GXP Xplorer® Platform v2.4.8 release details

Presented by GXP® Product Development

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Infrastructure

- Upgrades are supported from GXP Xplorer® v2.4.2+.

- The Pre-Upgrade Utility has been made more reliable for sites with large catalogs.

- Federation is supported from GXP Xplorer v2.4.2+.

- MSP has been upgraded to v1.7.

- DRS version is 5.6.04.R5.

  - Contains MSP v1.6.4.

- The Log4j vulnerability is mitigated in this version out of the box.

  - No need to run the supplemental patch from previous versions.

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Installation

- The main application installer has been broken apart into two discs:

  - These are in addition to the GXP® Essentials disc.

  - Disc 1: Application:

    - This is the main application that everyone will need to install.

  - Disc 2: Optional Media:

    - This disc contains several optional components of the GXP Xplorer Platform that can be installed to enable additional functionality or workflows.

      - Digital Terrain Elevation Data (DTED) Level 0 – Provides low fidelity worldwide terrain data for users without access to higher fidelity sources. DTED is useful when exploiting images in GXP WebView® or GXP Fusion™ for accurate mensuration and coordinate derivation.

      - GXP Fusion Network Graph - This install is necessary for users of GXP Fusion. Specifically, this will install Cassandra and Janus Graph services that are necessary to run the Network Graph which shows relationships between observations created by analysts.

      - World Aeronautical Chart Mosaic (WTM) – Allows querying for data by using WTM grid cells.

      - Coalition Shared Database (CSD) and Geospatial Imagery Access Services (GIAS) - Allows communication between GXP Xplorer and third-party clients that utilize the CSD or GIAS specifications.

      - Metrics Reporting - Allows for the administrator of GXP Xplorer to collect and view metrics regarding the operating state of the software and associated cataloging.

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License updates

- GXP_Observations is now included in all bundles.
  - This allows users to save and collect observations using GXP Xplorer as the back end data store.

- ARCGIS_PORTAL is now included in the GXP Xplorer Basic Bundle.
  - This allows users to publish directly to the ArcGIS® Portal.

- A new license is necessary to enable the ortho processing GUIs in GXP Xplorer.
  - GXP_XplrOrthoMosaic
  - This is in addition to the GXP_SvcOrthoMosaic license necessary for the processing.
  - These licenses can be added onto any GXP Xplorer Bundle except GXP Xplorer Basic.

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GXP Xplorer v2.4.8 updates

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Orthomosaic Manual Processing

- Users can now launch an Orthomosaic job manually from the Product Gallery in the GXP Xplorer List or Map Page.

  - A Load All Images in Collection button has been added to the menu next to the input images, which will automatically load associated images for particular missions.

  - The state of the job can be viewed in the Status window.

  - The output mosaic will be placed into the Cart for download and can be automatically cataloged.

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Orthomosaic / Orthophoto Automated Processing

- A new section has been added to Administration Settings ... GXP Xplorer Global Settings called Mosaic Algorithms.
  - This replaces the Ortho Generation section that previously existed.
  - Allows automated tasking of:
    - Orthophotos
    - Orthomosaics
- A new dashboard has been added to Metrics called Ortho Dashboard to view statistics related to this processing.
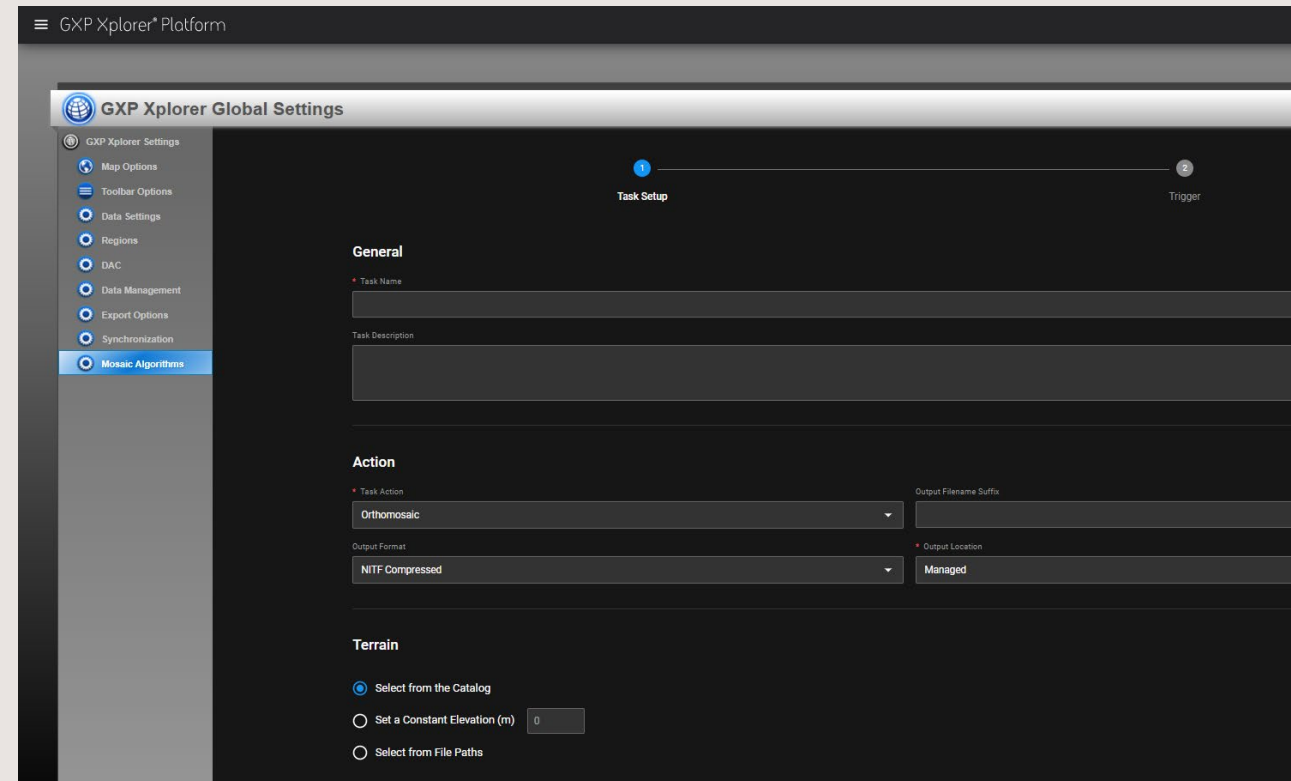
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Orthophoto Automated Processing updates

- The input imagery can now be used when determining an output Ground Sample Distance (GSD).

