MAPMERGER™ GEOSPATIAL VECTOR CONFLATION

In a world where mountains of new, high-quality vector data overlap, how do you keep project costs down and incorporate this fresh data into your baseline data holdings? L3 Harris MapMerger is the solution. This data conflation tool manages two or more overlapping vector datasets and merges them seamlessly.

CONFLICTS RESOLVED
L3 Harris’ MapMerger geospatial conflation tool accurately merges vector content of the same feature type by automating common tasks. The tool resolves vector data conflicts in seconds by updating alignment conflicts and transferring metadata and attributes to the newly integrated data.

MapMerger can be used as an extension of the Esri company’s ArcGIS software.

KEY CAPABILITIES

- **Match strategy** – Allows users to select tailored parameters for datasets and stores the preferences to be applied to additional datasets.

- **Metadata** – Records and recalls conflation experience of every point, line or polygon that is processed.

- **Auto-tiling** – Divides larger areas into tiles so more than one person can work on a part of the larger areas at the same time.

- **Algorithms** – Applies real-world tested algorithms to precisely position the data points, lines and polygons in the newly created, customized, fit-for-purpose datasets post conflation.

- **Spatial accuracy** – Prevents distortion to the absolute ground position of the assets. There are no join tables to conflate using this solution.

TOOL CAPABILITIES

- Transferring attributes
- Matching maps at different scales
- Synchronizing data
- Detecting change rapidly
- Maintaining unique identifiers
- Removing pseudonodes
- Saving and restoring work in progress
- Matching automatically
ATTRIBUTE TRANSFER
Sometimes referred to as a spatial join on steroids, MapMerger transfers attributes from a rich map to a map with better geometry.

Example: A fire department would like to geocode their land base for rapid E911 response, but their data does not have sufficient address range coverage to enable this application. Rather than switching to an entirely new data set and risk losing their legacy data, they use MapMerger to transfer road names and address ranges from an attribute rich dataset to their land base, creating a dataset for rapid E911 response.

MapMerger users can create a map that is both beautiful and intelligent, combining the best geometry and attribution that the source maps have to offer.

FEATURE DENSIFICATION
MapMerger connects and adds features that exist in one map to another where they did not originally exist.

Example: A waste management company would like to add an alley dataset obtained from a local municipality to their existing street data to create a file for better collection services routing. MapMerger can easily add and connect the alleyways to their street network while ensuring that existing address range integrity is maintained.

MapMerger users can densify maps by adding and connecting features from another overlapping map.

ALIGNMENT
MapMerger precisely aligns features in two overlapping maps by ensuring that matching items share the same geometry. The common approach to aligning geographic information system maps involves rubber-sheeting one map onto the other. A much more exact alignment is achievable by ensuring that overlapping features share the same geometry. This also allows users to precisely align polygon boundaries with a road layer.

Example: The U.S. Forest Service would like their forest tract boundaries to precisely align with roads. MapMerger replaced portions of the forest tract boundaries that align with roads with their matching road geometry. This is an exact alignment because the polygon boundaries and roads that align are represented with the same geometry.

MapMerger brings maps into alignment precisely and efficiently.

ASSET REALIGNMENT
MapMerger repositions network assets to align with a more accurate landbase.

Example: A gas and electric company has their network assets plotted with respect to a spatially inaccurate street map. MapMerger’s new asset realignment tools automatically adjust the assets to align with a more accurate street map.

Importantly, unlike most realignment tools, MapMerger does not use inherently inaccurate rubber-sheeting to perform the adjustment. Rather, MapMerger ensures that the offsets between the assets and their closest street are maintained. Pipelines that are 10 meters south of the road in the original map will be 10 meters south of the same road in the new map.