solid foundation of powerful geospatial functionality

# **Release Highlights**

Hexagon's Geospatial division makes strides in smart situational awareness with expanded data viewing and analysis capabilities in the Power Portfolio 2020 release. Through many new features and updates to each product suite, we provide the necessary technology to further industries such as defense and smart cities while aiding in the growth of dynamic information services.

# **Producer Suite**

Access the latest data and view it from more perspectives so you can analyze situations and predict outcomes.

# ERDAS IMAGINE®

- Full 64-bit Support Better use of memory in all commands and applications
- MIE4NITF Support Time series data sets are now being stored and delivered in NITF
- Pyramid Layer Generation (PYRX format) Extended Compressed Pyramid Layers reduces the file size of images up to 10 times
- Contrast Limited Adaptive Histogram Equalization (CLAHE) compresses high dynamic range images while preserving and enhancing detail

#### ImageStation<sup>®</sup>

- Automatic tie point matching and new bundle adjustment with options to withhold, reinstate, and delete point measurements for satellite projects has been added to ImageStation Automatic Triangulation
- General stereo roam performance and stereo roam performance when placing linear features has been improved
- Classification of auto-generated points is now saved in DTM format files and used for display and editing in ImageStation Stereo for GeoMedia and ImageStation DTM for GeoMedia
- New commands for operator-assisted manual DTM collection in ImageStation Stereo for GeoMedia Generate Uncollected Points and Collect Points
- Mosaic process has been upgraded to 64-bit with processing speeds up to 14 times faster, and ECW output
  option in ImageStation OrthoPro

### GeoMedia®

- A new Microsoft<sup>®</sup> Excel<sup>®</sup> data server permits direct use of Excel and CSV files
- New operators have been introduced for performing geometry manipulations on feature data, and watershed analysis on grid data
- Drag-and-drop capability for dragging raster and warehouse files into the GeoWorkspace as attached data
- Raster band selection for imagery
- Placement and review of geotagged photos



# Provider Suite

Find and deliver the right data, at the right time, to securely share information and make informed decisions.

- New Catalog Client added vastly improves the user experience discovering data holdings from ERDAS APOLLO<sup>®</sup>
- New WebAssembly ECWP Browser decoder stream terapixel sized images from and to any device
- Code modernization to C++ 11 base standard in ECWJP2 SDK yielding performance gains and ensuring we can continue to support the numerous platforms our customers demand across desktop, server, and mobile.
- Changes to GeoCompressor's user interface and included utilities delivering incremental performance improvements up to 25%

# **Platform Suite**

Take advantage of dynamic information services in customized workflows that let your users make smart, mobile decisions no matter their location.

- Improved user experience with GeoMedia<sup>®</sup> Smart Client's new integrated log console, 4K display support in workflow manager, and OpenJDK as the new standard virtual machine
- Mobile MapWorks has been integrated into GeoMedia WebMap with improved workflows, updated interface, and feature enhancements
- Enhanced Measurements and Customized layer graphics in Geospatial Portal Consumer
- Enhanced Printing for High DPI images in Geospatial Portal Classic
- Apply extrusions in Geospatial Portal Classic based on selected attribute values to layers resulting from Geospatial Portal analysis
- Display Extruded Data in Geospatial Portal Consumer.
- Pre-prepared 3D scenes with extruded features can be viewed in Geospatial Portal Consumer.



# **Producer Suite**



**Producer Suite** empowers you to collect, process, analyze, and understand raw geospatial data, and ultimately deliver usable information. This includes Hexagon's Geospatial division desktop-based GIS, remote sensing, and photogrammetry offerings.

# ERDAS IMAGINE

ERDAS IMAGINE provides true value, consolidating remote sensing, photogrammetry, LiDAR analysis, basic vector analysis, change detection, and radar processing into a single product.

#### **New Platforms**

With the ERDAS IMAGINE 2020 release, the ability to run as a true 64-bit application allows full exploitation of the computer's resources, including addressing more than 4GB of memory.

