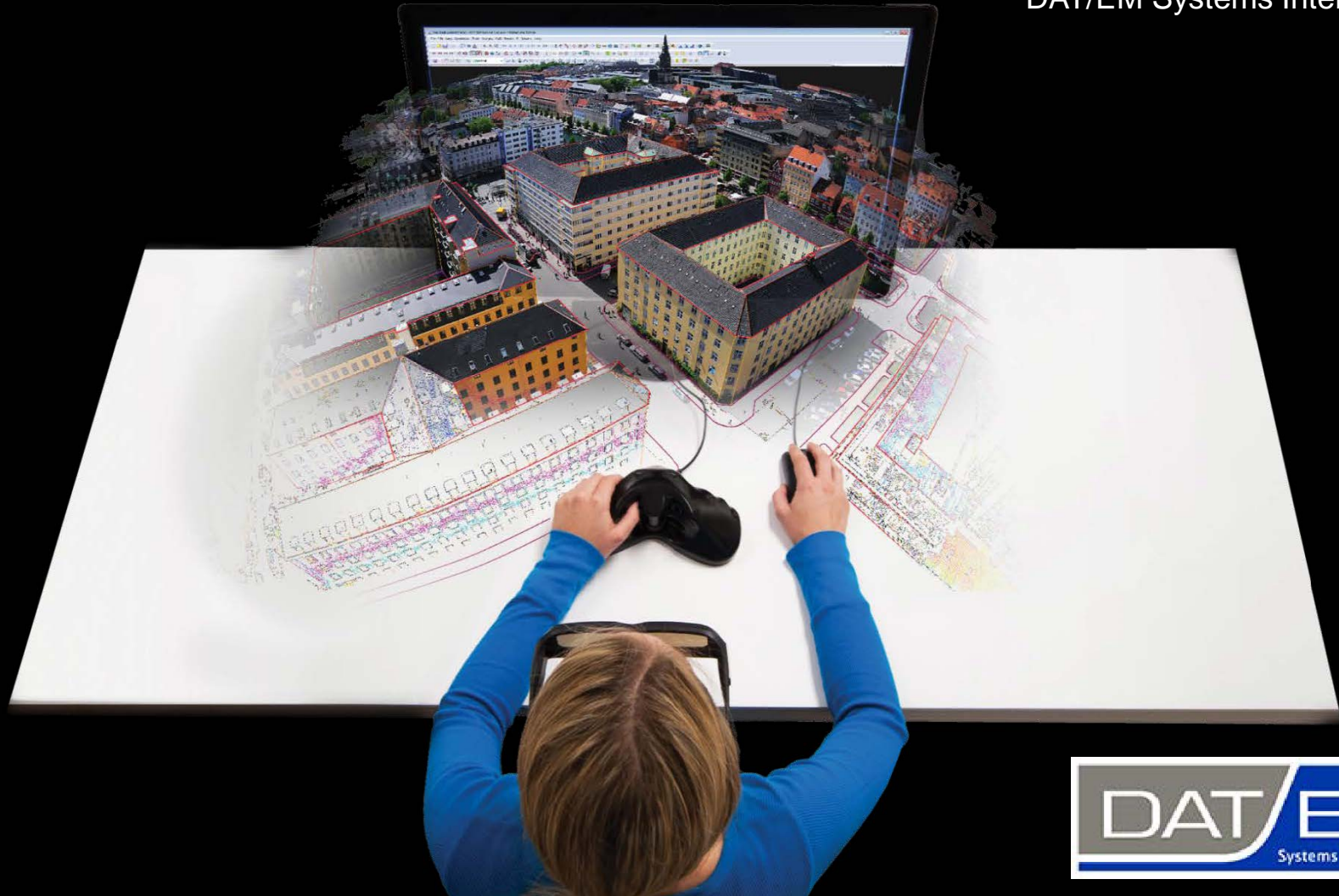# Connect Global Mapper™ with the
Summit Evolution™ Stereo Photogrammetric Workstation

Presented by Alissa Oder

DAT/EM Support Department

DAT/EM Systems International

Agenda
Connect Global Mapper™ with the
Summit Evolution™ Stereo Photogrammetric Workstation

DAT/EM Systems International
Products, Team, and Network

Connecting Global Mapper to Summit Evolution
Activate DAT/EM Capture in two steps

Why Connect to Summit Evolution
Overview of Summit Evolution
Tools of the Global Mapper Extension
Industry Examples

