Release Guide

LuciadCPillar 2020.1

30 November 2020

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About This Release

The 2020.1 release of LuciadCPillar completes the product with a full controller and editing API. On-map editing is supported both in 2D and 3D. Furthermore, LuciadCPillar now also supports military tactical graphics, following the APP-6 and Mil-Std-2525 standards. Format support has been extended with a GeoTIFF decoder and upgraded OGC GeoPackage decoder.

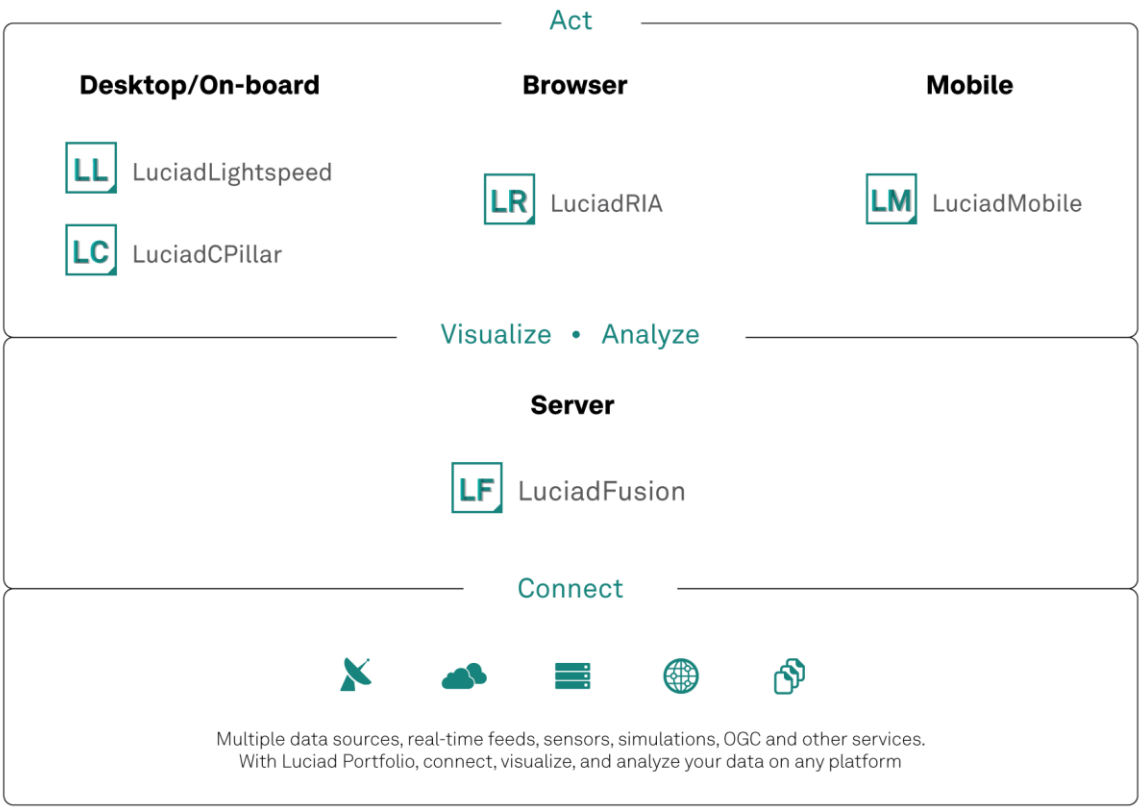

Figure 1: The Luciad Product Portfolio.

Benefits of the New Features

The Third Pillar: The Controller and Editing API

Next to the View and Model APIs that were already present in the 2020.0 release, this release completes LuciadCPillar with a full-fledged Controller and Editing API.

Controller API

The new API allows you to customize map interaction. To realize this, the Controller API builds on UI agnostic input events (mouse, keyboard, optional touch). As a result, you can capture UI framework-specific input events. The open API also allows you to extend existing controllers.

In this release, the set of default controllers that was previously available has been extended. The controller sample illustrates various ways to select multiple objects.