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Orthomosaic Automated Processing updates

- The input imagery can now be used when determining an output GSD.

- Additional parameter to control if the mosaic will be clipped to the boundary of the Trigger Area.

- The Trigger Event page now allows users to set a Maximum Ingest Idle Time which controls how long the system should wait to identify additional images to be used in the mosaic processing.

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Coalition Shared Database updates

- Many updates have been done to improve compatibility between GXP Xplorer and CSD sources.

- Current capability list is summarized in the table.

- Additional data types are supported including:

  - Microsoft® Office, PDF, text, motion imagery (STANAG 4609), and XML reports (INTSUM, INTREP, HUMINTREP, PENTAGRAM, WLEXREP, RECCEXREP, MTIEXREP, MIEXREP, ISRSPOTREP, IQREP).

- Users no longer have to manually restart CSD services when making configuration changes.

Capability	GXP CSD AEDP-17 Server	GXP CSD AEDP-17 Client	Interface
Ingest	Not applicable	✓	CORBA® and SOAP
Ingest/ create/ delete/update product associations	Not applicable	✓	CORBA and SOAP
Update/Delete	Not applicable	✓	CORBA and SOAP
Query	Not applicable	✓	CORBA and SOAP
Retrieve catalog entries and files (product and related)	Not applicable	✓	CORBA and SOAP
Synchronize	✓	Not applicable	CORBA

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Upload updates

- GXP Xplorer has been updated to use a new Upload Files window.
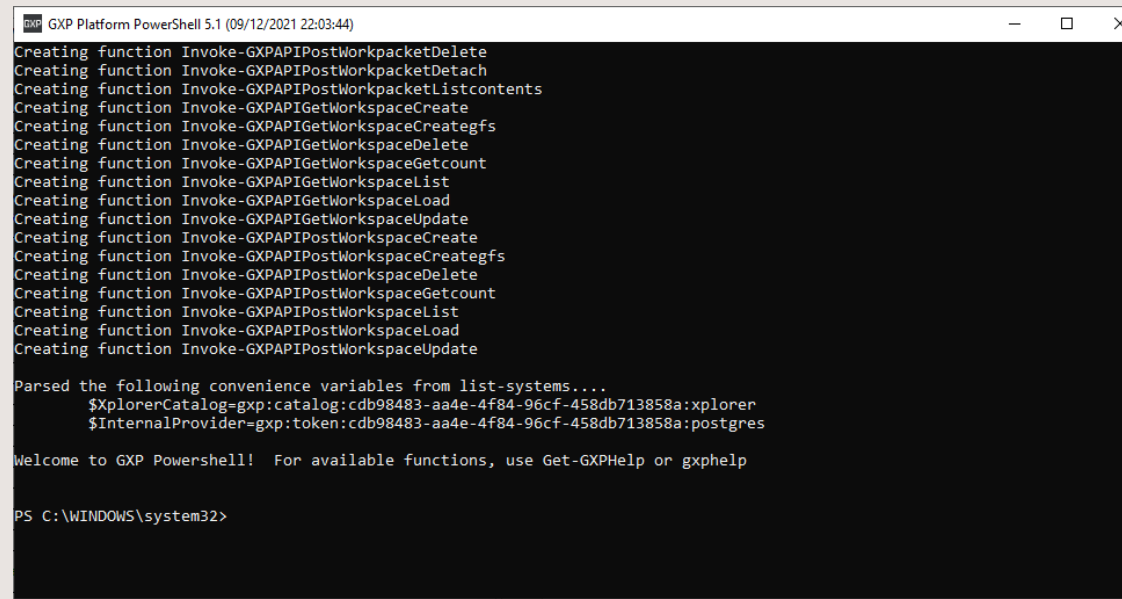
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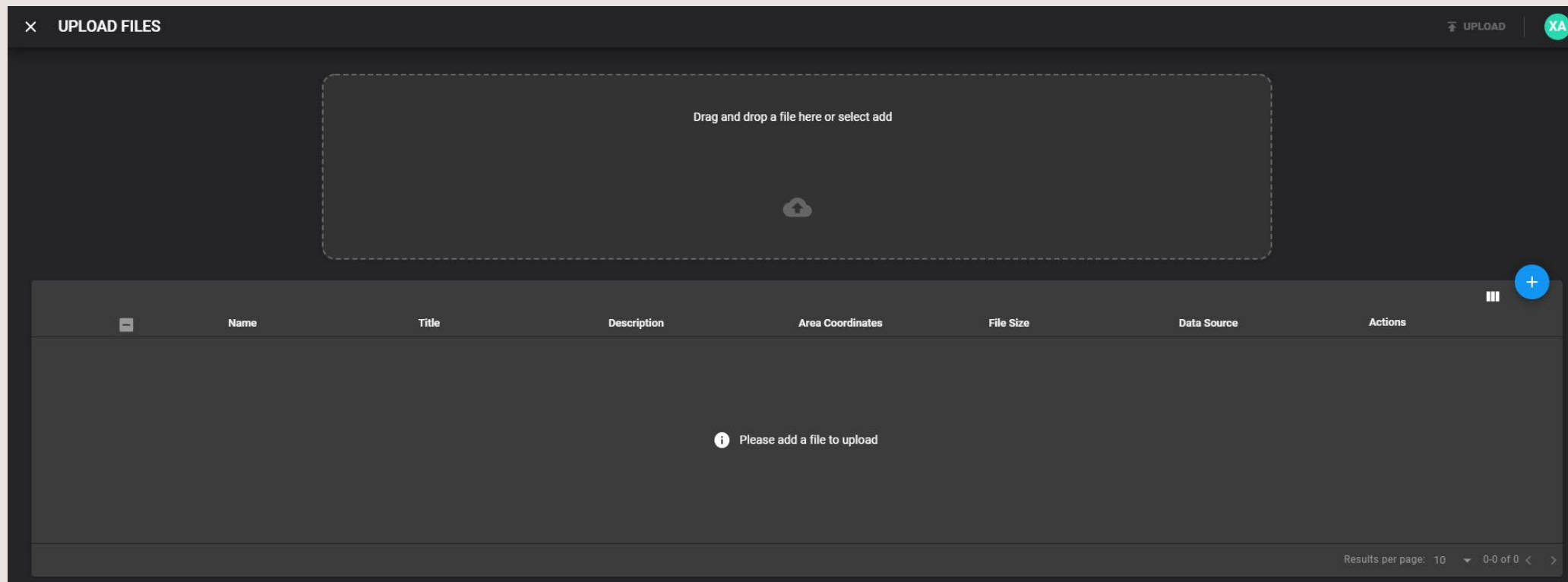
Data Model updates

