



Release guide

Release guide

ERDAS APOLLO 2023 Update 3

Version 16.8.3

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About this release

ERDAS APOLLO 2023 was the culmination of the largest product modernization effort in over 10 years, building on the LuciadFusion platform while migrating or rebuilding key functionalities from previous ERDAS APOLLO releases. **ERDAS APOLLO 2023 Update 1** built on the substantial initial release version by incorporating further improvements and bug fixes based on the significant interest in adopting v2023 and feedback. With the release of **ERDAS APOLLO 2023 Update 2**, we made significant improvements as well as included several bug fixes. With **ERDAS APOLLO 2023 Update 3**, we are upgrading to the LuciadFusion 2024.0 release as well as adding enhancements and incorporating several customer bug fixes. The team will continue to aim for quarterly updates, and migrating between v2023 versions will be trivial.

As part of this release cycle, we will also be delivering an update to the Migration Tool that can be used to assist in the migration of ERDAS APOLLO 2022 Update 2 to ERDAS APOLLO 2023 Update 3. This will not be part of the standard installation package but will be made available on request.

This release guide highlights key points but should not be considered exhaustive. Existing customers are encouraged to contact their Hexagon representatives to discuss individual platform usage to plan any migration to account for significant release changes.

This release is a full release and will require the old version of ERDAS APOLLO 2023 (if applicable) to be removed prior to loading the ERDAS APOLLO 2023 Update 3 release. However, you can point the new version to an existing catalog database.

NOTE: ERDAS APOLLO 2023 Update 3 includes updates to underlying configuration properties. Follow these instructions to ensure your software upgrade contains the correct properties and values. Briefly, the steps are as follows: stop ERDAS APOLLO services, uninstall the previous version by retaining the previous configuration properties, install the new version, review and edit the properties files as needed, then restart the ERDAS APOLLO services.

1. Stop ERDAS APOLLO services
 - From the Start menu, go to Hexagon > Configuration Console
 - In the Configuration Console, open the Service Status tab and select Stop to stop the services
 - Wait until the status updates to STOPPED, then exit the Configuration Console
2. Uninstall previous ERDAS APOLLO version
 - In Windows Programs and Features, uninstall ERDAS APOLLO Suite Installer 2023;
IMPORTANT: Ensure that "Remove all configuration and log files..." option is unchecked
3. Delete outdated components
 - In Windows File Explorer, delete the folder located at C:\Program Files\Hexagon\ERDAS APOLLO
4. Install ERDAS APOLLO 2023 Update 3
 - Run the Update 3 installer; when installation is complete, check the box to Launch Server Configuration and click Finish
 - The Configuration Console will open; before making *any* changes, click Save All
5. Edit configuration properties for Update 3
 - Using a text editor, review the following properties and make adjustments as needed:

File: application-fusion.apollo.properties

Location: %ProgramData%\Hexagon\ERDAS APOLLO\config\application-fusion.apollo.properties

Change: Remove the values dt0;dt1;dt2 from apollo.eraster.supportedFormats property value.

File: application-gsp.coordinator.properties

Location: %ProgramData%\Hexagon\ERDAS APOLLO\config\application-gsp.coordinator.properties

Change: Set geoprocessing.db.internal.connectionPool.poolName property value to APL\:\CoordDbPool

File: application-gsp.worker.properties

Location: %ProgramData%\Hexagon\ERDAS APOLLO\config\application-gsp.worker.properties

Changes:

Set geoprocessing.db.internal.connectionPool.poolName property value to APL\:\WrkDbPool

Set workflows.jms.execution.destination.name property value to GeoprocessingExecution

Set workflows.jms.validation.destination.name property value to GeoprocessingValidation

Save the edits to each properties file.

6. Complete configuration in the Console

- Return to the Configuration Console; make any necessary adjustments for your environment
- Open the Service Status tab, click Save All, then select Start to start the services
- Monitor the services initialization in the Diagnostics tab by selecting Begin Diagnostics; all items should show a green indicator when they are ready

7. Exit the Configuration Console

ERDAS APOLLO product tiers

ERDAS APOLLO is a comprehensive data management server solution that helps identify, locate, secure and organize your geospatial and related business data into a searchable, secure repository while enabling simple distribution through interoperable web services.

ERDAS APOLLO also alleviates pressures associated with optimizing spatial data archive storage requirements using Hexagon's industry-leading ECW image compression and HSPC point cloud storage technology. Wherever possible, ERDAS APOLLO aims to read data as-is with no conversion based on other best-of-breed industry format standards.

ERDAS APOLLO Essentials

Essentials is the perfect solution for organizations that require an enterprise solution to make sense of their traditional spatial data archives. Building on ERDAS APOLLO Essentials' history of rapid imagery services, beginning with 2023, the Essentials tier services an expanded target market covering all traditional spatial data types with a robust catalog and security model with matching web service delivery options. The expanded ERDAS APOLLO Studio Web Administrator is now available across all tiers, enabling rapid administration and control. Essentials is an ideal starter solution for customers seeking a catalog with distribution capabilities for traditional 2D raster or vector data sources.

ERDAS APOLLO Advantage

Advantage takes things to the third dimension by adding point clouds, 3D meshes and BIM/CAD data types to the catalog model. It also expands support from the traditional file-based data types to cover spatial data residing in databases such as Microsoft SQL Server, PostgreSQL and Oracle, among others. Defense industry users also gain support for VPF, MGCP and other defense-aligned formats and visualization standards. Additionally, 360-degree panoramic imagery is now supported from E57 or Hexagon's Leica Pegasus sensors. All these data types inherit the foundational workflow and security model introduced with ERDAS APOLLO Essentials. These data formats are discovered seamlessly through automatic data crawlers to locate, insert and extract metadata.