Recap

Thank you / Questions

DAT/EM Systems International

Developing photogrammetric software and hardware since 1987

DAT/EM Photogrammetric Suite

SUMMIT EVOLUTION™	MAPEDITOR™
LANDSCAPE™	CONTOUR CREATOR™
CAPTURE™	ORTHO+MOSAIC™
AIRFIELD3D™	HARDWARE

DAT/EM Systems International
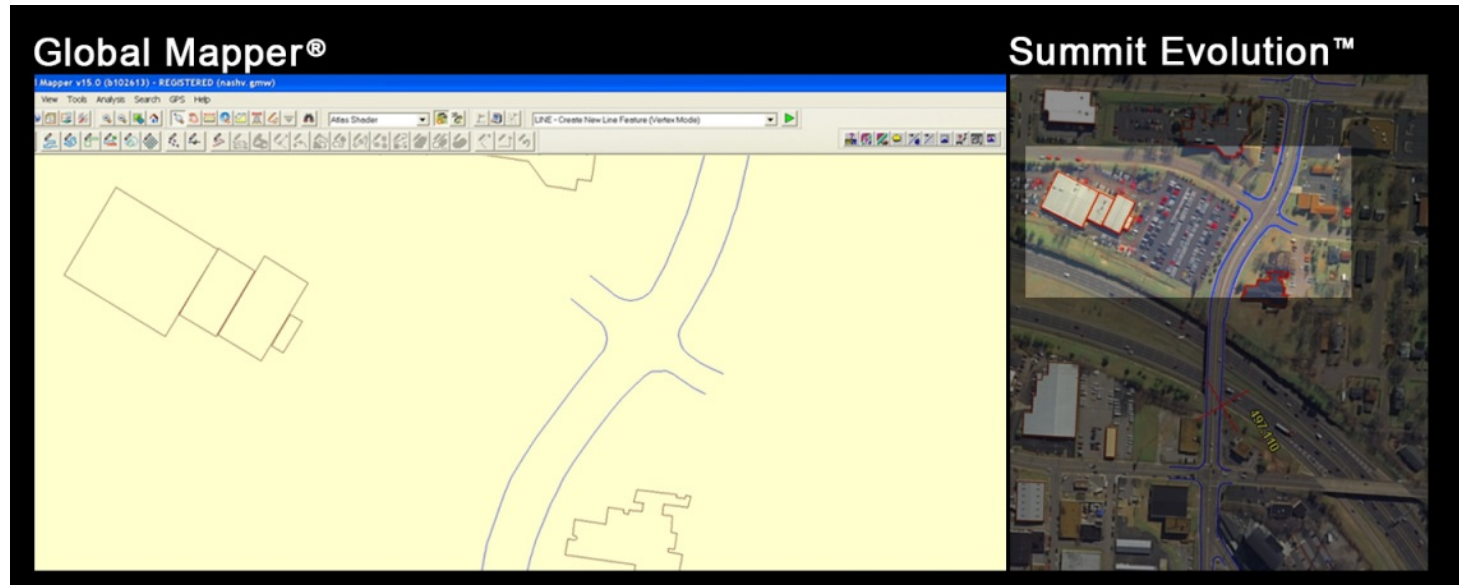
The DAT/EM Network

500+ clients in more than 70 countries
with resellers throughout the world

Connecting Global Mapper to Summit Evolution

Connect Global Mapper to Summit Evolution

DAT/EM CAPTURE: Interface to Collect 3D Vector Information into Global Mapper
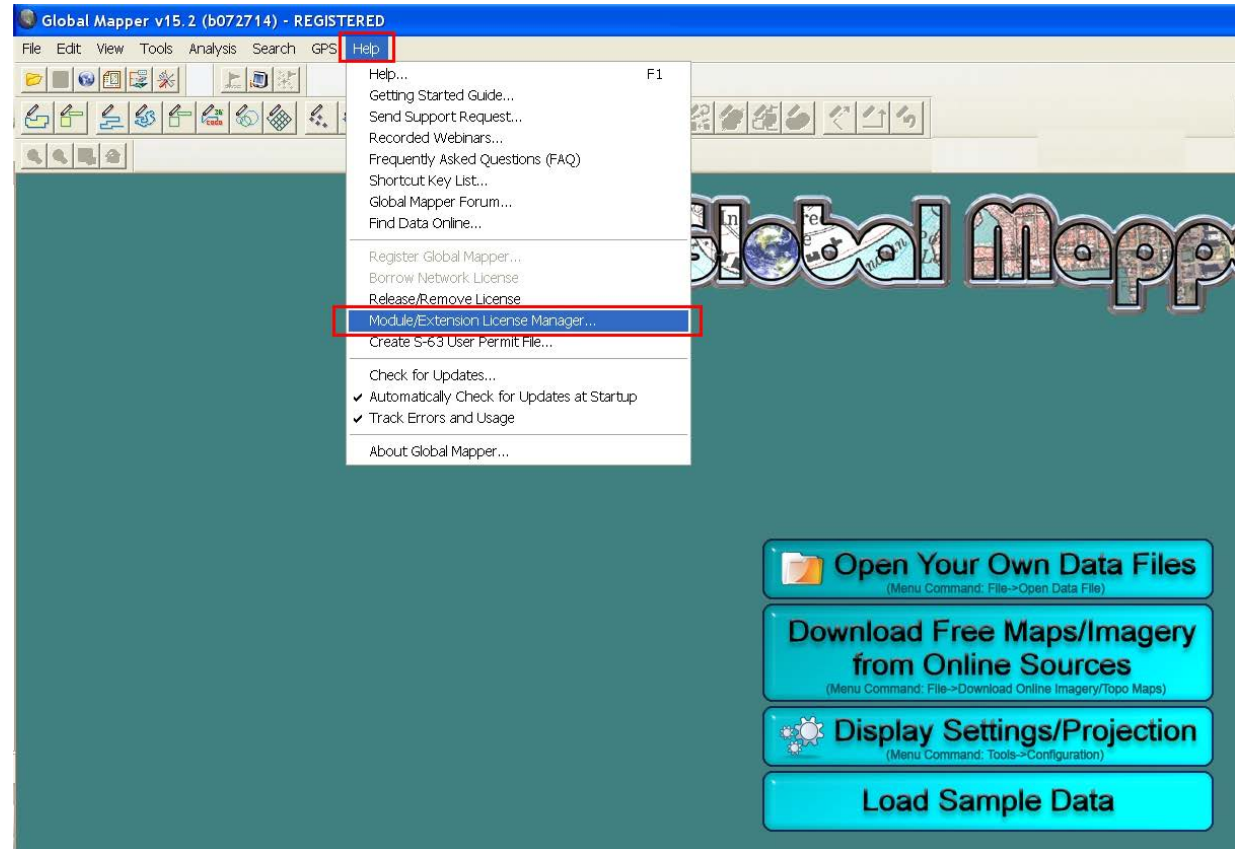

Installed with 32- or 64-bit Global Mapper Version 15.2 or higher
and Summit Evolution version 7.1 or higher at no additional cost.
You must own both Global Mapper and Summit for the extension to work.