### **Image Chain Printing**

Imagery that has been displayed using the Image Chain can now be included into Map Compositions, sent to print devices, and included in Send To... operations (Send to PowerPoint, Send to JPEG, Send to Geospatial PDF, etc).

# **Optimal Seamline Generation**

Seamline generation is a crucial step in the mosaicking workflow to create seamless image mosaics. Images to be mosaiced usually have radiometric inconsistences and/or unresolved geometric misalignments. Seamlines are generated with a goal of avoiding such areas of radiometric inconsistency and large misalignments so that the resulting mosaic look seamless.



# MIE4NITF

Time-series datasets are now being stored and delivered in the MIE4NITF standard. This can consist of hundreds, even thousands, of individual image frames stored in a NITF.

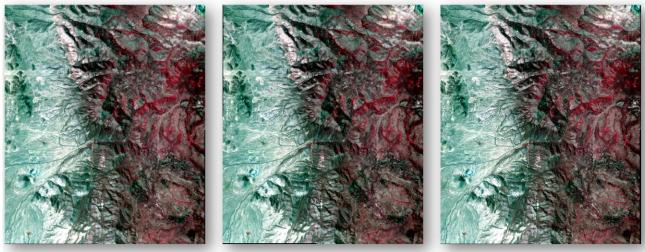
ERDAS IMAGINE 2020 has been enhanced to enable opening multiple MIE4NITF frames into tools such as the Flicker tool in order to "play" the time-series, as well as being able to open individual frames for further exploitation.

# Create Image Pyramid

This operator ensures the existence of an image pyramid and statistics for an image dataset.

It produces or verifies the existence of a persistent, optimal sequence of images, each of which is progressively lower in resolution than the preceding image in the sequence. The primary use of an image pyramid is to increase rendering speed and reduce aliasing artifacts when visualizing the image at scales larger than its original resolution.





RRD – 248 MB

RSET - 251 MB

PYRX – 25 MB

### Enhance Contrast Using CLAHE

Techniques such as CLAHE were developed to spatially adapt the transformation and reveal the detail in dark and bright areas of a raster while maintaining contrast in mid-tone areas. For example, CLAHE can enhance hidden detail in the shadows cast by large buildings, clouds, etc.



# GeoMedia

GeoMedia is a flexible and dynamic GIS package for creating, updating, managing, and analyzing your valuable geospatial information. Generate and update vector layers. Perform dynamic spatial analysis and generate reports. Automatically create and update maps. Manage data and map production more efficiently. GeoMedia is available in three product tiers: Essentials, Advantage, and Professional.

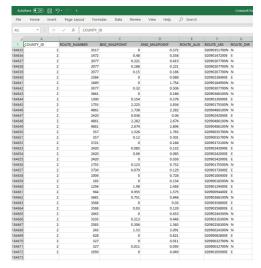


## Excel Data Server

This new data server provides access to tabular, nongraphic data stored in Excel spreadsheets (XLSX, XLS) and structured text files (CSV, TXT). Each text file is served as a warehouse connection with a single feature class, while each spreadsheet is served with feature classes for each sheet and each named range. The feature classes are read-only and have no primary key.

## SQL Server Spatial Data Server

This data server now supports full read and write operations on Microsoft SQL Server<sup>®</sup> Spatial native geometry fields that have no companion GDO geometry field as established through Database Utilities. This is true for area and line geometry fields by default and is an option for point and compound fields. If you choose this option, then point orientation will be lost because



native SQL Server geometry does not support orientation for points. This choice is not available for graphic text or coverage fields because there is no native SQL Server geometry support for these.

This data server also now supports basic operations on SQL Server Spatial warehouses that lack GeoMedia metadata. As with Oracle<sup>®</sup>, PostGIS, and GeoPackage, such connections are read-only, lack coordinate reference system definitions for geometry fields, and lack GeoMedia metadata that influences presentation of data.

### Warehouse Connections Command

The Properties dialog of this command now allows the connection name to be changed.

### **Spatial Modeling**

The operators Features Input and Features Database Output now support GeoPackage databases, and multischema PostGIS databases.

New geometry manipulation operators Smooth Geometry and Densify Geometry are provided.