ERDAS APOLLO Professional

Professional provides a powerful server-side geoprocessing solution for geospatial data, employing complex algorithms that underpin the engine within ERDAS IMAGINE or GeoMedia. Geospatial analysts create custom models using these desktop expert tools and publish them to the Geoprocessing Server to enable execution on demand by other users. In v2023, the Data Extraction Service builds on the Geoprocessing execution model to provide expanded capabilities and is no longer limited to just the raster domain.

New platforms: ERDAS APOLLO 2023

Miscellaneous

Numerous platform and dependency updates to resolve vulnerabilities have been announced since the initial release.

Dependency	v2023	v2023 Update 1	V2023 Update 2	V2023 Update 3
Apache Tomcat	10.0.27	9.0.83	9.0.89	10.1.31
JSON-java	20230618	20231013	20240303	20240303
Netty Project	4.1.86		4.1.109	4.1.109
Axios	1.4.0	1.6.1	1.6.1	1.7.7
Dom4j	2.1.3	2.1.4	Deprecated	Deprecated
Hibernate-core	5.2.18	Deprecated	Deprecated	Deprecated
Org.JSON-java	20220924	20231013	20240303	20240303
Apache ActiveMQ Client and Server	5.17	5.18.3	5.18.3	6.1.0
Apache Tomcat Native Library	2.0.1	2.0.6	2.0.6	2.0.6
OpenSSL	3.0.5	3.0.11	3.0.11	3.0.11
libwebp	1.2.4	1.3.2	1.3.2.1	1.3.2.1
libjpeg-turbo	2.0.0	2.1.91	2.1.91.2	2.1.91.2
libhdf5	1.10.5	1.14.1	1.14.4.3	1.14.4.3
LuciadFusion	2023.0.4	2023.0.11	2023.1.13	2024.0.07
libcurl	8.1.1.2	8.4.0.1	8.6.0.5	8.6.0.5
ECWJP2 SDK	6.1.0.1084	6.1.0.1176	6.1.0.1176	6.1.0.1501
HDF	4.2.13.24	4.2.13.24	4.2.13.24	4.2.13.24
NetCDF	4.6.1.38	4.6.1.38	4.6.1.38	4.6.1.38
Batik XML	1.16	1.17	1.17	1.17
Jetty Server	9.4.50.v20221201	Deprecated	Deprecated	Deprecated

New technology: ERDAS APOLLO 2023

Migration Tool

The Migration Tool has been updated to assist customers in transitioning from ERDAS APOLLO 2022 to ERDAS APOLLO 2023 Update 3. The tool is designed to allow a user to connect to his or her existing 2022 version (this version must be ERDAS APOLLO 2022 Update 2) and the new 2023 Update 3 version and perform a basic migration of all catalog records. Some limitations will exist, e.g., users, roles and services will not be migrated. Users and roles must be defined prior to executing the Migration Tool so the proper mapping from old to new can be done as part of the tool guide.

You will not find this tool delivered in the ERDAS APOLLO 2023 installation package as not all users will need the Migration Tool. If you feel this tool would benefit you, please contact your regional sales or support teams to understand how to obtain the tool.

ERDAS APOLLO Server

ERDAS APOLLO 2023 Update 3 continues to build on previously released versions by making further improvements and bug fixes based on significant interest in adopting v2023 and feedback.

Update to LuciadFusion 2024.0

ERDAS APOLLO 2023 Update 3 has been upgraded to LuciadFusion 2024.0. This release includes several important enhancements like support for WCS 2.0 as well as many platform upgrades to address potential security vulnerabilities. See the [Issues resolved section](#) of this document to see a complete list of LuciadFusion updates.

Security updates to dependency platforms

In response to platform updates for LuciadFusion 2024.0, several platforms in ERDAS APOLLO have also been updated for consistency and to eliminate many security vulnerabilities. This includes a move to Java 17 (which needs to be installed by the administrator) and Tomcat 10.1.30 (which is embedded in the installer).

Service delivery improvements

Several enhancements and improvements have been made to the APOLLO server to support delivery services. These include:

- Support for OGC 3D Tiles 1.1
- Support for OGC WCS 2.0.1
- Support for MBTiles/MVT (Mapbox Vector Tile)
- Improved GetLegendGraphic output on vector styles

Additional format support

Additional format support includes:

- File GeoDataBase (FGDB)
- GDAL-based formats that expose sub-datasets will now be represented as a tree hierarchy exposing all layers
- MBTiles with both vector and raster sub-datasets

Hotfix 1 highlights

- External security fixes: Numerous OpenID integration improvements and bug fixes are included

- Expanded international support: International language support has been extended to include Czech, Hebrew, Indonesian and Portuguese within Catalog Explorer, Studio, the Configuration Console and the Installation package

Hotfix 2 highlights

- ERDAS APOLLO Studio: Several fixes to the interface have been made, including many that involve working with external security platforms and performance

Miscellaneous

A substantial number of issues have been resolved that include external bugs, internal bugs and enhancements. Many of these items have come through the suggestions of our customers and partners. Please see the [Issues resolved section](#) for more details.

Catalog Explorer

Catalog Explorer is a robust, exhaustive web-based exploitation client based on the LuciadRIA platform. We have continued to enhance it with capabilities consistent with other ERDAS APOLLO enhancements and other customer requests.

Upgrade LuciadRIA to 2024.0.05

To stay up to date with the latest Luciad platforms, we have upgraded Catalog Explorer to LuciadRIA 2024.0.05. See the [Issues resolved section](#) for details regarding fixes and enhancements that are available in this release of LuciadRIA.