- On upgrade, Data Models that users have customized will only be updated based on the following rules:
  - We should not attempt to restructure a tree that has been changed by the user.
  - We should not modify an attribute that the user has modified.
  - We should only add new attributes and classes from our model.
  - If a new attribute belongs to a class that has been removed, then we will not add it.
  - If a new class has been added from our model and the parent class has been removed, then we will not add it.
  - If the parent class has been moved to another part of the tree, then we still add the new class.

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GXP PowerShell® tools

- GXP Xplorer Platform now includes a set of PowerShell modules supporting common system administrator functions, access to Application Programming Interface (API) calls, scripting, and monitoring.
  - These can be launched from the Start Menu … GXP Xplorer Platform 2.4.8 Powershell Tools.
  - To see the full list of available functions, users can type "Get-GXPHelp" or "gxphelp" in the PowerShell window.
  - Additional information is available in the API documentation.

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Other significant enhancements

- When multiple catalogs are present, user selections on which catalog to search are now persisted when refreshing or switching between the Map View and List View.

- Area Search Parameters and Advanced Metadata Parameter values are no longer persisted on page refresh.

- OpenStreetMap can now be added as a map background in GXP Xplorer:

  - https://ows.terrestris.de/osm/service?SERVICE=WMS&VERSION=1.1.1&REQUEST=GetCapabilities

- Cloud Cover and GSD have been added to the Automatic Terrain Generation window when viewing input imagery.

- A new method has been added to the Swagger® API to get current status of ingest for help in diagnosing systems where catalog has hung:

  - /ingest/status

- A new configurable field has been added to *GXP Xplorer Platform Data\config\karaf\etc\com.baesystems.gxp.services.catalog.cfg* to ignore certain metadata fields on ingest:

  - solr.catalog.exclude.metadataFields

  - TRE_FREESA_TREDATA is ignored by default

- The Distributed Processing Server Configuration Management Tool no longer prompts for a license server and will use the existing server as a default.

- The Grid OGC® Plugin is no longer supported.

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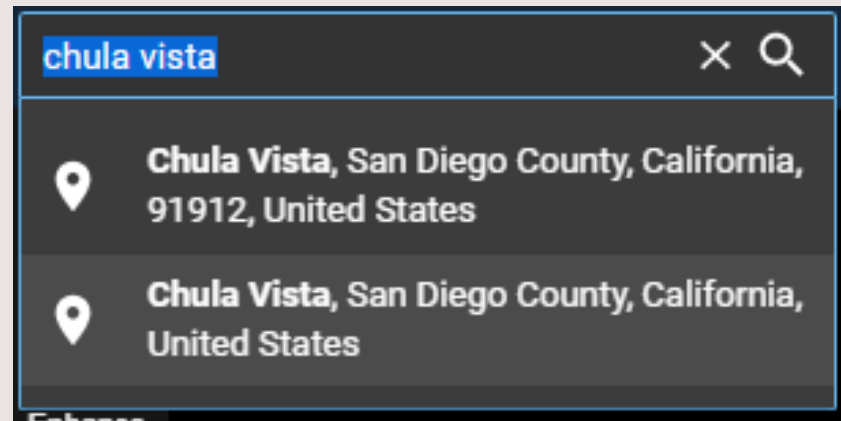# GXP WebView v2.4.8 updates

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Porthole tool

- Users can now activate a Porthole tool to peer through an image stack in GXP WebView to easily identify changes between two or more images:

  - Double-clicking allows a graphic to be dropped representing the Porthole view.

  - Properties can be adjusted to change the look, size, and attached autolabel to the Porthole tool.