On-Map Editing and Creation in 2D and 3D

The Controller API offers the foundation for on-map editing of feature data in both 2D and 3D. Points, polylines, and polygons can be modified in 2D (in a 2D view or draped in a 3D view) or as 3D objects. Editing behavior is completely configurable. Possibilities include:

- Modifying the visualization of editing aids (editing handles, helper lines, …).
- Next to editing the feature's geometry, it is also possible to edit feature properties. For example, a corridor can be represented as a polyline geometry, while the corridor width is a feature property.
- Enforcing editing constraints such as:
    - Determining whether a particular feature can be edited or not.
    - Limiting the amount of points a polyline or polygon can have.
    - Enforcing topological constraints between the points in a shape. For example, points in a polyline must be structured in a U shape, or all points must have the same height.

All objects that can be edited on the map can also be newly created. A dedicated sample illustrates the possibilities of this new capability.

The creation and editing capability is also fully integrated with support for military symbology, including tactical graphics (see section Military Tactical Graphics).

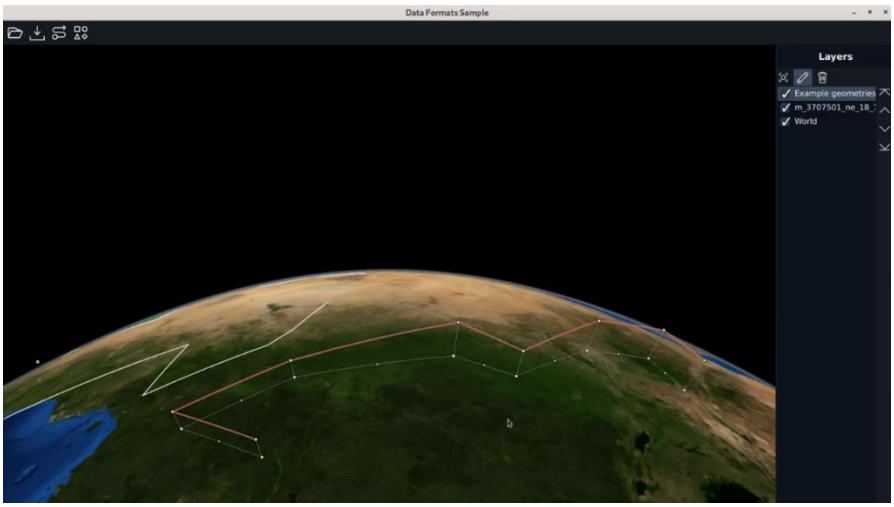

Figure 2: Editing a three-dimensional polyline in LuciadCPillar.

Military Tactical Graphics

LuciadCPillar now fully supports the APP-6 and Mil-Std 2525 symbology sets for unit symbols and tactical graphics. Multiple versions of both standards are supported, up to APP-6D and Mil-Std-2525D, respectively. On-map editing of both is available, preserving the constraints of various graphics and including handles as a visual aid.