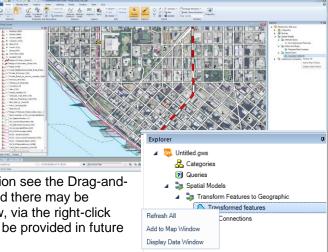
New grid operators Accumulate Flow, Calculate Flow, Fill Depressions, Find Watersheds, and Interpolate Using IDW (inverse distance weighting).

### **Explorer Window**

The treeview now reflects any GeoWorkspace changes and is updated dynamically with added, removed, and renamed categories, categorized items, and queries, including retention of proper sort order. It also reflects all Connection changes and is updated dynamically with any change in warehouse connection name.

An "Attached Data" branch is now introduced. Raster files that are dropped into the

GeoWorkspace are presented here (for more information see the Drag-anddrop section below). The groups of images represented there may be added to a map window, or displayed in a data window, via the right-click context menu. More functionality for attached data will be provided in future releases.





#### **Raster Band Selection**

For an Image Style, a set of controls for color band assignment has been implemented, allowing selection of which bands from a multi-band image are to be assigned to red, green, and blue display. On the Advanced tab, the new style property BandAssignments is available, taking as input a comma-delimited string indicating band numbers to be assigned to Red, Green, and Blue in that order. This style property may be assigned an expression for attribute-based symbology.

#### Geotagged Images

A new command inserts geotagged images (images with embedded EXIF geotags) into a warehouse as point feature classes with attributes capturing both the hyperlinked path to the image, and other characteristics from geotags and other metatags. Another new command displays tagged photos and corresponding attributes by moving the cursor over a point feature that contains geotags.

#### Drag-and-drop

Drag-and-drop capability within GeoMedia has now been extended to dragging raster files and warehouse files from File Explorer and dropping them into either a map window or the Explorer window.

Raster files are attached to the GeoWorkspace and appear under "Attached Data" in the Explorer window. They do not require a read-write warehouse connection. All raster file types supported by the Insert Georeferenced Images command are supported for drag-and-drop, and they are automatically georeferenced.

Warehouse files are made into warehouse connections and appear under "Warehouse Connections" in the Explorer window. The following file-based warehouse types are supported for drag-and-drop: GeoPackage, Access, File Geodatabase, Shapefile, GeoMedia SmartStore, KML, and Excel.

If dropped into the Explorer window, only the attachments/connections are made. If dropped into a map window, the data is additionally displayed.

### ImageStation

The ImageStation software suite enables digital photogrammetry production workflows, including project creation, orientation, and triangulation from aerial and satellite imagery. It also provides stereo GIS feature collection and editing, digital terrain model (DTM) collection and editing, as well as orthophoto production and editing. ImageStation is specially designed for high-volume photogrammetry and production mapping customers who need to move large quantities of raw spatial information to an actionable or exploitable format.

#### **New Platforms**

ImageStation Stereo Display, ImageStation Feature Collection, and ImageStation DTM Collection were modified to run with Power InRoads V8i and Power GEOPAK V8i in addition to MicroStation V8i. Although MicroStation is not a requirement to run ImageStation Automatic Elevations (ISAE), if any of these V8i products are found on the system while ISAE is installed, ISAE is enabled to write surface points and data out to DGN files.

#### Satellite Support Enhancements

An option has been added to PhotoTX in ImageStation Automatic Triangulation that performs automatic tie point matching for satellite projects. The option is available from the Select Project and Blocks dialog when accessing PhotoTX or accessed from the Triangulation Options dialog from within PhotoTX. The bundle adjustment in PhotoTX has been enhanced to support the adjustment of multi-segment scenes after automatic point matching. Options to Withhold, Reinstate, and Delete point measurements have been added to the Point Stats tab of PhotoTX.