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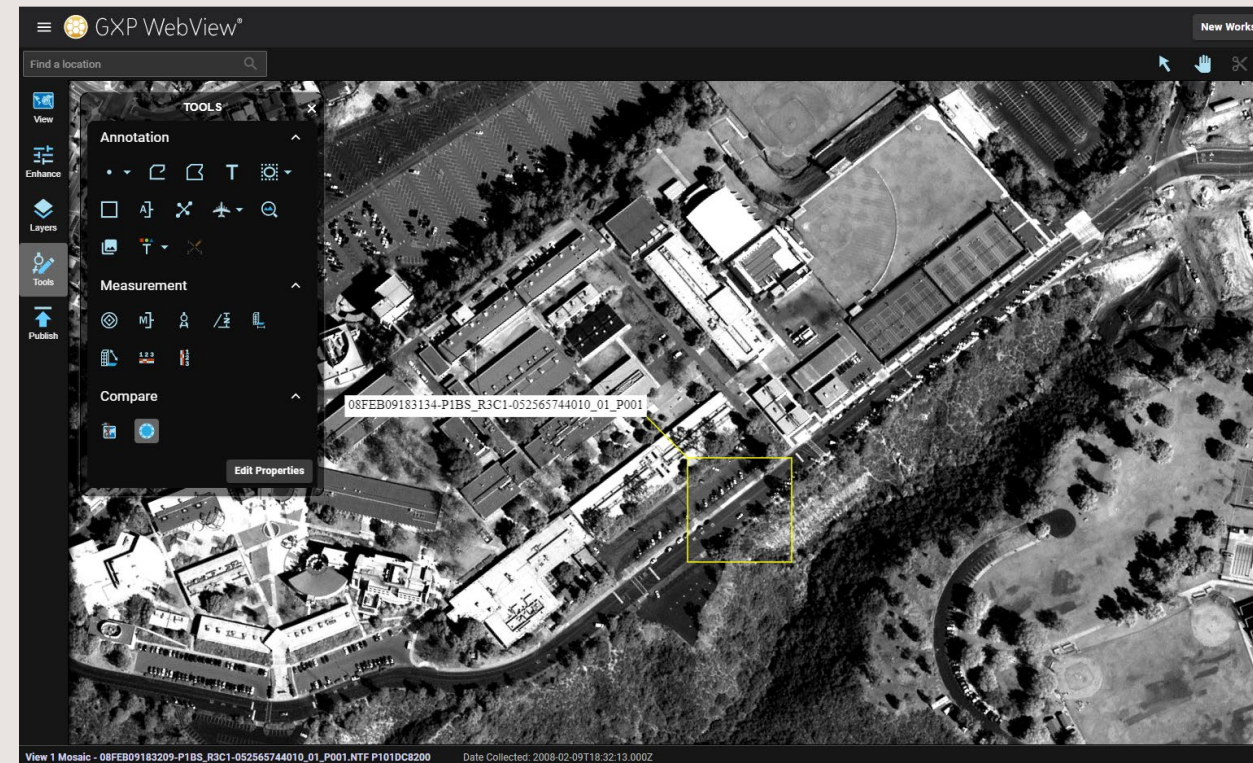
Jump to Point improvements

- The Jump to Point tool has been improved in GXP WebView:
  - Users no longer have to select different sources depending on what they want to jump to.
  - As users type, suggestions will be added to the drop-down.
    - Places not on the image will not be listed.

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Other significant enhancements

- The same image can now be independently enhanced in different panels in GXP WebView.

- Reset Enhancements now resets band selection as well.

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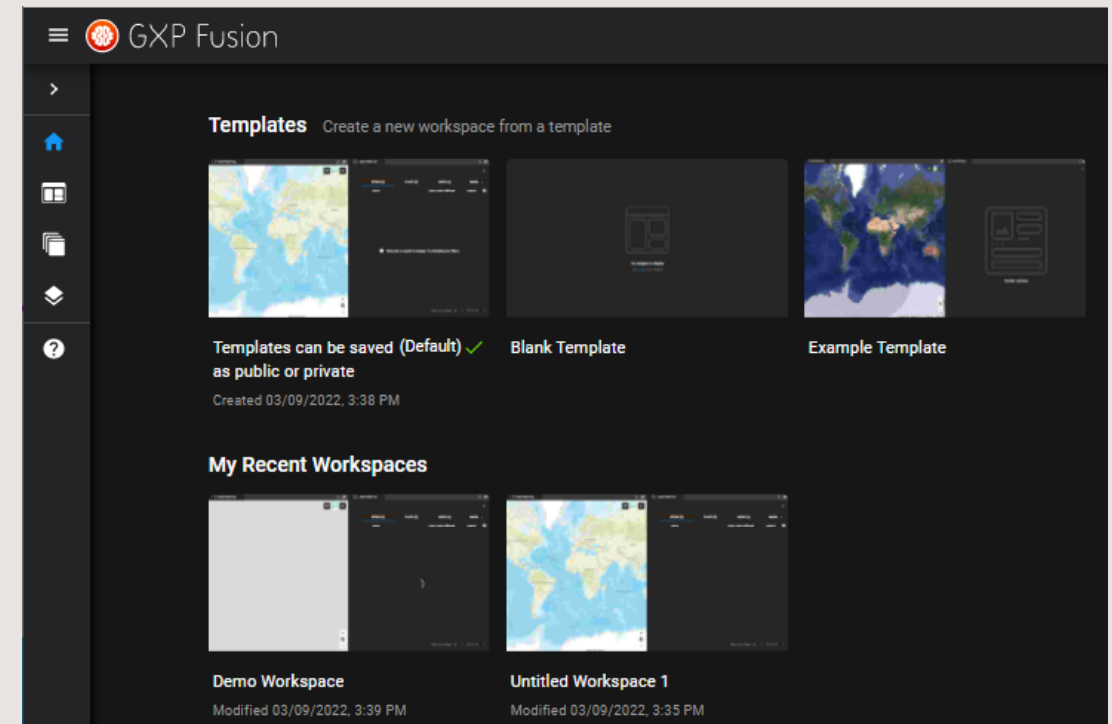
GXP Fusion v2.4.8 updates

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GXP Fusion introduces pop-out widgets to extend past a single browser window

- Select widgets can be popped-out of the initial browser window.

- All data feeds and widgets still interact together.