Additional styling options

Extended vector styling has been added to support point icon size in meters and feet. Units are now displayed in the list and values are restricted to a maximum of 1,000 meters or 3,000 feet or 100 pixels.

Point Cloud Style numeric ranges of world size and world scale have been fine tuned for better performance and to avoid crashing.

Support for non-georeferenced panoramic images

We often see panoramic images that have not been georeferenced. But these images can still offer a lot of context when placed on the map at the correct location. Catalog Explorer will now sense if the panoramic images are non-georeferenced and if so, provide a pin drop to allow the user to place it on the map in the correct location.

Improvements to Catalog advanced search

Catalog Explorer already has the ability to query against custom properties; however, there can be hundreds of custom properties available even though all of them are not pertinent to most queries. In this release, enhancements have been made to allow the user to customize the list of custom properties that are visible in the query formation.

Support pin drop coordinate entry in Catalog Explorer

After receiving this request from customers, ERDAS APOLLO now supports the ability to enter specific coordinates that can be used to center the map view. This point can then be transformed into a customized square or circle that can be used as a query filter.

Hotfix 1 highlights

Several enhancements and fixes have been added, including:

- Catalog Explorer performance improvements, including support for OGC 3D Tiles 1.1 sources
- Ability to configure a download location for requested files
- In preparation of the deprecation of Bing Maps next year, Catalog Explorer gazetteer support was upgraded to include Azure, Google and HERE
- Support for Google Maps (2D), Azure Maps (2D) and HERE Maps (2D) as basemap sources (require API keys to be provisioned)
- Similar support for Azure Maps (2D) basemap source
- Ability to calculate total size for downloading datasets
- Improved interoperability with third-party OGC API Records instances
- Ability to export catalog search results to a CSV file
- Extended existing 3D mesh shading/lighting to support material metallic or roughness factors

Hotfix 2 highlights

Several enhancements and fixes have been added including:

- Support for non-georeferenced panoramas
- Clip/zip/ship GUI always return blanks when an output reference code is entered
- Improved point cloud styling options
- Improved first person navigation zoom to surface
- Several enhancements to Custom Extensions including a draggable window

System requirements: ERDAS APOLLO

	ERDAS APOLLO Core	ERDAS APOLLO
Computer/processor	Intel or AMD x86 quad-core processor with a clock speed of 2.0 GHz or higher and released since 2016	
Memory (RAM)	16 GB or more strongly recommended	
Server disk space	5 GB for application footprint, 10 GB at a minimum for application cache	
Peripherals	Gigabit ethernet	
Server operating systems	<ul style="list-style-type: none"> Windows Server 2019 Windows Server 2022 Red Hat Enterprise Linux 8.x (and compatible systems) 	<ul style="list-style-type: none"> Windows Server 2019 Windows Server 2022
Cloud environments	Amazon Elastic Cloud Compute (EC2), Azure Virtual Machines	
Software	Java LTS version 17 is supported and recommended	
Licensing	Geospatial Licensing Administrator 2023 with 16.8 feature code versions configured	
Application servers	Microsoft IIS 10 or higher (Windows) Apache 2.4 or higher (Linux)	Tomcat 10.1.30 (embedded in installer)
Databases	<ul style="list-style-type: none"> Oracle Database 19c, Standard or Enterprise Edition <ul style="list-style-type: none"> 12c and 18c versions are viable Microsoft SQL Server 2022 Standard or Enterprise Edition <ul style="list-style-type: none"> 2016, 2017 and 2019 versions are viable PostgreSQL version 13 - 16, with PostGIS 3.2 – 3.4 SQLite (ERDAS APOLLO Core only) 	
Admin tools	ERDAS APOLLO Core Console	ERDAS APOLLO Studio
Compatible client applications	<ul style="list-style-type: none"> Catalog Explorer 2023 GeoMedia 2023 ERDAS IMAGINE 2023 GeoCompressor 2023 Any OGC-compliant WMS, WFS, WMTS, WCS, CSW and OGC API processes compliant client applications 	

Migration guide

Due to significant changes, please read carefully.

ERDAS APOLLO Core v2022 to ERDAS APOLLO Core v2023

Upgrading from v2022 to v2023 with the ERDAS APOLLO Core installer follows previously established upgrade patterns where the previous version should be uninstalled, configuration kept when prompted and the new 2023 version deployed. An in-place upgrade of the configuration and database will be performed.

Please refer to the [user guide](#) for more information and ensure appropriate back-up actions are taken.

ERDAS APOLLO Core v2022/v2023 to ERDAS APOLLO v2023

Existing imagery-based customers who have deployed using the previous ERDAS APOLLO Core/Essentials installer but are interested in the new capabilities must recreate their raster services.

This process is manual; however, in most cases a significant portion of the data archive can be readded using the new Data Root functionality and then remapping to the published service types.

The two options can be deployed side by side; however, we recommend a separate installation to enable a simpler comparison and deployment. Due to the number of features now available on the Essentials tier, we expect some customers to explore this option, especially those looking to take advantage of the expanded capabilities outside the traditional raster at the Essentials level.

ERDAS APOLLO Advantage/Professional v2022 to ERDAS APOLLO v2023

A Migration Tool is now available to assist in the migration from ERDAS APOLLO 2022 to this release. Before beginning the migration, you must be on ERDAS APOLLO 2022 Update 2, and you must be migrating to an instance of ERDAS APOLLO 2023 Update 1 or higher. You will need to ensure you have all the necessary roles defined in your 2023 version to properly map your 2022 system. This Migration Tool will not be delivered with the product itself, but rather it is available upon request.