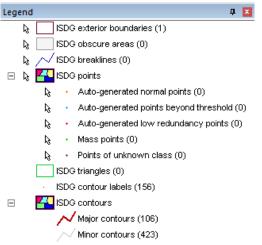


# **DTM Collection Improvements**

The DTM format has been modified to maintain the classification of points that are auto generated by ImageStation Automatic Elevations (ISAE). ImageStation Stereo for GeoMedia and ImageStation DTM for GeoMedia now recognize this classification and use it to properly color code points for display. The Custom Edit commands in ImageStation Stereo for GeoMedia have been modified to update the classification of autogenerated points to regular mass points after editing. The Input Files wizard in ISAE has been modified to accept DTM format files as input morphological files. Previously, the wizard only accepted DGN format files. This allows ImageStation Stereo for GeoMedia and ImageStation Stereo Display users to use model-wise input DTM files to assist the ISAE matching process.

## User-Defined Styles for DTM Features

A style library is now delivered by ImageStation DTM for GeoMedia to the GeoWorkspaces\Libraries folder so that users can customize the display of point and geomorphological features in the Map and Stereo Windows in GeoMedia. The ContourLabel feature class has defaulted to 50% translucent frame, this can be changed by modifying the style. The Display Frame option has been removed from the View Contours dialog as it is now redundant with style settings in ContourLabel feature class. Color codes that correspond to point classification originating from ImageStation Automatic Elevations are also defined in the style library.



### Manual DTM Point Collection

Two new commands have been included in the ImageStation Stereo for GeoMedia Insert Feature menu list: Generate Uncollected Points and Collect Points. These commands allow users to create a user-defined grid of points for operator-assisted manual collection which can then be used with ImageStation DTM for GeoMedia commands to generate surfaces.

### **Drape Features Command**

A new Drape Features command has been added to ImageStation DTM for GeoMedia, allowing users to drape existing features on surfaces to create new features with updated Z values.

#### Stereo Roam Performance Improvements

General stereo roam performance and stereo roam performance when placing linear features has been improved. A new Roam Parameters command has been added to both ImageStation Stereo for GeoMedia and ImageStation Stereo Display, allowing users to calibrate various settings associated with roam mode operations to adjust the processing for custom system configurations.

#### 64-bit Mosaicking

The Mosaic process in ImageStation OrthoPro has been upgraded to a 64-bit process, allowing it to take advantage of more system memory with processing speeds **up to 14 times faster** than before.



## ECW Output

The rectify and mosaic processes in ImageStation OrthoPro can now directly output ECW format without requiring additional software and a separate conversion step. ECW format provides exceptional compression, capable of reducing terabyte-sized files to five percent of their original size while retaining the image's full visual quality. When you compress your imagery into ECW format, the result is a much smaller single file that can be stored, sent, and displayed even on small devices.

## **Burn Features Command**

A new Burn Features command has been added to ImageStation PixelQue, allowing users to burn vector data such as text, contours, and features into raster images.

### **3D Input Device Support**

Format Tiles Compression Overviews USGS File Standard O Big TIFF C TIFE • ECW O JPEG 2000 O USGS Data Layout Bits Per Band: 8 Orientation: Row-major Bands: 1 DGN File: 🗖 World File ПK Cancel Help

 $\times$ 

Image Output Options

Support has been added for the Stealth Mouse Z-Type and Softmouse 3D USB devices to allow greater choice of 3D input devices and easier 'plug and play' setup.

# **Provider Suite**



**Provider Suite** gives you the power to organize all your geospatial and business data into one centralized library and deliver it to others easily. Plus, powerful compression technology optimizes disk space requirements, and ultimately reduces your total cost of ownership.

# **ERDAS APOLLO**

ERDAS APOLLO is a comprehensive data management, analysis, and delivery system. It enables an organization to organize and deliver massive volumes of data, and consistently delivers geospatial data faster and with less hardware than competing server-based products.