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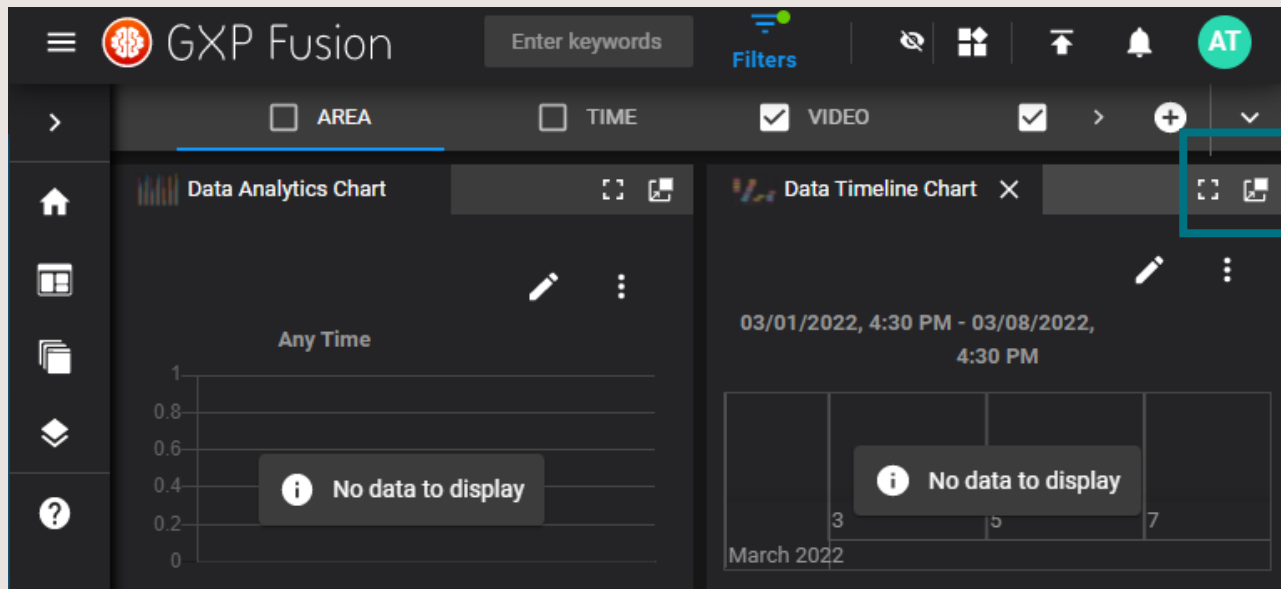
GXP Fusion Homepage improvements

- Create new workspace templates for quick set up.

- Templates can be saved as:
  - Private (only selectable by the user).
  - Public (available to all GXP Fusion users).

- Recent workspaces are available for quick access.

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GXP InMotion™ v2.4.8 updates

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Ground Moving Target Indicator (GMTI) Capture capability added to GXP InMotion Server

- In v2.4.8.0 of the GXP InMotion server, a new tab was created to allow for capturing GMTI from a UDP stream.

- The GXP InMotion server license supports capturing either streaming Full Motion Video (FMV) or streaming GMTI.
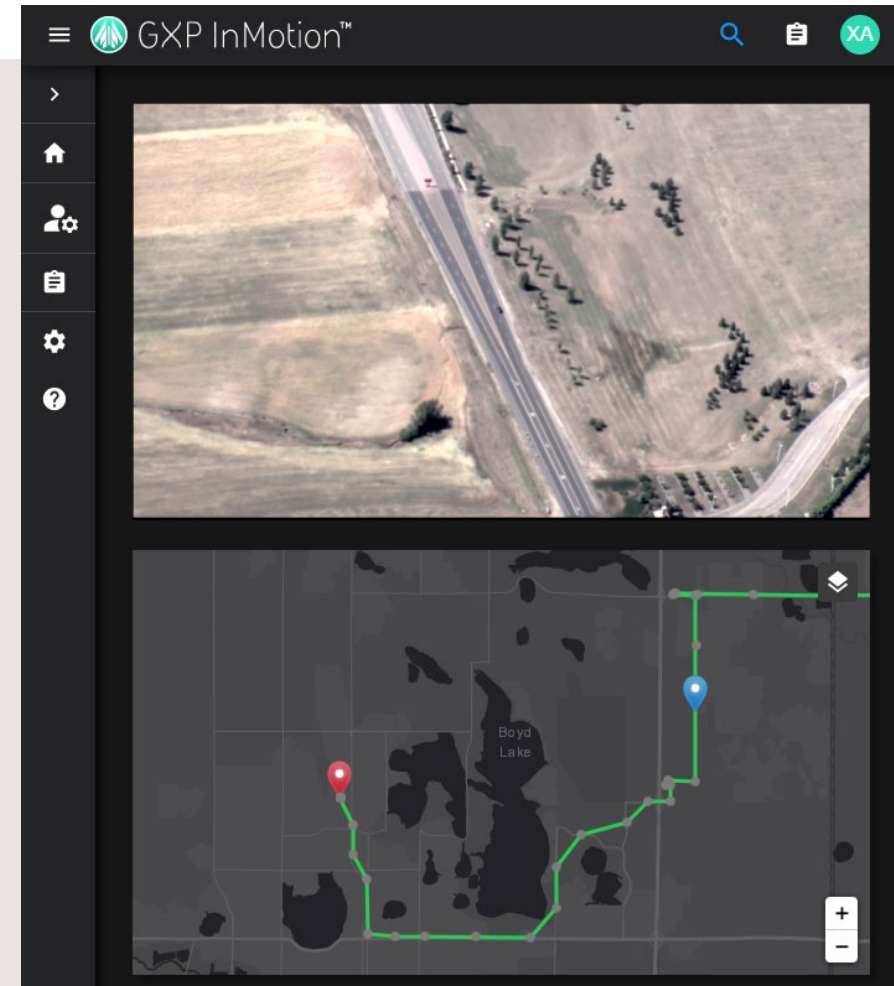
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Updated sensor footprint path color

- The sensor's footprint path color was updated to green.

- While this is a minor change, its purpose was to provide a similar look and feel to how users view the same feature in the desktop map view.