CAPTURE™

DAT/EM®
Systems International

Select
Module/Extension License Manager from the **Help** drop down menu in Global Mapper

Check **DAT/EM Capture for Global Mapper** and Click **OK**

CAPTURE™

DAT/EM Systems International

DAT/EM Capture for Global Mapper

Now they are connected! You will see the DAT/EM Capture toolbar in the Global Mapper window.
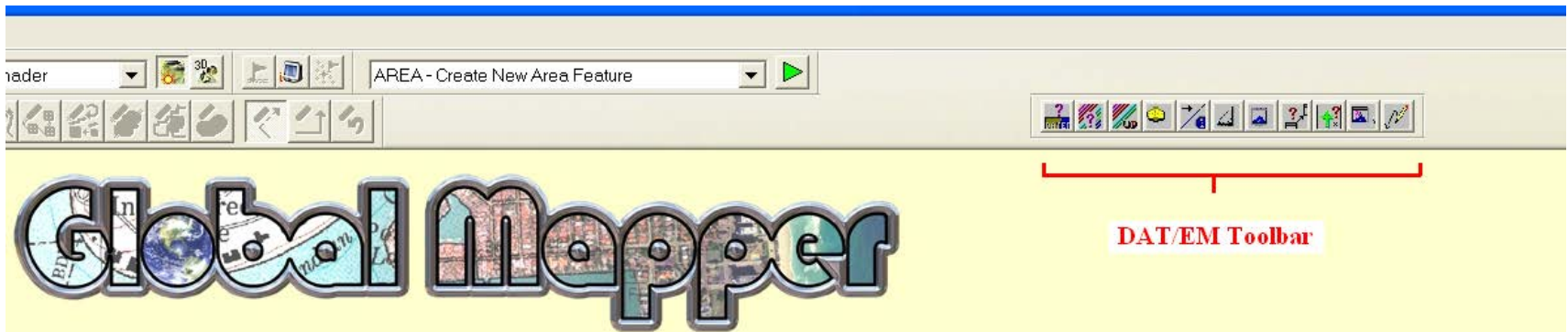
Being "connected" means:

- The Global Mapper view rotates to match the Summit view
- Summit controls the Global Mapper cursor in three dimensions
- Summit acts as a digitizer for Global Mapper
- DAT/EM Capture tools are available

CAPTURE™

DAT/EM®
Systems International

Why Connect Global Mapper to Summit Evolution?

Summit Evolution

Photogrammetric Software to Extract and Edit 3D Vector Features from Stereo Imagery
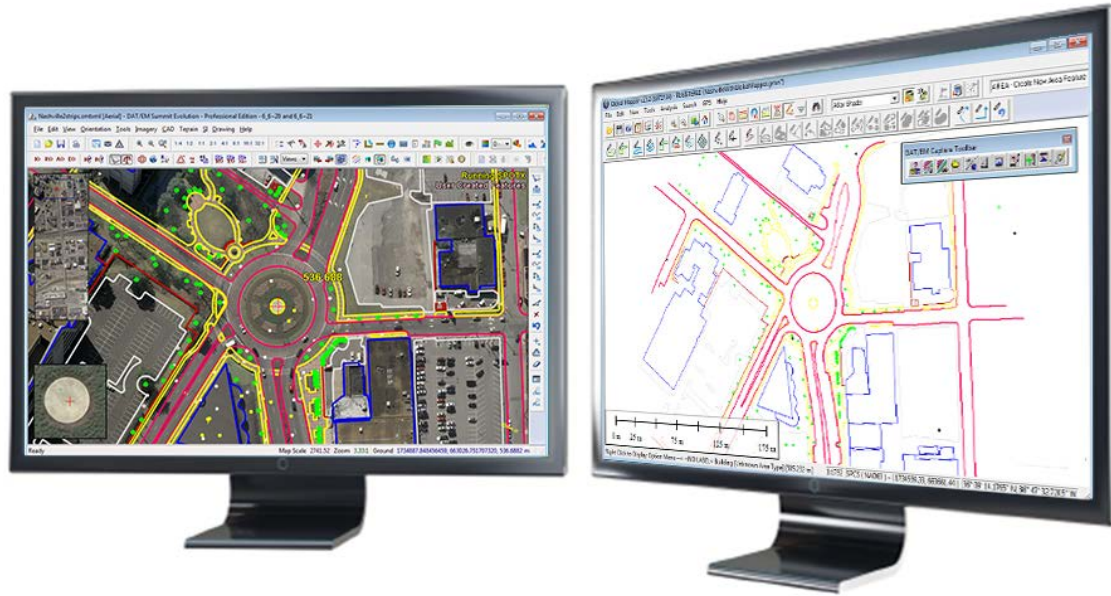
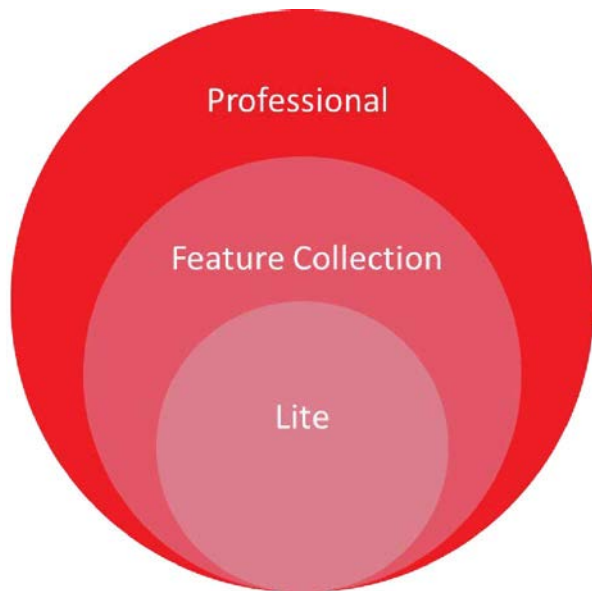Summit Evolution is a digital stereoplotter used for photogrammetry