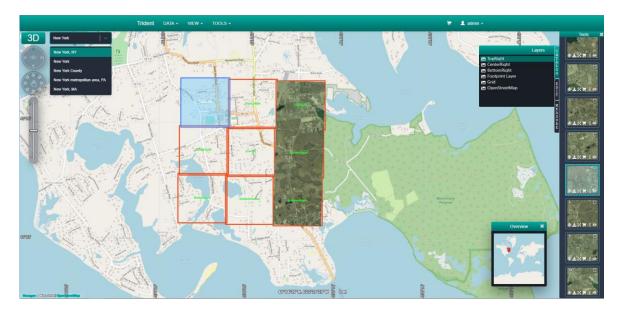
#### **New Platforms**

With the ERDAS APOLLO 2020 release, Java remains an external dependency in the server application and now also the Data Manager. Microsoft Windows Server<sup>®</sup> 2019 has now been certified as a Supported Platform for this release. For ERDAS APOLLO Essentials Linux<sup>®</sup> customers, support for Redhat v6.x has now been deprecated. Now ERDAS APOLLO 2020 only supports v7.x based platforms, and once more widely available, we intend to add support for v8.x in an upcoming update.

### New Catalog Client

Soon after the general availability of ERDAS APOLLO 2020, a new, modernized web client will be released. The client will be based on the LuciadRIA framework and serve as an integrated catalog client for both ERDAS APOLLO and LuciadFusion, allowing federated search to bridge both server capabilities.





# Advanced Logging Charts

ERDAS APOLLO 2020 has greatly improved the user reporting and visual reporting of the existing detailed logging across the server. There are now general Upload and Download charts that allow administrators to see how often data is being ingested and used.

## **AOI Notification Service**

ERDAS APOLLO 2020 now provides a capability for users to register defined areas of interest and receive a notification email when new data arrives, or existing data is updated that meets their requirements. Only someone with an admin role can register a user and create a notification region. However, any registered user in the system can be have a notification region created for them.

### ECWP Browser Streaming Lives Again

Although the Enhanced Compression Wavelet Protocol (ECWP) has been valid for desktop systems since browsers discontinued plugin support, our previously deprecated Browser Plugin has been a commonly requested demand from many customers. Good news. A browser technology called WebAssembly that is combined with HTML5 Web Workers has now allowed us to revive ECWP for browser-based clients.

### GeoCompressor

GeoCompressor is a stand-alone, high performance geospatial image and point cloud compression application designed to simplify the creation of ECW, JPEG2000, and HPC formats.

#### Performance Improvements

GeoCompressor 2020 delivers incremental performance improvements to continue satisfying our highthroughput customer data production demands. Performance throughput improvements up to 25% can be expected in some workflows.

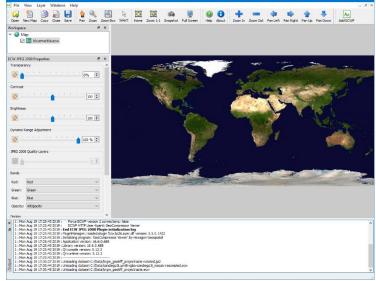


## GeoCompresser Viewer

This GeoCompressor includes the first release of GeoCompressor Viewer, a free to use general purpose viewer for ECW, JPEG2000 files designed to support rapid user display but also QA from Data Providers. It can also view imagery over the internet via the ECWP protocol from an ERDAS APOLLO Server.

# ERDAS ECW JP2 SDK

The ERDAS ECW JPEG2000 SDK is a developer toolkit that enables third-party developers to read and write the industry leading Hexagon Enhanced Compressed Wavelet (ECW) and the ISO JPEG 2000 image compression formats. It also allows applications to consume ECWP streams delivered from ERDAS APOLLO server applications.



## Performance Improvements

The ECWJP2 SDK has undergone lengthy internal code modernization to C++11 base standard, yielding average performance gains of 15% and ensures Hexagon can continue supporting the numerous platforms our customers demand across desktop, server, and mobile.

### New Platform

The new ECWP for WebAssembly for web browsers allows plugin-less decoding of ECWP streams in web pages to stream terapixel sized images from and to any device.

# **Platform Suite**



**Platform Suite** enables you to deliver information through web, mobile, or cloud solutions. Build and extend customized geospatial apps and solutions with a sophisticated set of developer-focused technologies.