Please contact your Hexagon representative regarding availability and requirements for the data Migration Tool.

ERDAS APOLLO v2023 upgrade to ERDAS APOLLO v2023 Update 3

The Migration Tool is not required for intra-2023 update. Please refer to the [user guide](#) for more information on the workflow to uninstall, leaving configuration and deploying the new version. Any necessary updates will be applied.

Conversely, new deployments do not require installation of previous v2023 versions. Simply install ERDAS APOLLO Update 3.

Known limitations

This release continues to change the foundations of ERDAS APOLLO through necessary technical modernization. While this offers significant improvements, it also presents challenges for existing customers to migrate and does not guarantee functional feature parity.

While we are confident this release provides substantial value to new and existing customers, the latter group should carefully review the following known limitations and contact Hexagon Support to find out more. In many cases these limitations are not permanent and are planned to be reintroduced during the v2023 release cycle.

Limitations in v2023	Comment
AWS S3 dataroot crawling (file crawling is now supported)	An alternate workflow is available on request.
The ability to crawl third-party OGC CSW instances is no longer supported.	This is still being evaluated according to customer need.
Not all geometries are being handled in the new File GeoDatabase (FGDB) decoder.	We will be working to add the additional geometry definitions in the near future.

Issues resolved

ERDAS APOLLO v2023 Update 3

Development ticket	Customer ticket	Summary
TR-2673		Update platforms to address vulnerabilities in the Migration Tool
TR-2576		Update to the latest SMSDK
TR-2519		Update Bootstrap 4.6.2 to avoid vulnerabilities.
TR-2371	00295945	Security Issue - Possible to login into Studio with OpenID without a Role
TR-1765		Update Logback component from 1.2.11 to avoid vulnerabilities.
TR-1394		Document how to handle upgrade/change/deletion of properties between two versions of Apollo.
TR-210	00292872	Encrypt passwords in configuration files of Apollo
TR-2716		Remove Java 11 reference from documentation
TR-2677		The configuration console is failing to get status for Catalog Explorer
TR-2674		Installer does not check for Java 17 requirement
TR-2623		Migration Tool - Update build for Java 17
TR-2595	00369126	"no matches were found" when browsing .las, .laz using Apollo catalog explorer
TR-2434	00308257	Populating 30 folders in Apollo studio (4 seconds) is too slow
TR-2427	00308489	Studio crashes when hovering over a datefield in non English languages- Month/Day order problem
TR-2376	00298535	Security Issue - Wrong user logged in fusion_apollo.apollo_log_entry
TR-2351		Upgrade Jenkins to LTS 17 and build/test machines to Java 21
TR-2216	00288310 00303987	Keyword search is searching by title and date, not by keyword.
TR-2149		Implement Esri File Geodatabase vector file format support
TR-1929		Update sonarqube scans to Java 17
TR-1396		Geoprocessing "job cancel" action leaves behind huge stack trace in logs

TR-2735		Add gdb filter to crawl dialog in Studio
TR-2720		Clip workflow in Catalog Explorer fails due to DES job polling exiting too soon
TR-2713		Request the User Guide link(s) in Studio point to a different fluid topics address
TR-2702		Crawling Defaults - Changing Default Metadata Parser Results in an Error
TR-2691		Catalog Explorer - update fontawesome icons
TR-2690		Cannot update temporal extents more than once
TR-2667		Catalog Explorer - exception handling not display html error page after upgrade to Spring Boot 3
TR-2663		Catalog Explorer - favorites not working after upgrade to SpringBoot 3
TR-2659		Catalog Explorer locks up trying to add APOLLO generated WMS that contains temporal extents
TR-2657		APOLLO logs now contain [CatalogExplorerV16.9]
TR-2649		Studio - Enhance Temporal Extents
TR-2622		APOLLO Security is not allowing the ISO metadata editor to display metadata in Studio
TR-2621		Catalog Explorer - add catalog connection is not working
TR-2592	00349589	Language localization on ISO metadata failed on portuguese, but no issue on Spanish
TR-2581		Catalog Explorer - add missing properties to table view
TR-2572		Studio is getting 401 errors on authenticated API endpoints, but the session has not expired
TR-2568		CXP - extensions missing from download files
TR-2566		Catalog Explorer - Improvements to Catalog Advanced Search
TR-2564		Improve documentation over API permission requirements
TR-2561		Catalog Explorer - PointCloud Style numeric ranges of World Size and World Scale need to be fine tuned for better performance and to avoid crashing
TR-2557		Catalog Explorer - Panoramas with rotation property undefined must default to rotation = 0
TR-2550		Catalog Explorer - Improve console debug info about Message Broker and minor improvements to live tracks.

TR-2549	00354237	Enhance the description of the REST API patch /api/data to explain how to avoid deleting custom properties
TR-2548		Catalog Explorer - Extend Vector Styling to support point icon size in Meters & Feet
TR-2539		Cancelling GP Jobs attempts to read/write outside of expected location
TR-2532	00344763	API /api/records/collections/search does not allow rsqIQuery
TR-2475	00344713	Add the ability to set and query the temporal extent of a dataset
TR-2452		Studio - remove API Console from Studio menu when OpenID is configured
TR-2401	00300233	Could not update wgs84Bounds using API PATCH /api/data/{id}
TR-2398	00301165	APOLLO - WARNING during start of Apollo that defaultRasterData & defaultVectorData not set
TR-2397	00301162	APOLLO - WARNING during start com.hexagon.apollo.rest.TApIFixedPaths URL normalization
TR-2393	00301140	Security Issue - tridentserver-prod.properties & tridentserver-dev.properties with unencrypted password for database connection
TR-2387		Apollo Studio - fails to create folder
TR-2380	00294458	Studio with OpenID integration automatically refreshing the page (mouse-over date problem)
TR-2352	00294429	Apollo 2023u2 studio "Anytext" search needs to search Title and Keywords
TR-2295	00282920	Add the ability to query the catalog based on certain custom properties
TR-2279		APOLLO - metadata parser is not generating metadata document for CAD files
TR-1995		Support pin drop coordinate entry in Catalog Explorer.
TR-1980	00219384	Thumbnail disappears on Catalog Explorer after run crawling job 2nd time
TR-1793		OpenID - 404 error attempting to delete data or folders with Studio or API
TR-1730		Oracle - bbox is different compared to other DBs
TR-1446		Update to Luciad Fusion 2024.0
TR-1443		Implement our own custom error page to improve usability on errors
TR-1430		Unable to see the drawn Area of interests after creation