Three Levels of Summit Evolution

Use any Summit Evolution edition (Professional, Feature Collection or Lite) to open the prepared project and start the Global Mapper extension

Professional

Full-function, fully capable digital photogrammetric workstation

Feature Collection

Designed for 3D feature collection for those whose orientation requirements are met elsewhere

Lite

Low-cost system for viewing, terrain following, sample measurement and basic editing in existing projects

Hardware Needed for Summit Evolution

Summit Evolution requires a stereo display and other hardware

Professional

Computer with stereo display and 3D digitizing device

Feature Collection

Computer with stereo display and 3D digitizing device

Lite

Computer with stereo display and 3-to-5-button system mouse with a wheel

See recommended and required hardware on our website:

www.datem.com > Support menu > Configurations

Imagery Project Needed for Summit Evolution

Summit Evolution requires a ground-referenced imagery project
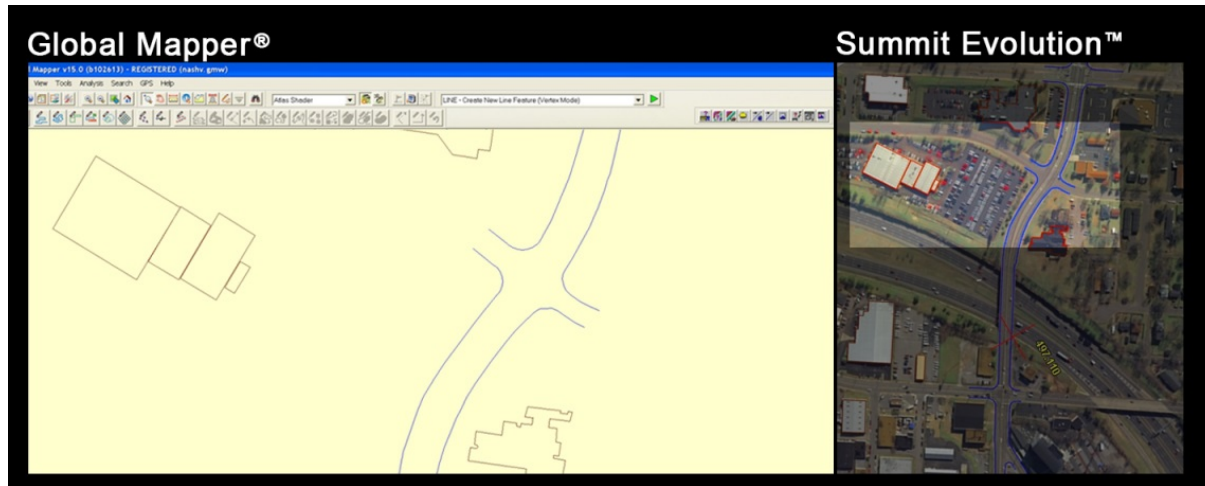
Summit Evolution creates or imports the pixel-to-ground orientation.

Typical sources of stereo imagery and/or prepared projects:

- National and local governments

- Private aerial photogrammetry companies

- Satellite imagery vendors
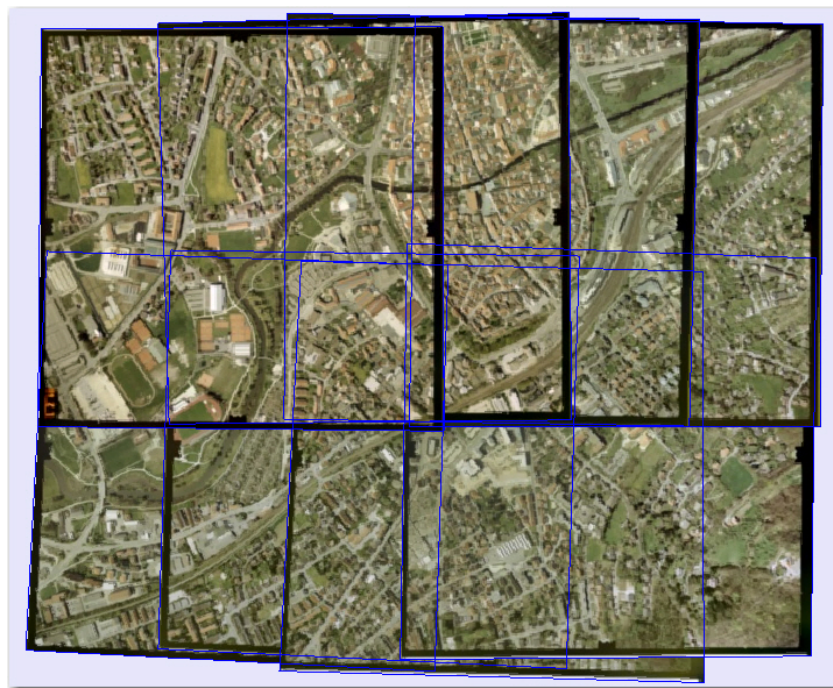
Summit Evolution Capabilities in Global Mapper