# GeoMedia Smart Client

GeoMedia Smart Client is a GIS workflow management system that connects tasks and dependencies across different roles in a process, and dynamically configures to reflect a users' role and specific workflow steps. End users can use advanced geospatial functionality via simple-to-use map-based tools, disentangling them from nonessential tasks and focusing their time on their area of expertise. Workflow Manager is a standalone product that is also a subset of GeoMedia Smart Client. Workflow Manager provides a rich toolset that lets you construct highly focused business workflows that primarily support attributive data, but also may contain a spatial component.



## **Platform Changes**

As a result of Oracle's licensing changes, in GeoMedia Smart Client 2020, the default Java Development Kit has been replaced by OpenJDK as the standard virtual machine. With this change, GeoMedia Smart Client provides a solution based on a vendor-independent, resilient, and community-maintained technology stack.

### 4K Display Support in Workflow Manager

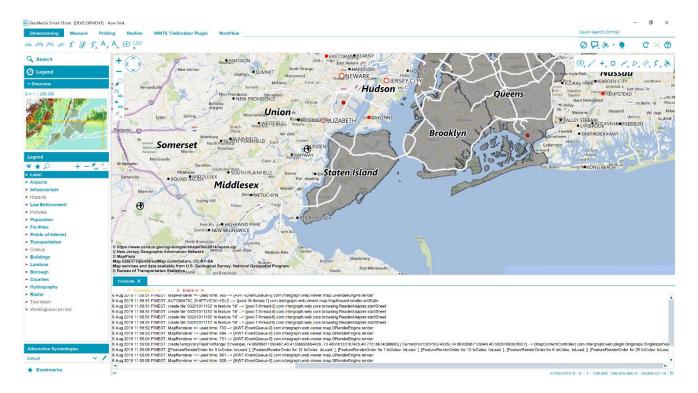
With GeoMedia Smart Client 2020, you get a fully 4K supported Workflow Manager. A responsive design has been introduced to automatically select the best fitting resolution.



Integrated Log Console

With the new integrated log console, users can gain direct insights into the status of the application at runtime. The log messages are categorized into info, warnings, and errors. The console can be toggled by pressing the F12 key and is a powerful tool for testing and troubleshooting.





# GeoMedia® WebMap

GeoMedia WebMap supports a broad range of customers that require visualization and examination of geographic data on the Web. From easily creating standards-compliant web services to providing sophisticated visualization and analysis within interactive web mapping applications, GeoMedia WebMap builds powerful solutions for sharing your organization's rich geospatial data.

# GeoMedia WebMap Mobile for Field Data Editing

In GeoMedia WebMap 2020, a new mobile application for field data editing called GeoMedia WebMap Mobile is a phone/tablet-based application for accessing, portraying, and editing geospatial data. The user can view, edit, validate, and update enterprise GIS data from the field in real time. The updated data on the mobile device is instantly available for the GIS platform used in the same organization.

The core functionality in GeoMedia WebMap Mobile comes from the Mobile MapWorks product. Mobile MapWorks users will now find all the familiar functions and features and more in GeoMedia WebMap Mobile. In addition, because the workflows and available actions are more intuitive and easier to navigate, the user's experience is much

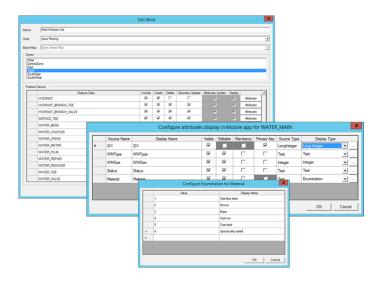


improved.

# Mobile Publisher for GeoMedia WebMap Mobile Configurations

Mobile Publisher assists in the set-up and management of GeoMedia WebMap Mobile configurations by addressing key aspects including user identification, field zone geometry specification, and field work definitions. Mobile Publisher then generates the configuration files based on the Administrator's selections.