TR-2594	00362952	Configuration Console allows inserting invalid host names (no regex matching)
TR-2560		Catalog Explorer - upgrade to LuciadRIA 2024.0.05
TR-2426	00304738	REST API endpoint /api/data/{id}/access_rules response doesn't return all documented attributes
TR-2416	00304001	API Console documentation for GET /api/users/{username} is not correct
TR-2379	00298645	Studio - some Keyword terms presented in search field suggestions return 'no data found'
TR-2244		Dialog button to edit existing spatial security requires two clicks to open the editor
TR-1597		Geoprocessing Worker configuration is ignored if running on the same Tomcat as Coordinator
TR-872		GeometricModels at the very first start of the server do not appear in the log

ERDAS APOLLO v2023 Update 2 Hotfix 1

Engineering reference	Customer support reference	ERDAS APOLLO component	Summary
TR-2459, TR-2430, IM-7498	00300396, 00299625	Core, Projection, DES, Formats - Raster, Formats - Vector	Projection definition for Israel local systems EPSG:2039 and EPSG:6991 has been upgraded to use higher accuracy transform across the platform to resolve accuracy issues.
TR-1850	00279729	Geoprocessing, OGC API Processes	Geoprocessing Coordinator OGC API is not respecting X-Forwarded header values when deployed behind a Reverse Proxy
TR-1851	00207501	Formats - BIM/CAD	Crawling IFC files would only crawl the first dataset reference and potentially ignore secondary feature elements
TR-1938		Catalog Explorer	Catalog Explorer is unable to query the previous release ERDAS APOLLO v2022 catalog endpoints
TR-1998		Catalog Explorer	Add the ability to configure a download location for the requested files
TR-2215	00285001	Security	When configured with OpenID, a bug prevented deletion of data
TR-2265	00265779	Formats - BIM/CAD	A duplicate decoder reference meant DWG files were incorrectly being handled as Business Documents. Now DWG will render as expected

TR-2317	00284368	Catalog, Performance	Improved construction of DB Queries for Data RSQL Filtering to improve support for large underlying Catalog models
TR-2319	00277462	Catalog, Performance, OGC API Records	Improved query response times across numerous OGC API Records query types. Performance improvements up to 400% can be expected.
TR-2327	00289952	Catalog Explorer, WMS	Improved workflow within Catalog Explorer to clarify that Queryable layers can only be enabled on creation
TR-2330	00285081	Configuration	APOLLO default temporary files location has been altered from %TEMP_DIR% (C:\Windows\TEMP\APOLLO) into %PROGRAM_DATA%\Hexagon\ERDAS APOLLO\temp. This ensures all program data is located in the same location and resolves customer concern about temporary files being written to the original location.
TR-2339	00290515	Security, OpenID	Incorrect security filtering was being applied to particular endpoints that have now been corrected
TR-2359, TR-2201	00295175	Studio	When searching by dates in Studio, it was incorrectly assigning time to the beginning of the day rather than the end leading to expected data being omitted. The time handling has now been shifted to end of day to return expected results for a given time period. Also resolved a related issue where searching only by date could omit other required type values leading to errors.
TR-2375, TR-598	00298534	Studio, Audit logging	Improved coverage of more reporting events to improve visibility of activity within APOLLO. Studio Reporting has been expanded to the new types now available.
TR-2389, TR-1820	00219314	Catalog Explorer, Gazetteer	Upgraded gazetteer support from Bing to the new Azure offering and resolved compatibility issue with Here API
TR-2394	00301141	Catalog Explorer, Logging	Removed unintentional developer logging from the Catalog Explorer profile
TR-2396	00301159	Logging, Security	A warning log message on startup regarding “enabling Fusion Platform Security” will no longer be seen
TR-2415	00302981	Security, OpenID, Configuration	Improved workflow when OpenID is enabled, to prevent usage of the APOLLO defined /api/users endpoint as user delegation is via OpenID and cannot be mixed.
TR-1200		Studio	Some miscellaneous padding changes have been made to improve density in the Studio interface.