- Collect and edit 3D data directly into Global Mapper

- Use Summit Evolution tools for panning, zooming and 3D positioning with measurement and terrain following tools

- Activate Summit Evolution functions from Global Mapper's home window

- Display ground-referenced photogrammetric imagery in stereo

- Track ground coordinates in both Summit and Global Mapper
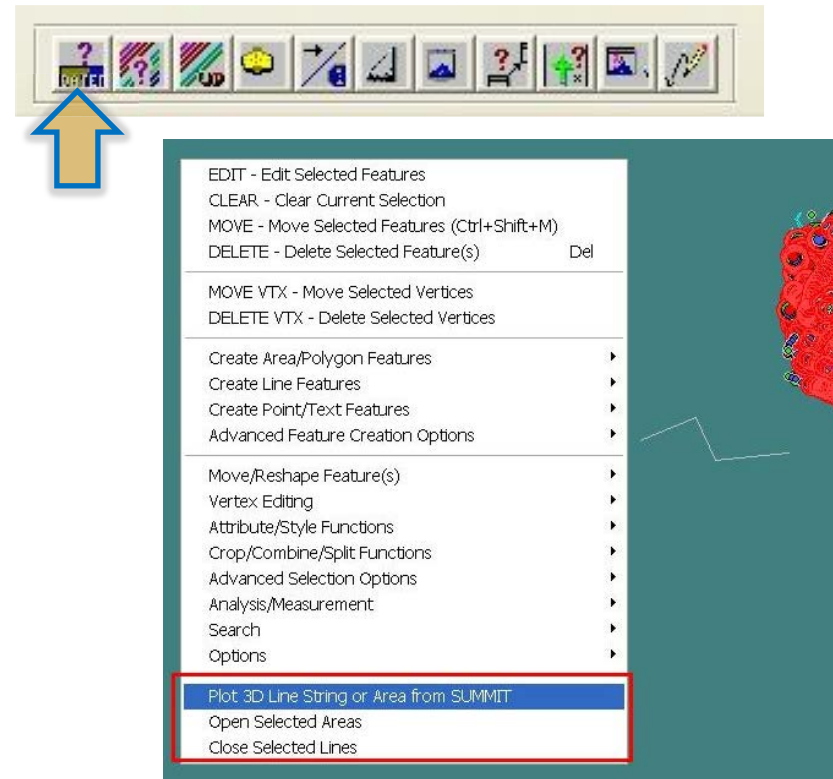
Summit Evolution Tools for Global Mapper
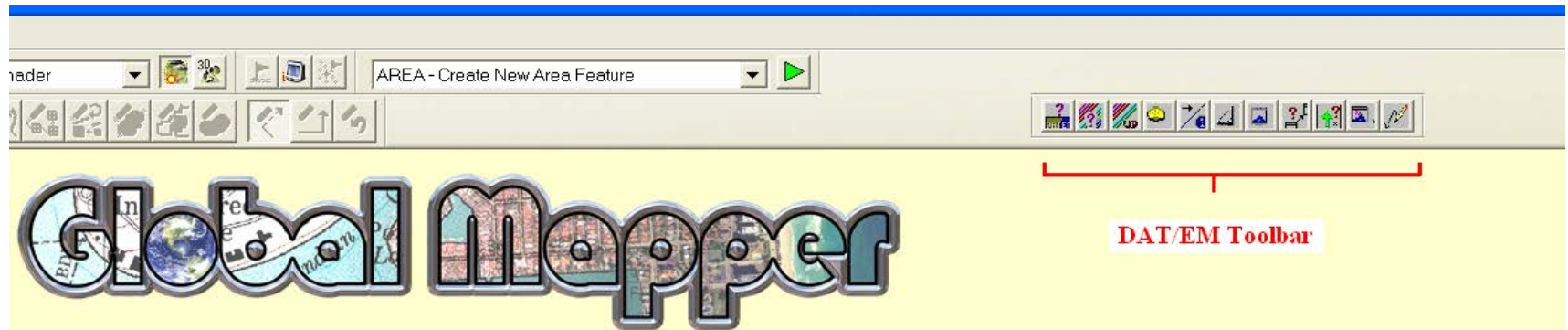
1. Capture Settings Dialog
2. SuperImposition Settings
3. SuperImposition Update
4. Summit Button Manager
5. DAT/EM Coordinates
6. DAT/EM Close
7. Fit
8. Datpan Settings
9. SPOTX
10. DAT/EM Extents
11. DAT/EM Drawing Tools
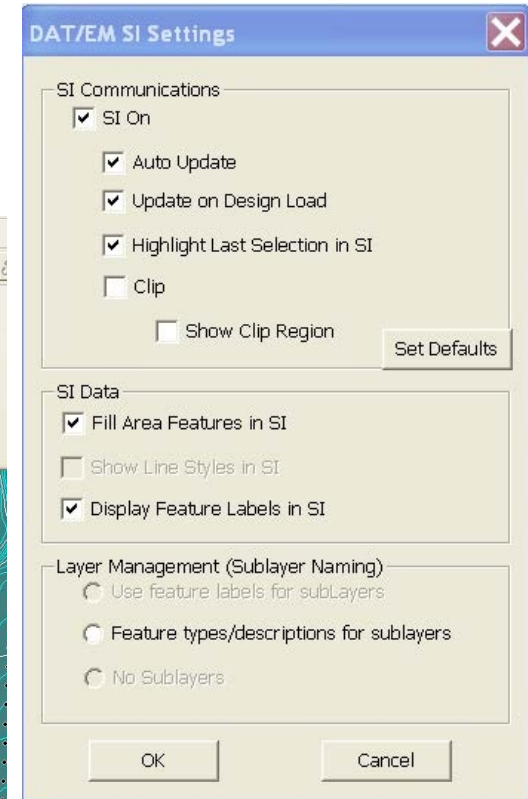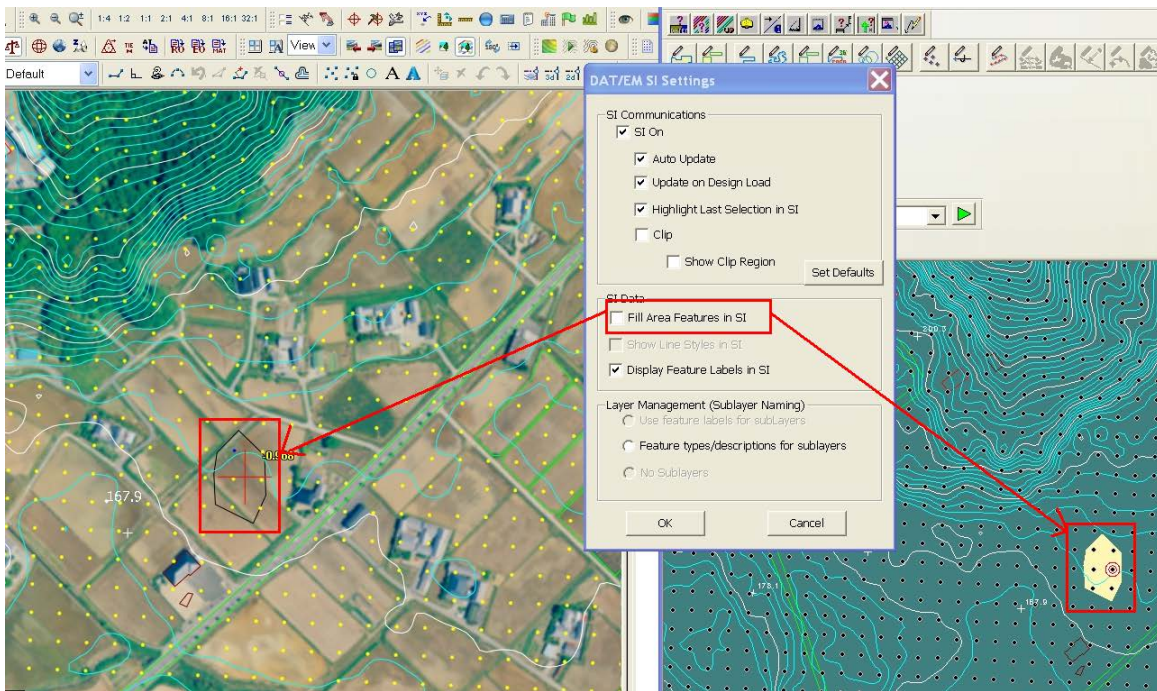
DAT/EM Capture for Global Mapper