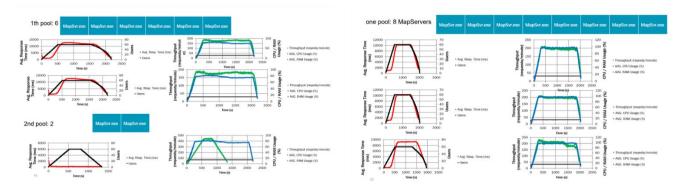




### Performance Improvements

Several performance improvements have been added to GeoMedia WebMap 2020. Efficiency has been enhanced when performing analyses on GeoMedia WebMap's WFS feature classes in Geospatial Portal, especially for data cases and queries, which processes filters using the database engine.

New Server Pools have been introduced to increase the reliability of a GeoMedia WebMap server and guarantee critical services' availability.





# **Geospatial Portal**

Geospatial Portal is a fully featured, configurable, and customizable thin client application that can be used for finding, viewing, querying, analyzing, and consuming geospatial data published by Hexagon Geospatial products and/or other standards-based web services. The portal can be accessed by multiple users via web browsers as it is installed and configured on a web application server.

Enhanced Measurements in Geospatial Portal - Consumer

Advanced measurement is one of the basic functionalities in Geospatial Portal - Consumer. Users can measure distances and areas on the map, as well as obtain geographic coordinates of any given point.

The measurements results are displayed in the Measurements (right) panel. With the 2020 release, the measurement details are also displayed on the map including measuring a selected area, linear measurements, and coordinates.



	Layers	>
	Vorld Tectonics WMS	۲
	Micro_Plates_Bounda	• =
	Plate_Boundaries	• =
=	Bathymetry	• =
L	▼ Rome WMPS	۲
*	Residential buildings	• =
	Commercial buildings	• =
	Roads	• =
	Open Street Map	• =
	CREAF Web Map Service	ø
	1992_93-World	øø =
	BlueMarble	ø =
	fra2000-world	ø =
	admin_level0	ø =
	▼ Des Moines WMS	۲
	HYDRANT	• =
		• =
	Parcel	• =

# Groups for Layers in Geospatial Portal - Consumer

Geospatial Portal - Consumer displays the layers grouped under the name of the service the layers come from. Users can change the layer order within the group by drag and drop of individual layer, switch the layer on/off, or modify its opacity for optimal map display.

# Support for Custom Layer Graphics in Geospatial Portal - Consumer

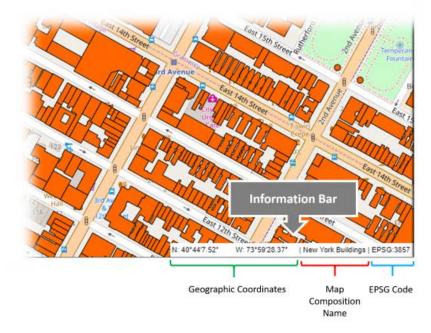
WMS services may provide custom legend graphics that bring detailed information about presented phenomena. With the 2020 release, the custom graphics are displayed in the legend item control beside the layer name.



Information Bar in Geospatial Portal – Consumer

Geographic latitude and longitude for the current cursor position in a map window is displayed in the bottom right corner on the screen application.

The name of active Map Composition is displayed in the bottom right corner. The coordinate system EPSG code of the current map is visible on the information bar as well.



# Extrude Analysis Results in Geospatial Portal - Classic

Geospatial Portal - Classic supports extrusion of 2D vector features into three dimensional solid shapes to build 3D scenes in seconds. The extrusion can be also applied to the layers resulting from the analyses based on selected attribute values and this way introduce extra information on the map.

Note: Extrusion only works with data from GeoMedia WebMap's Web Feature Services.

### Display Extruded Data in Geospatial Portal - Consumer

With Geospatial Portal - Classic users can extrude two-dimensional vector features and view them in 3D scenes. Now users can view 3D scenes with extruded features in Geospatial Portal - Consumer as well. The highlight style for selectable WFS objects is customizable.



# **Contact Us**



https://go.hexagongeospatial.com/contact-us-today

# **About Hexagon**

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

Hexagon's Geospatial division creates solutions that deliver a 5D smart digital reality with insight into what was, what is, what could be, what should be, and ultimately, what will be.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 4.3bn USD. Learn more at hexagon.com and follow us @HexagonAB.



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