TR-1415		Studio	The Studio Folder Browser state will now be remembered when navigating elsewhere in Studio and back again. Your previous filter and folder selection will remain.
TR-1719		Formats - Business Documents	The decoder priority has been lowered on Business Documents to properly act as a fall-back decoder when all other decoder types were unable to be used. This resolves issues with general formats such as JPG or PDF files that can both be Geo-enabled or act as a non-Geospatial type. Previously these formats could be decoded as business documents always.
TR-1859		Internationalization, Studio	The vector style editor interface in studio now supports internationalization to match the wider Studio supported languages.
TR-1932		Formats - Raster, Performance	Further optimizations made within the Raster Header metadata extraction to lower the overhead and improve raster ingest performance into the catalog
TR-1997		Catalog Explorer	Add the ability to calculate total size for downloading datasets
TR-2170		Catalog Explorer, Formats - Point Cloud	Point cloud visualization failed to display in CXP when a dataset property contained ":" in its name.
TR-2199		Catalog, Configuration	Data root crawling will replicate directories even if the option was disabled.
TR-2250		Studio	"Set Options as Default" was not working as expected when using the Add Data Upload workflow
TR-2262		Catalog Explorer	Added new capability to define a custom Vertical offset for 3d Mesh and Pointcloud layers
TR-2273		Catalog Explorer	Custom extensions can now be packaged via an improved ZIP deployment method
TR-2283		Catalog Explorer, OGC API Records	Improved interoperability with 3rd-party OGC API Records instances under development
TR-2297		Catalog Explorer	Added ability to export Catalog Search results to a CSV file
TR-2309		Catalog Explorer, TMS	Improved handling of 3rd-party TMS layer sources where a tile may be missing its higher level parent or lower level children due to tile availability.
TR-2331		Catalog Explorer	Added support for Google Maps (2D) in addition to the existing support for Google Maps 3D-tiles. Similar support also added for Azure Maps (2D) basemap sources. Both require API keys to be provisioned.

TR-2366		Catalog Explorer, Logging	Resolved warning message regarding “uniqueversionname” constraint
TR-2423		Catalog Explorer	Extended existing 3D Mesh shading/lighting to support Material metallic or roughness factors
TR-2423		Catalog Explorer, Performance	Increased the default memory budget for Catalog Explorer to improve performance especially with 3D dense maps displayed
TR-2444		Catalog Explorer	Saving a workspace with a 3dtiles layer while in 2D map mode previously caused an error
LCD-13323		Platform, WCS	WCS 1.1.x GetCoverage requests now support requests that omit both bounding box and resolution
LCD-13362		Platform, WMTS	The WMTS WellKnownTileSet GoogleMapsCompatible now includes the full urn:ogc:def:crs:EPSG:6.18.3:3857 definition
LCD-13361		Platform, WMTS	Fixed an issue where empty tiles were returned when using the WGS84 tile matrix set
LCD-13356		Platform, Logging	Fixed a startup logging issue that could report “no such function: spatiaillite_version”
LF-2580		Platform, Performance, Studio	Vast improvements to Studio browsing directories with a large number of entries
LF-2589		Platform, Oracle	Resolved upgrade issue that when configured with Oracle, meant previously created data roots would fail to run
LF-2593		Platform, Formats - Pointcloud, Studio	HSPC input datasets which define projection under its “projection-wkt” property will now correctly be parsed within hspcInfo.json
LF-2595		Platform, Logging	On shutdown of the server, it was possible for Lucene errors to be logged and has now been fixed
IM-51722, IM-60708		Image Formats - Raster	CADRG improvements to NoData handling
IM-73732		Image Formats - Raster	IMAGINE TIFF Decoder now supports ZSTD Compression
		Catalog Explorer	Inherited performance improvements through expanded usage of WASM SIMD in LuciadRIA
		Catalog Explorer	OGC 3d tiles v1.1 is now supported and covers additional extension types not previously supported
TR-2381		Platform, Installer, Studio, Configuration Console	New localizations added for Czech, Hebrew, Indonesian and Portuguese

ERDAS APOLLO v2023 Update 2 Hotfix 2

Engineering reference	Customer Support Reference	Summary
TR-2369	00295947	APOLLO 2023 U2 - Studio - Product creation kills tomcat service permanently 99% CPU
TR-2528		Update to LuciadFusion 2023.1.25
TR-2481		Server crashes when you go to the "Styles" tab after starting the server, and select "Create ImageChain style"
TR-2411	00303285	Users from custom defined role unable to download data from catalog
TR-2370	00297731	APOLLO 2023 U2 - Studio - Issue with product creation
TR-2362	00294456	/apollo/api/data/{id}/refresh causes custom properties to be removed
TR-2336	00288953	Freeform filter in Studio not usable in large catalogs
TR-2332	00289806	Studio doesn't send token revocation request after user logs out (OpenID)
TR-2538		Catalog Explorer - Add support for non georeferenced panoramas
TR-2525		Validate EOS-4 CEOS SAR Format support
TR-2506		Validate Worldview Legion format support
TR-2500		Catalog explorer 2023u2 Clip/zip/shipping GUI "Enter output reference code" always return blanks
TR-2497	00330498	After folder creation with POST /apollo/api/folder the response body always returns customProperties.parent with value "ROOT" as Parent instead of actual parent folder id
TR-2496		Catalog Explorer - Custom Extension on FeatureSelect MenuEntryFeatureSelect validate is wrongly defined
TR-2489		Catalog Explorer - Prevent Workspace with Empty Mesh Slicer to create Empty MeshSlicer Layer
TR-2488		Implement improved point cloud styling options in CXP
TR-2487	00325855	Failed to update "allowDownloads" data property via PATCH /api/data/{id}
TR-2483		Catalog Explorer - Improve first person navigation zoom to surface