A few key options:

- Move stereoplotter cursor to snapped point

- Capture items added to Global Mapper's right click menu

EDIT - Edit Selected Features
CLEAR - Clear Current Selection
MOVE - Move Selected Features (Ctrl+Shift+M)
DELETE - Delete Selected Feature(s)   Del

MOVE VTX - Move Selected Vertices
DELETE VTX - Delete Selected Vertices

Create Area/Polygon Features
Create Line Features
Create Point/Text Features
Advanced Feature Creation Options

Move/Reshape Feature(s)
Vertex Editing
Attribute/Style Functions
Crop/Combine/Split Functions
Advanced Selection Options
Analysis/Measurement
Search
Options

Plot 3D Line String or Area from SUMMIT
Open Selected Areas
Close Selected Lines
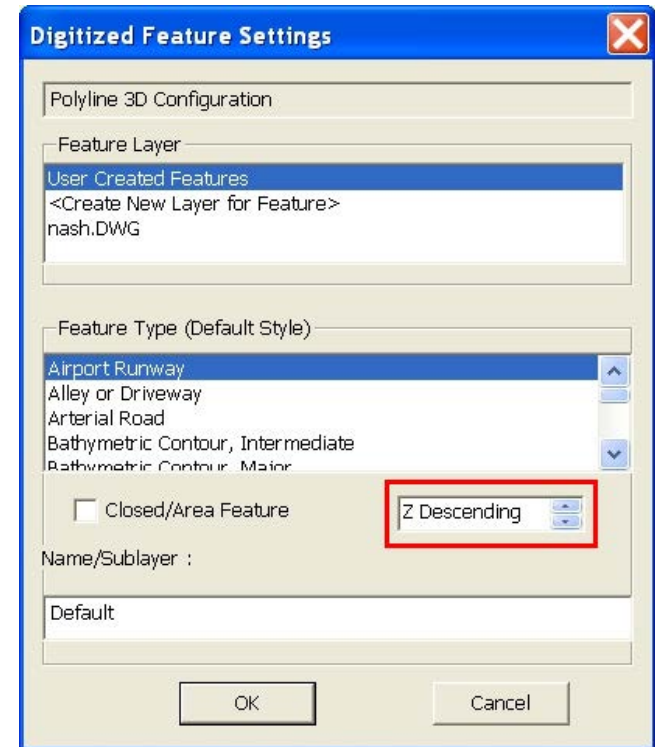
DAT/EM Capture for Global Mapper

Superimposition "SI" options control the display of Global Mapper's vectors onto Summit's view

DAT/EM Capture for Global Mapper

Drawing tools:

- **2D line string/area tool** – draws 2D features such as lakes, pools, elevation contours, flat roof lines

- **3D line string/area tool** – draws 3D features such as rivers, tree area outlines, sloped roof lines

  + 3D line string/area monotonicity setting – sets a rule for vertices to go only uphill or only downhill; usually used for water

DAT/EM Capture for Global Mapper
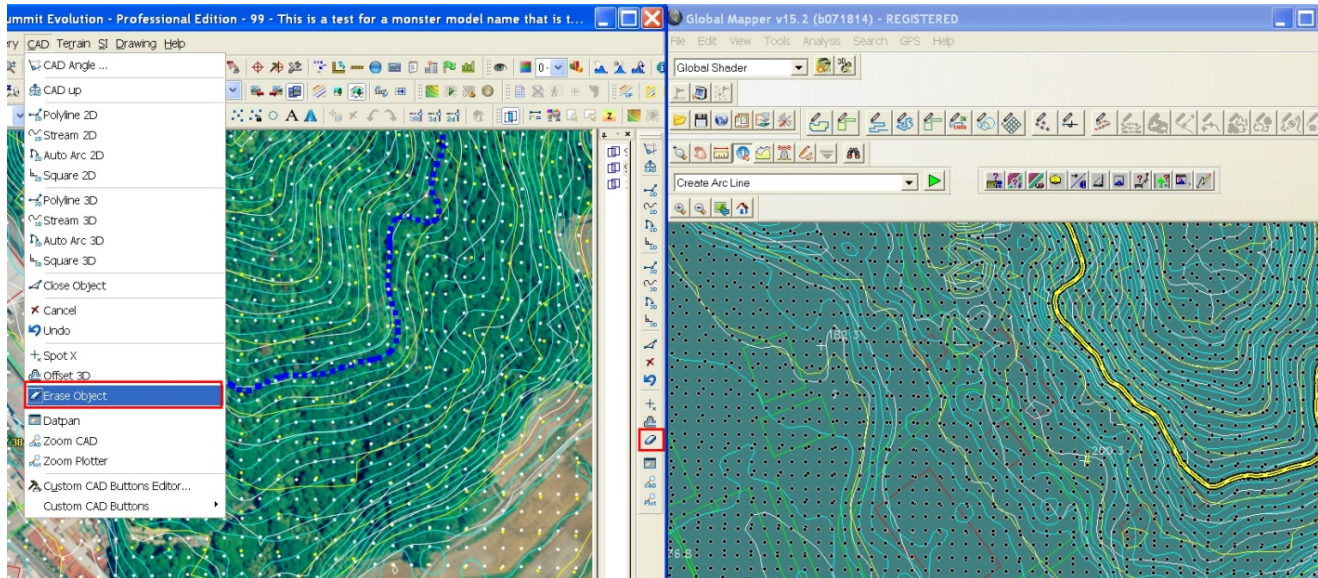
Drawing tools, continued:

"SpotX" spot elevation tool
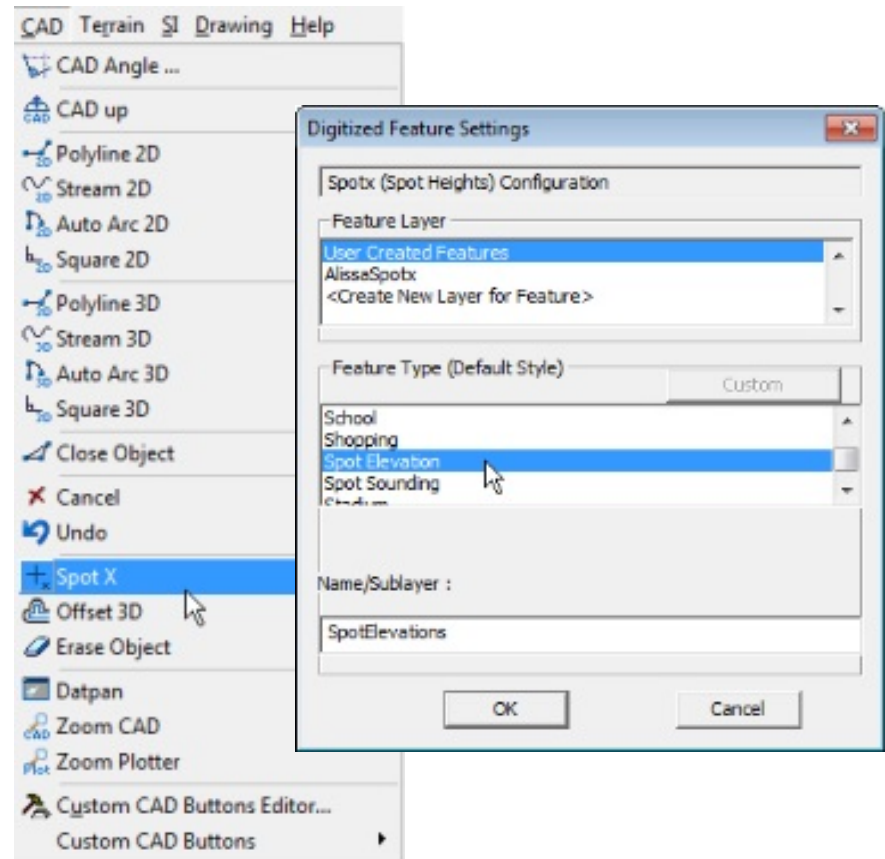
DAT/EM Capture for Global Mapper
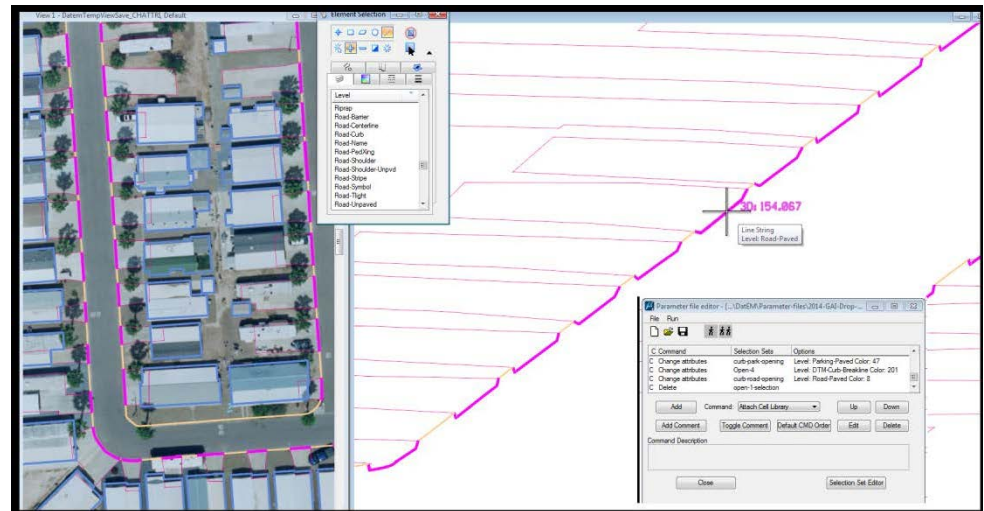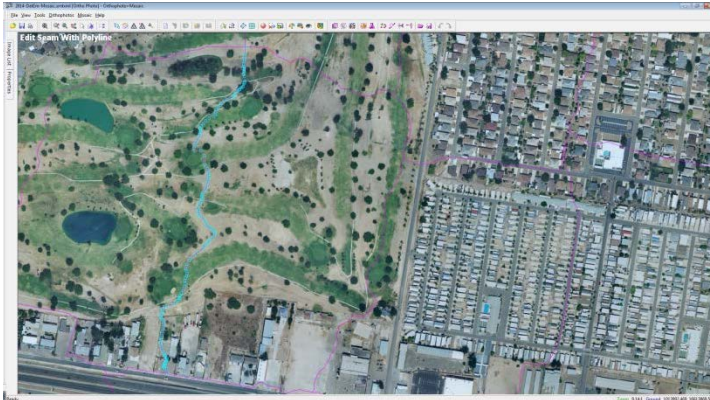
Editing tools:

- **DAT/EM Close Object** closes a line feature to become either an area or an end-to-end snapped line

- **DAT/EM Erase** deletes the selected object

Industry Example
Using Summit Evolution in your workflow

Topographic Right of Way mapping for designing
a Highway Relief Route from Topographic Design Survey.

Gorrondona & Associates, Inc. photogrammetrically compiled topographic mapping for 1-foot contour accuracy across approximately 5,052 acres. Final delivery included 2D and 3D planimetric topography vector files and orthophoto-mosaic images at 6-inch pixel resolution.

Industry Example
# Using Summit Evolution in your workflow

Woolpert, Inc. used Summit Evolution to collect and process digital multi-spectral aerial imagery and LiDAR data for more than 40,000 square miles that make up the State of Ohio. The imagery was collected at a one-foot pixel resolution and delivered in 5,000 x 5,000 foot tiles along with LiDAR data and derived digital elevation models (DEMs).[1]

1. Rees, Eric van, "Photogrammetry at Woolpert" *GeoInformatics*, April/May 2014: p. 10-12

Recap
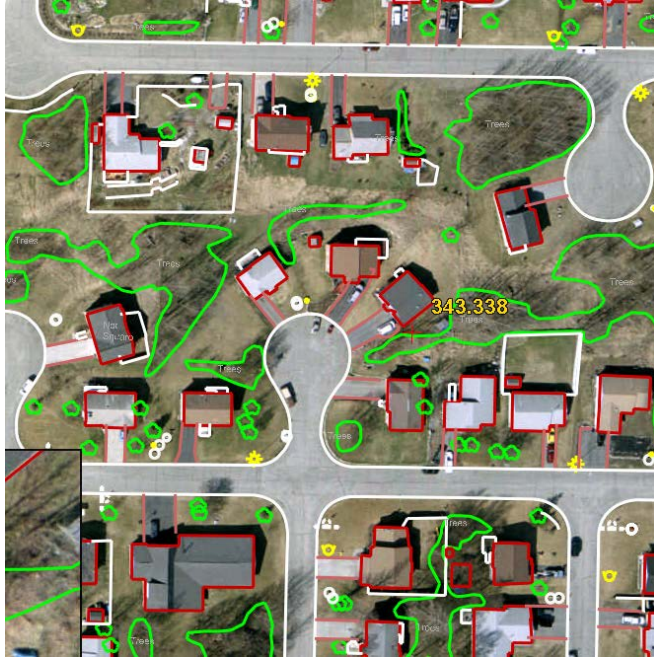
- Summit Evolution is a photogrammetric stereoplotter with three editions: Professional, Feature Collection, and Lite

- With a Summit purchase or support contract, connect Summit v.7.1 to Global Mapper v.15.2 at no additional cost

- DAT/EM Capture is the interface that collects 3D vector information from Summit Evolution into Global Mapper

- Activate DAT/EM Capture for Global Mapper in two steps

- Connecting Global Mapper to Summit Evolution allows you to digitize 3D vectors and check existing data for accuracy

Thank You / Questions

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