Imagery of MX-15 videos over Ft. Collins, CO; Courtesy of L-3 Communications, EO/IR Inc.

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World context map added to Movement Intelligence (MOVINT) map

- A world context map was added to the map component within the MOVINT map panel.

- A world context map provides quick situational awareness without having to zoom out of the current display to understand context.

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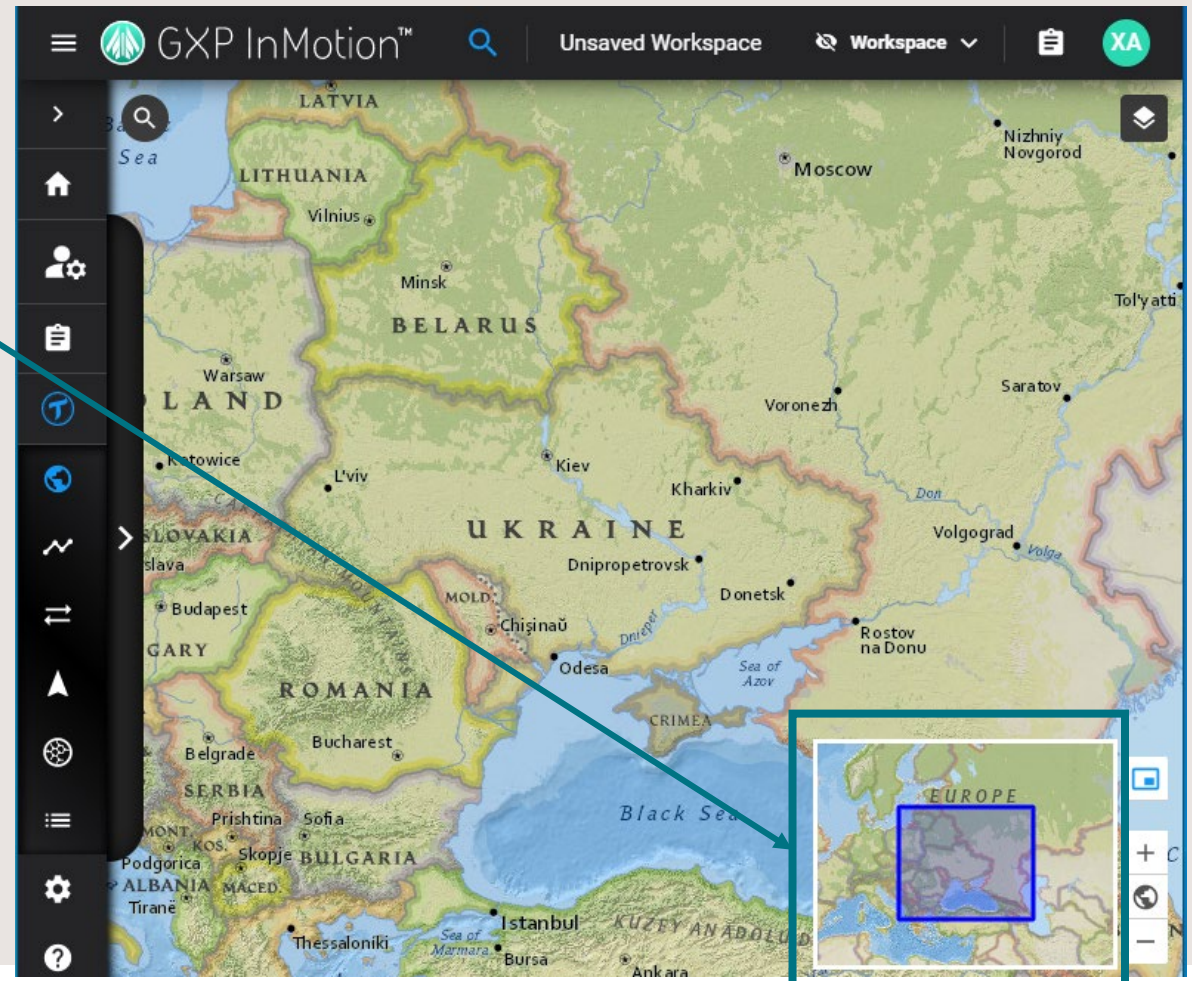
# Provide Map/Layer selector to GXP InMotion Maps

- This feature adds a new 'Layers' button to the GXP InMotion Map panels.

- The new Layers feature provides a Map/Layer selector to choose Basemaps that are provided by an administrator.

- Users can enable one basemap layer at a time.