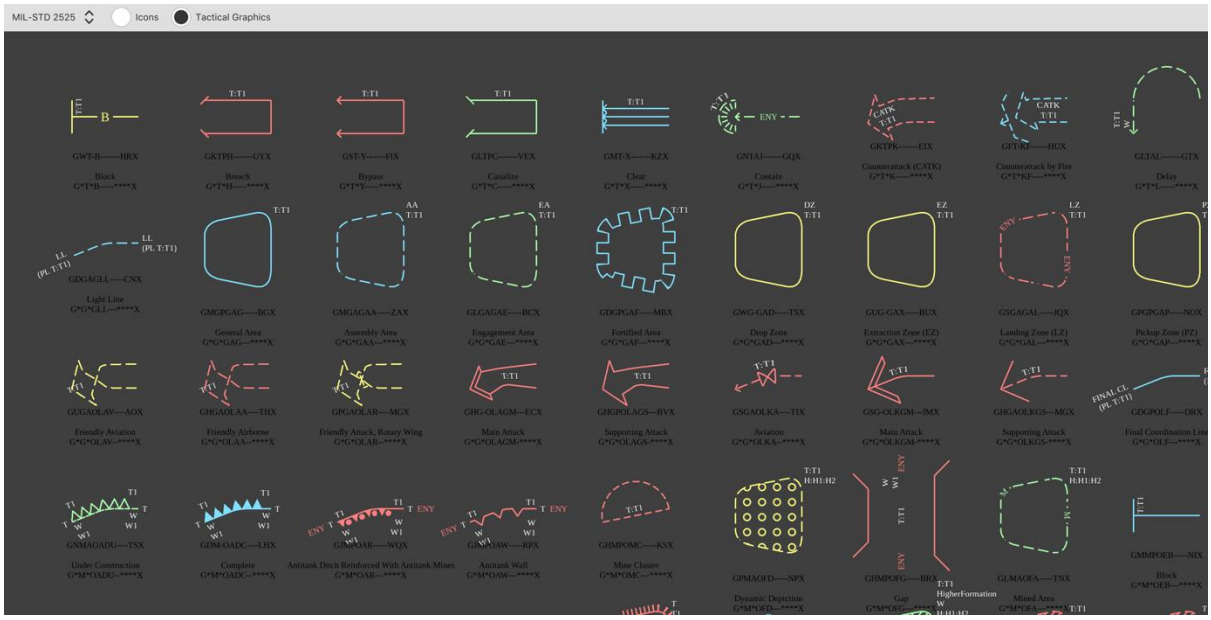

Figure 3: The "All military symbols" sample showcases all supported tactical graphics.

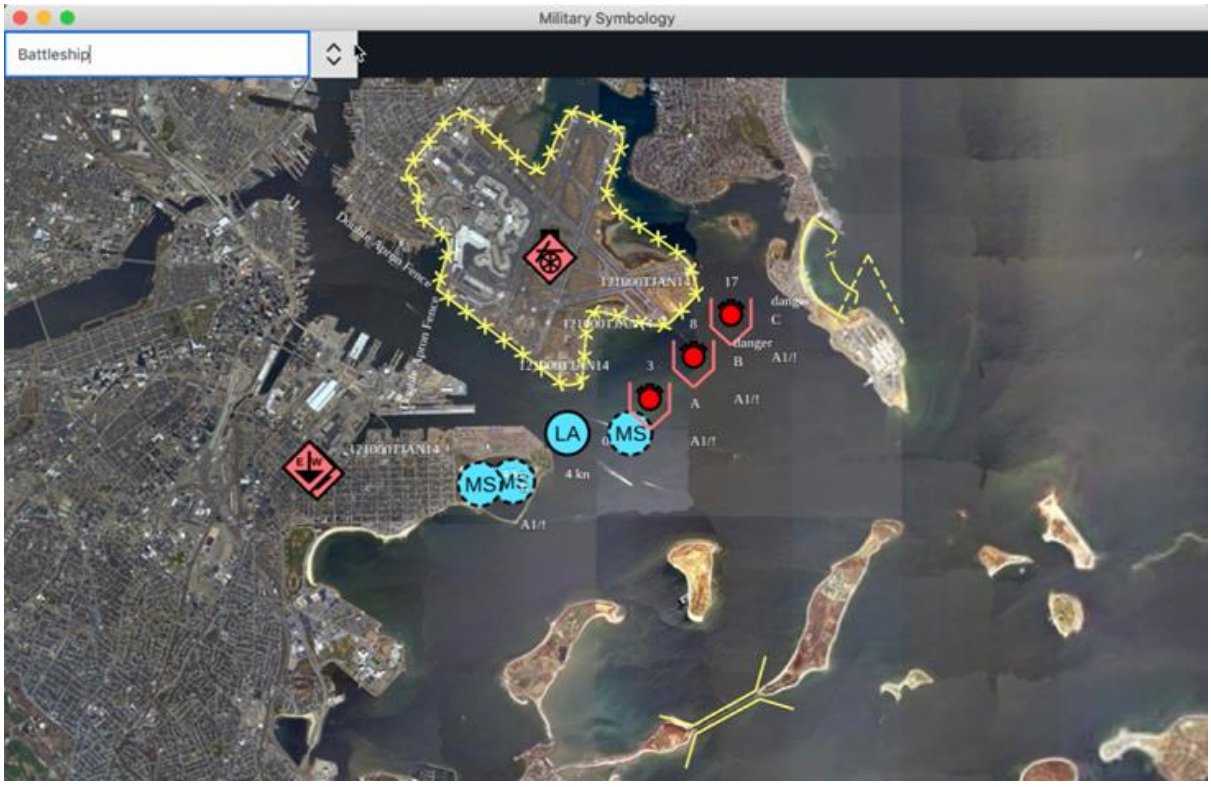

Figure 4: A tactical scenario sample showcases integration of military symbology and cross-product consistency of the symbology support throughout the Luciad portfolio.

