ARTMAP is a 3-D augmented reality mission planner being developed by the Space Dynamics Laboratory (SDL).

ARTMAP capabilities include:
• Immersive, 3-D geographical environment
• 3-D application platform can be placed on a table, floor, or wall & scaled to fit most areas
• Static 3-D assets (S3-DA) (including buildings, trees, etc.) can be added to the map at run time
• Dynamic 3-D assets (D3-DA) (including military assets: planes, tanks, ships, etc.) can be added to the mission map & given animation waypoints at run time
• Map drawing tools with lines & arrows, circles, boxes, polygons & text
• Operational intelligence
• Real-time situational awareness
• Mission cloning for quick contingency planning
• Tactical planning with red/blue/green/yellow teams
• Network multi-device viewing & collaboration
• Line-of-sight display for a selected asset
• Street view capability
• Track live field operatives against mission plan

Digital 3-D content can be viewed, placed, and manipulated in a real-world environment.

ARTMAP leverages the Microsoft® HoloLens™ device to generate an augmented environment.

Note: Images were captured using the HoloLens camera and are a lower resolution than in the actual product.
HIGH-LEVEL FEATURES

- Application accepts voice or gesture input commands & produces visual 3-D graphics, animation & voice synthesis for output
- Any geolocation can be searched for & displayed on a tiled, multi-zoom capable, 3-D elevation map
- 3-D map tools enable users to pan, zoom & rotate the map & map assets
- Rooms can be joined on the network, and each room can have multiple missions
- Missions can be created & loaded; ARTMAP automatically stores edits
- D3-DA can be animated to move to waypoints, shoot targets & perform other commands; S3-DA persist across missions
- Users can store asset actions in the master mission timeline, where each asset has its own sub-timeline
- Timeline playback can be paused, scrubbed & speed-controlled for analyzing & editing

APPLICATION VIEWS

- Home View: Acts as a main navigation hub & enables users to use verbal or tap gestures to access the other main views
- Edit View: Enables users to place the map platform on any flat, physical room surface & to scale, move & rotate the map using the edit tools
- Mission View: Shows a listing of all loadable missions currently available in the database for loading into the map view
- Map View: Provides users with mission planning & playback tools
- Globe View: Provides a global 3-D world view with mission-tappable geospatial markers to load mission into the map view
- Network View: Enables multiple HoloLens™ users, in the same location or remotely connected on the same network, to jointly review & plan missions