TR-2476	00344741	Create a custom property for storing the owner of a dataset
TR-2470		Colorramp location is not initialised in some workflows
TR-2459	00299625	Apollo catalog explorer CZS result doesn't align with original dataset
TR-2430	00300396	Raster/Vector in EPSG:6991 and EPSG:2039 don't align in Apollo Catalog Explorer
TR-2424		Catalog Explorer - Add a draggable window to custom extensions for custom content defined by user
TR-2422	00299880	Wrong endpoint url when click GET CAPABILITIES in Apollo Studio 2023 update2
TR-2407	00301167	APOLLO 2023 U2 - Apollo - WARNING during start of Apollo that not enough disk space is available for the cache
TR-2406	00301157	APOLLO 2023 U2 - Studio - Settings Tab - 404 request against /apollo/api/users/%USERNAME%
TR-2400	00299622	String type enum queryable doesn't work in Apollo 2023u2
TR-2399	00301168	APOLLO 2023 U2 - Apollo - WARNING during start of Apollo that the Tile store home was not found
TR-2390		Integrate additional Studio browse folder performance enhancements
TR-2368		Geoprocessing worker and coordinators web apps are very slow to restart
TR-2361	00295173	APOLLO 2023 U2 - Missing Indexes on import_time and update_time @ fusion_studio.imported_data
TR-2343	00291901	Catalog Explorer view breaks after zooming to data or folders with no footprints
TR-2328	00287996	Studio doesn't handle expired OpenID token
TR-2321	00285003	APOLLO 2023 U2 - Apollo Studio Client not handling idletime with Active OpenID session
TR-2261	00263486	"Search for data to add" dropdown list only populate 10 items
TR-2180		Improve dataroot deletion performance
TR-2125		Parent folder is set to a dataset, not a folder
TR-2570	00365409	Studio not accessible using /servername/apollo/studio

TR-2446		Improve error handling with imagechain model parsing
TR-2442		Imagechain style editor should enforce min/max values
TR-2402		Hide ImageChain Context parameter from Studio UI
TR-2372	00297969	APOLLO 2023 U2 - Studio - Login UI loses the Hexagon logo correct when viewed on a wide screen monitor
TR-2335	00289868	APOLLO 2023 U2 - Studio "Sign out" is sending user to an logout page instead of the login page
TR-2333	00289752	"More Info" button not working in a Studio error message

LuciadFusion

2024.0.7

- Improved the robustness when retrieving corrupt tiles from Fusion tile repositories (e.g., preprocessed point clouds). The new behavior logs an error and reports the tile as unavailable. LF-2560
- Improved the robustness when writing to Fusion tile repositories (e.g. when preprocessing point clouds) on unreliable storage. The new behavior performs multiple write attempts. LF-2560
- Events published by LuciadFusion now include the request information for all events that were triggered by a call using the REST API. LF-2610
- The TLfnEventSourceRequest of events published by LuciadFusion now includes the remote address of the client that made the request. The address can be obtained by calling the getRemoteAddress method on the TLfnEventSourceRequest object. LF-2611
- Fixed an issue that caused supporting files to no longer be associated with a data after the custom properties on that data were changed. LF-2633
- Fixed an SLD icon rendering issue that prevented the use of an SLD size larger than 500 meters or feet for pixel-based icons. LCD-13533
- Fixed an issue where the TLcdIFCModelDecoder showed wrong material information in specific use cases. LCD-13501

2024.0.6

- Since version 2024.0, the WFS server could return exception reports for valid POST (XML) requests. LCD-13525

2024.0.5

- The default WMS and WMTS GetLegendGraphic support for layers styled with an SLD did not take into account the color of a polygon symbolizer if it was defined inside a mark. LCD-13519
- The following WCS server issues have been fixed related to the handling of the optional "Sections" parameter in a GetCapabilities request. LCD-13508
- TLcdGeoPackageModelDecoder, TLcdLVDBModelDecoder and TLcdSpatialLiteModelDecoder now are able to correctly resolve the srs_id of data when the name of the table or column containing the spatial data contains non ASCII characters. The WFS server returned a WFS 1.1 response instead of a WFS 2.0 response for a WFS 2.0 GetFeature hits request. LCD-13510

- TLcdNITFModelDecoder can now process image blocks with differing width and height, meaning they no longer need to be square. LCD-13500

2024.0.4

- WM(T)S Layers can now support advertising dimensions in 2d and 3d view LCD-13270
- The performance of queries that use the lfn.creationTime or lfn.updateTime properties has been improved. LF-2622
- The TLcdGDALModelDecoder will now decode a ILcdModelTreeNode if the data contains subdatasets. LCD-13455
- Fixed an issue where the line weight of shapes from DWG datasets was not displayed correctly. LCD-13486
- Fixed an issue in LuciadFusion Studio that caused an error when adding or crawling a file that contained multiple data, and a style file with the same name was located next to it. LF-2626
- Editing of geometries visualized by a PointSymbolizer can now be disabled. This capability can be activated on a TLcdSLDPointSymbolizer by configuring an SLD vendor option with name allowEditing and value false. LCD-13477
- When using WMS layer dimensions the following dimensions are now published in the capabilities: LCD-13475
 - Dimensions with an axis without a unit.
 - Dimensions with strings as possible values.

2024.0.3

- It is now possible to define an XML document next to a BIM dataset, to define an OGC Filter that will be applied on the data before it is converted to OGC 3D Tiles or exposed as a features dataset. LCD-13337
- The TLcdGeoPackageModelDecoder and TLcdGeoPackageModelEncoder now have support for the following geometry types: MULTICURVE, MULTISURFACE, CURVEPOLYGON, COMPOUNDCURVE. LCD-10417
- TLcd3DTilesProcessorBuilder: Now uses all registered ILcdModelReferenceDecoder instances when searching for external model reference files. LCD-13408
- LuciadFusion can now parse ILcdMultiDimensional model dimensions that have a TLcdISO19103DistanceMeasure as measure. LCD-13466