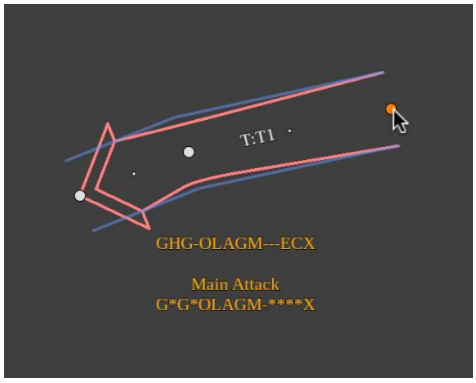

Figure 5: Editing a tactical graphic.

Extended Format Support

LuciadCPillar Now Directly Loads and Visualizes GeoTIFF Imagery Data

The 2020.1 release of LuciadCPillar brings direct support for imagery in a GeoTIFF format. The decoder supports multilevel tiled, single level tiled, and striped data structures. Performance optimizations are built in to make sure the data is fluently displayed, even when the image is encoded in a less than ideal way.

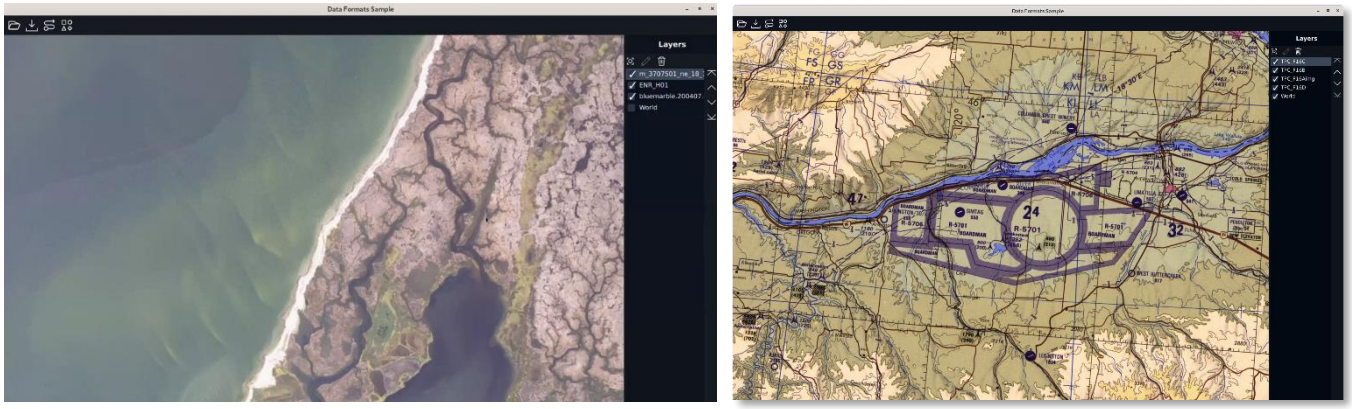

Figure 6: LuciadCPillar directly supports data in the GeoTIFF format.

Next to the different data structures, various referencing encodings are also supported.

OGC GeoPackage Format Support Upgrade

Data in OGC GeoPackage format has been supported since LuciadCPillar 2020.0. Version 2020.1 upgrades this support with the following capabilities:

- Support for GeoPackage version 1.1 and 1.2. This means that LuciadCPillar now offers read support for versions 1.0, 1.1, 1.2, and 1.3 of the OGC GeoPackage standard. Note that the OGC GeoPackage 1.3 specification is not yet final and may still change. The LuciadCPillar support is based on the Release Candidate of the specification and will be updated after the standard is final.
- Auto detection of the version of GeoPackage files that need to be decoded.
- Support for the OGC GeoPackage Extension for Tiled Gridded Coverage Data (since 2020.0). Support for this GeoPackage extension continues to be available and integrated with different versions of the format where applicable.

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