- Future efforts are planned to allow a user to add an OGC compliant basemap URL that is not preloaded into GXP Xplorer by an administrator.
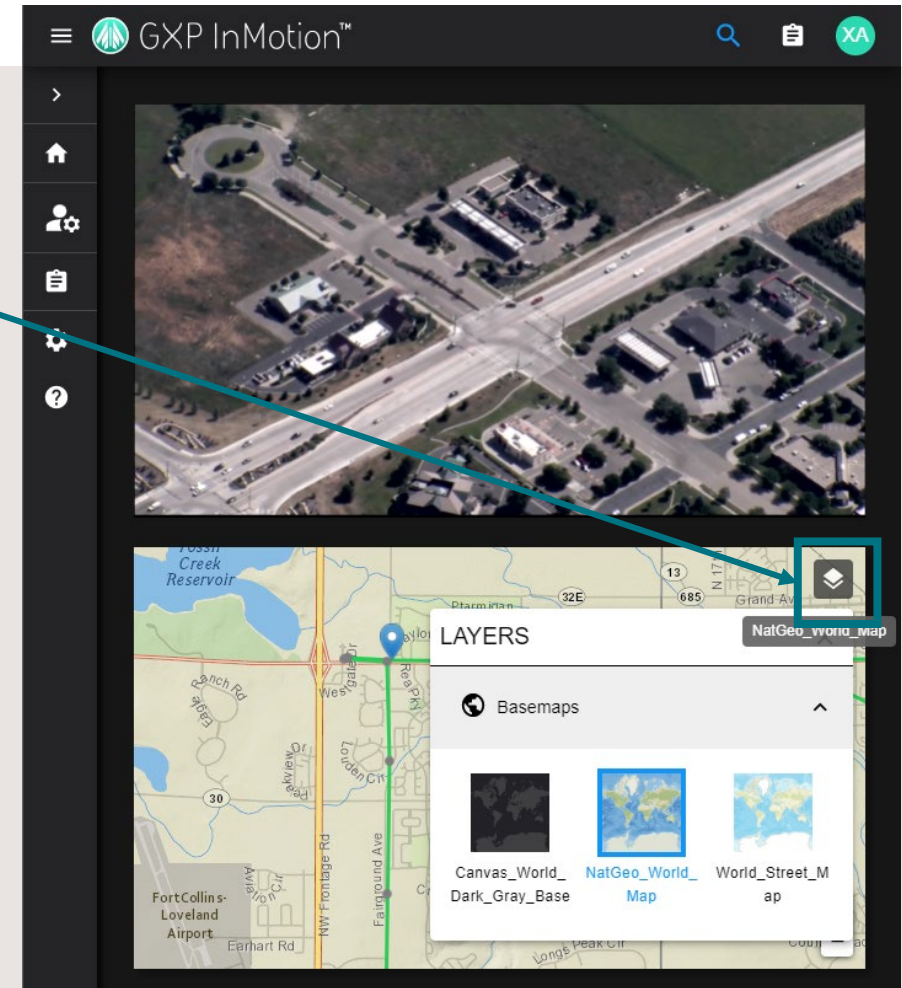
Imagery of MX-15 videos over Ft. Collins, CO; Courtesy of L-3 Communications, EO/IR Inc.

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Added support for multiple map layers displayed simultaneously

- Support was added for multiple map layers to be displayed at the same time on the map.

- Reference Layers that are enabled by an admin are available under the Layers button.

- Users can overlay multiple feature layers over the basemap.

Basemap with no Reference Layers loaded

Basemap with 1 Reference Layer loaded

Basemap with 3 Reference Layers loaded
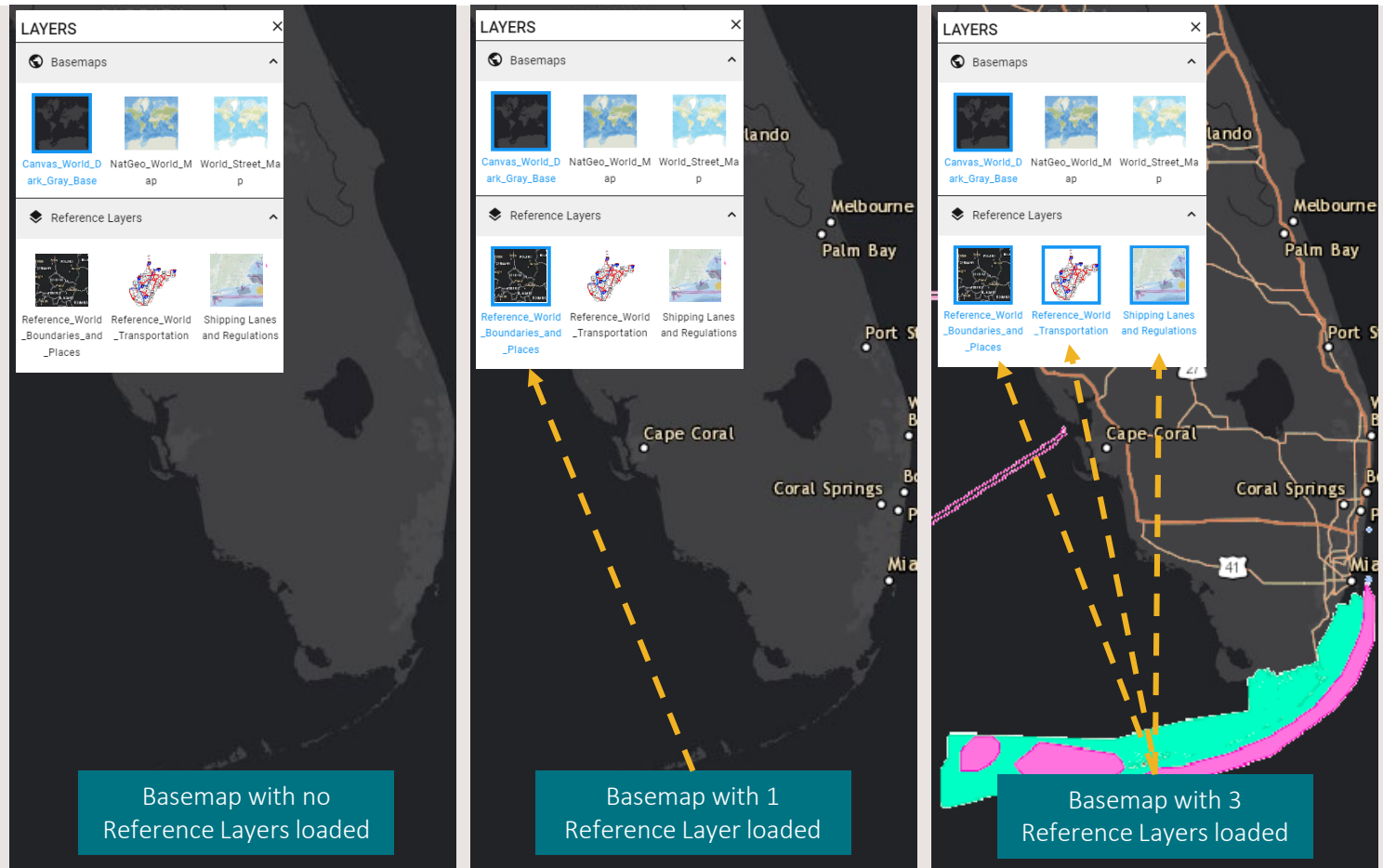
*Basemaps and Reference Layers loaded into the map are outlined in blue

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Mission ID search in GXP InMotion Home

- This feature enables the GXP InMotion Home page to allow users to key word search for the text entered into the Mission ID or Secondary ID fields of the GXP InMotion Mission.