2024.0

- You can now use OGC 3D Tiles 1.1 tilesets in a LuciadFusion OGC 3D Tiles service. These tilesets can only be served as-is. No re-processing is available for version 1.1.
- The WCS service in LuciadFusion Studio now supports WCS version 2.0.1.
- The Spring Boot dependencies of LuciadFusion have been upgraded from version 2.7 to version 3.2. This newer version brings numerous new features and fixes
- TLcdMBTilesModelDecoder now also supports MBTiles services, next to files. To decode an MBTiles service you need to provide the TileJSON endpoint as source.
- A new MBTiles service type is now available, which can be used to serve MBTiles raster or vector data.
- The WMS and WMTS services have improved GetLegendGraphic support to create a meaningful legend for vector-oriented SLD styles (containing polygon, line and/or point symbolizers)
- Products with cartesian referenced data can now be added to a WFS service.
- T REST API endpoint GET /api/data/filter now allows filtering Data resources by data categories and keywords. These properties are also listed by the GET /api/data/queryable-properties endpoint
- Custom properties now support more flexibility types, including enum types across Long, Double, Boolean, Date and String types.

- The Studio file and folder picker now hides hidden files and folders. LF-1949
- Fixed an issue where the startedTime property on a service was never updated if the service was restarted. LF-2354
- There was a very small precision loss when storing the bounding box of a data item in an Oracle database, this has been fixed. LF-2513, TR-1730
- We now enable support for vertical datums by default for a number of model decoders. If your services require preprocessing (such as LTS and OGC 3D Tiles) and you encounter issues with vertical datum application, you may need to preprocess the involved data again to ensure correct application of the vertical datum support. Preprocessing again is only necessary if you have other data with vertical datums and observe inconsistencies. LCD-12921

LuciadRIA

2024.0.5

- LuciadRIA now supports the Symbology Encoding Function FormatDate. Typically, it is used to format a date inside a label. The same functionality is supported through a new build-in custom function dateFormat. For more information, see SLD Custom Functions - dateFormat. RIA-4926, RIA-4136
- Fixed an exception in OGC 3D Tiles layers that have point clouds if the MeshStyle has pbrSettings defined. RIA-4924
- Fixed an issue where WFSFeatureStore failed to request features located above the terrain and close to the camera when the camera was tilted towards the horizon. The LoadSpatially strategy now correctly requests features in this scenario. RIA-4820
- Fixed an issue where parts of the terrain near the bottom of the screen are not shown when using certain kinds of elevation layers. RIA-4915
- Fixed an issue where HSPC datasets without attribute names were not decoded in the ModelDescriptor. Now an attribute without name gets the attribute role as name. RIA-4908
- Fixed an issue where attempting to extrude GeoBuffer shapes would sometimes result in a ProgrammingError: "ExtrudedShape: invalid base shape." This was caused by a mismatch between the Z-coordinates of the computed contour and the main shape. RIA-4913
- Fixed an issue where snapping didn't work for points with different Z-coordinates while editing without a horizontal EditMoveConstraint. RIA-4909
- Fixed an issue in OGC 3D Tiles where changes in OcclusionStyle were not instantly displayed. RIA-4907
- Fix for an exception in OGC 3D Tiles that could happen when custom properties are often updated. The exception could interfere with the display of 3D Tiles and navigation. RIA-4900
- LuciadRIA now depends on library abseil. This new dependency requires no code changes. RIA-4893

2024.0.4

- Fixed an issue with creation of bounds, where the bounds would be visible (at lon-lat [0,0]) before they were being created. RIA-4892

2024.0.3

- ReferenceProvider can now more robustly detect which projection is used in WKT strings. This means that additional underscores and whitespace in the name of the projection are now allowed. RIA-1305
- Improved the handling of WFS feature types with bounds of '0' width and height. Prior versions raised console warnings in such situations. Given that '0' dimensions are valid for single-point features, these unwarranted warnings are now eliminated. RIA-4883

- Transformations using the Belgian Lambert (1972) reference (EPSG:31300) didn't produce correct results. RIA-4881
- The functionality of swapAxes in GeoJsonCodec has been corrected to ensure that it is now applied when invoking decodeGeometryObject and decodeGeometry. Previously, the swapAxes option was applied only with the decode and decodeObject methods. RIA-4789
- Fixed an issue where textures in OGC 3D Tiles and 3D Icons automatically applied mipmap filtering even when they should not have. RIA-4871, RIA-4880

2024.0.2

- Within the scope of requesting WFS capabilities, WFSCapabilitiesOperation now includes a supportedRequests field. This field informs users about the HTTP request methods ('GET' or 'POST') that the WFS service permits, and provides the corresponding URLs for each operation. RIA-4865
- It is now possible to override the coordinate reference of a HSPCTilesModel from the constructor options. RIA-4859
- Fixed a decoding issue of OGD 3D Tiles 1.1 that could occasionally result in degenerated geometries. RIA-4872
- It is now possible to indicate that a RasterTileSetModel models a sparse tileset. In a sparse tile set, some tiles may be missing in the tile tree. Before this fix, LuciadRIA would not correctly load such tilesets: some tiles would not refine into higher detail when zooming in. Refer to the isSparseTileSet flag on RasterTileSetModelConstructorOptions for details. RIA-4846, TR-2309
- Fixed an issue with SwipeController: raster layers that are on top of a base imagery layer that is completely transparent, were invisible while swiping. RIA-4797

2024.0.1

- Fix an issue when blending is enabled on a mesh layer, the mesh becomes red and transparent. RIA-4851
- Fixed an issue where TileSet3DLayer layers could be invisible while their visibleInTree property was true, in the case that the layer got moved in the layer tree. RIA-4849
- FeatureLayer: fixed a memory leak that would occur when an invisible layer was added to the map and model updates were applied while it remained invisible. RIA-4845

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