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Open Video associated with Activity into GXP InMotion Web

- Previously, Activities discovered in GXP Xplorer could only open into the desktop.

- Today, any video that has an Activity can be viewed directly in GXP InMotion Web.

Imagery of MX-15 videos over Ft. Collins, CO; Courtesy of L-3 Communications, EO/IR Inc.

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Added 'Generate Track' operation to GXP InMotion

- Added the ability for users to initiate track generation from GXP InMotion Web search results (Tracking Analytics Software Suite (TASS) needs to be installed and configured to GXP Xplorer to be enabled).

- When videos meet the Generate Tracks criteria, they will be eligible for tracking with TASS.

- Home page, search results, and related videos will all have track generation operations associated under the right conditions.
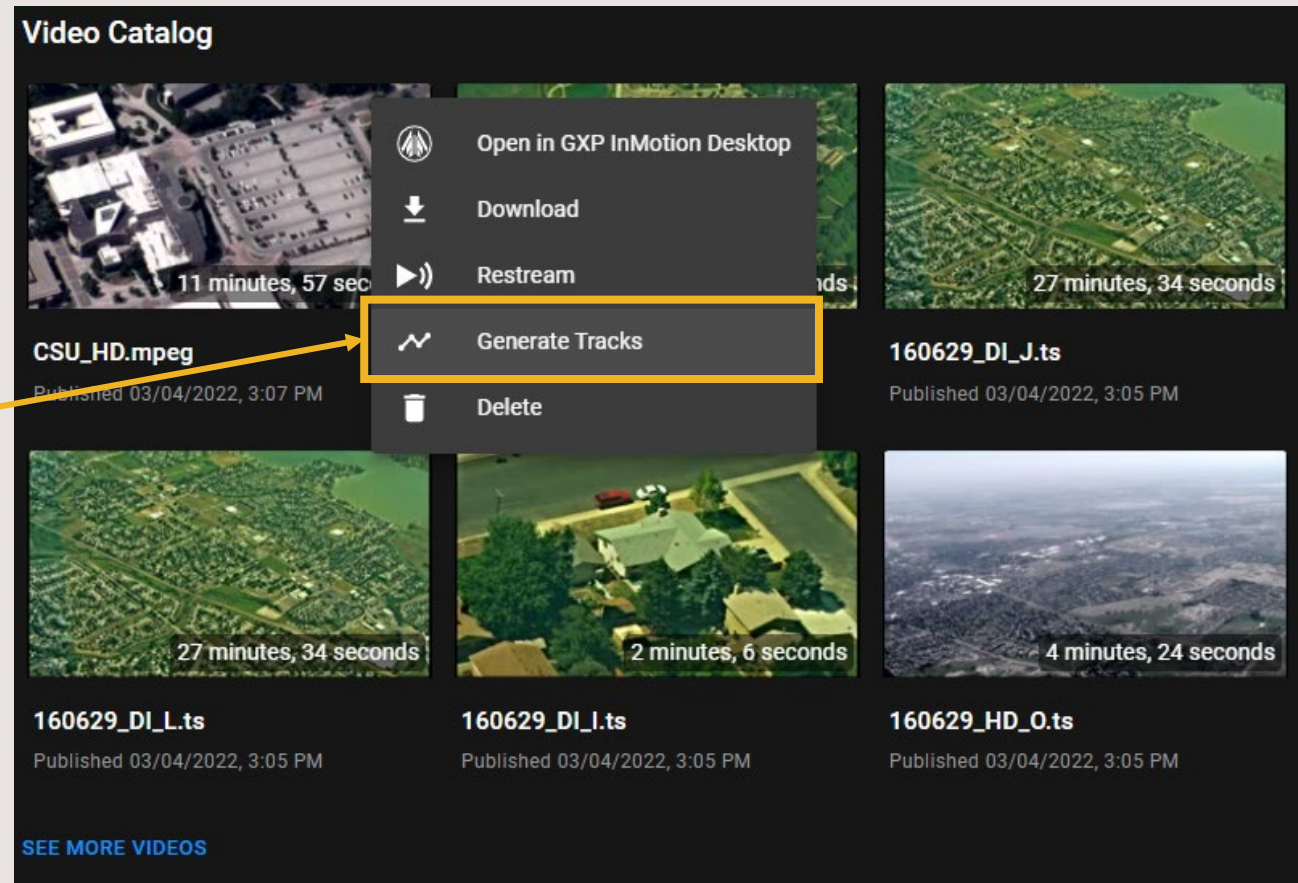
Imagery of MX-15 videos over Ft. Collins, CO; Courtesy of L-3 Communications, EO/IR Inc.

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GXP InMotion miscellaneous features

- Updated GXP InMotion Services to use FFmpeg v4.4.1.

- Adaptive Bit Rate (ABR) encoding status enabled for HLS (HTTP Live Streaming). Admin users are now able to see the current encoding process for videos that are currently encoding or enqueued to be encoded.

- Videos with missing or bad KLV data (or lack of coordinates) were automatically generating HLS when cataloged despite having the Video Adaptive Streaming 'Keep' setting turned off. Now, videos missing or having bad KLV metadata will not automatically generate HLS on ingest similar to georeferenced videos.

- Updated Metadata for Mission Objects to Standardize Search. This feature addresses some mission related metadata short-comings by updating to standard relationship metadata. This feature enables the GXP InMotion Home page to allow users to keyword search for the text entered into the Mission ID field of the GXP InMotion Mission.

- Updated multi-merge track capabilities in the MOVINT Map.

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Thank you

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