Integrating the Geospatial Workplace

New Features in TerraScan

GeoCue User Group Meeting

ASPRS 2012

Sacramento, CA

20 March 2012

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Version 012.001

- Released 7th February
- Permanent licenses require computer ID in addition to computer name
- No change to network license or temporary license principles

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Various Improvements

- Saves settings when you close **Settings** dialog
- **Settings** tool supports creation section templates based on elements drawn in a section view
- Option in **Cut overlap / Cut by range** to use either **3D range** or **Offset range** as the range criteria
- **Copy from class** setting in **Copy from reference**
  - makes it possible to copy only specific classification (for example building class) from an older data set

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Trajectory Order Block Numbering

- Block numbering can be based on order in which trajectories visit the blocks (=driving order)
- Better than 'South to north' type order for road/rail networks in cities

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Project Import

- **From file name** option for assigning line numbers – takes the last number from file name
- **From file name** option for assigning scanner numbers – takes the first number from file name

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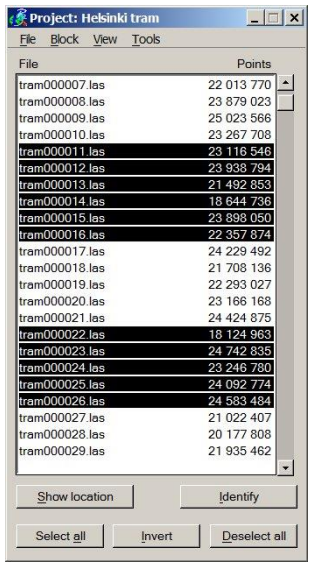
Project Improvements

- **Tools / Validate blocks** menu command for finding
  - Duplicate block names
  - Very small area blocks
  - Overlapping blocks
- **Select all**, **Invert** and **Deselect all** buttons in long list dialog



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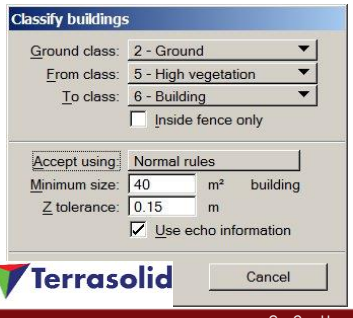
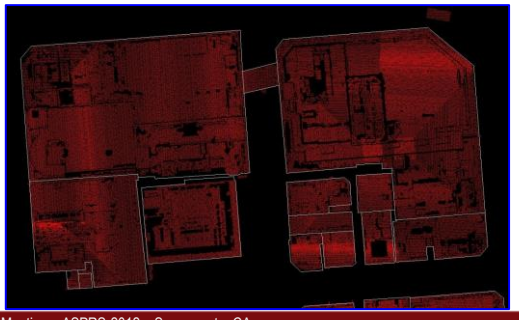
Buildings

- **Accept using** setting to control how easily point groups should be classified as buildings
- Dividing polygons in building vectorization
  - Polygons which separate buildings from each other
  - Useful when buildings are constructed very close to each other
  - You can use land property polygons as dividing polygons





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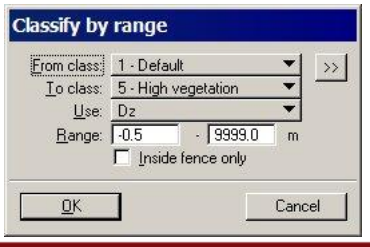
Classify by Range

- Range can now be computed as:
  - 3D distance
  - Xy distance
  - Dz from scanner
- Use **Dz from scanner** with mobile data to classify:
  - Points clearly below the ground
  - Points clearly above the ground – 'vegetation'



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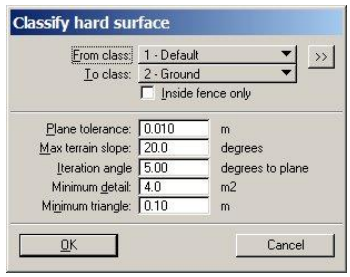
Classify / Hard surface

- Classifies dominant, median surface points
- Alternative for ground classification
- Better performance on paved surfaces
- You may need to draw polygons for paved areas to be able to classify terrain using **Ground** and paved area using **Hard surface** routine



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Ground vs. Hard surface

Ground

- Classifies local lowest points
- Right result in terrain
- Too low on asphalt
- Cuts curb stones
- Requires that you eliminate low points with other routines

Hard surface

- Classifies median surface
- Right result on asphalt
- Keeps curb stones better
- Does not require elimination of low points

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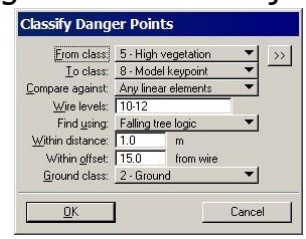
Any Vectors In Danger Points

- **Classify / Wire danger points** macro action can use linear elements on given levels as objects which falling trees may hit



- Use A:
  - Use power line design software to model worst case wire sag
  - Import into design file as vectors
  - Find danger trees
- Use B:
  - Create 3D vector for a railroad track
  - Find trees which would fall on the tracks

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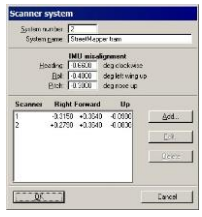
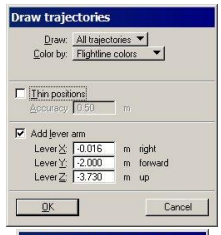
Lever Arm & IMU Misalignment

- Scanner system definition now has IMU misalignment angles for more accurate lever arm computation



- You can now add a lever arm when drawing trajectories to the design file



- You can add a lever arm to trajectories

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Cut Linear Element

- Deletes parts of linear elements if there are:
  - No laser points closeby
  - No other linear elements closeby
  - Other linear elements closeby
  - No image closeby
  - Images closeby
- You can use this to mark places where:
  - There are objects too close to rail tracks or wires
  - We are missing images
  - We have images

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Smoothen Transitions

- New setting in **Extract color from images**
- Smoothens color/brightness differences between images

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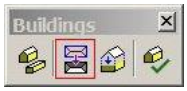
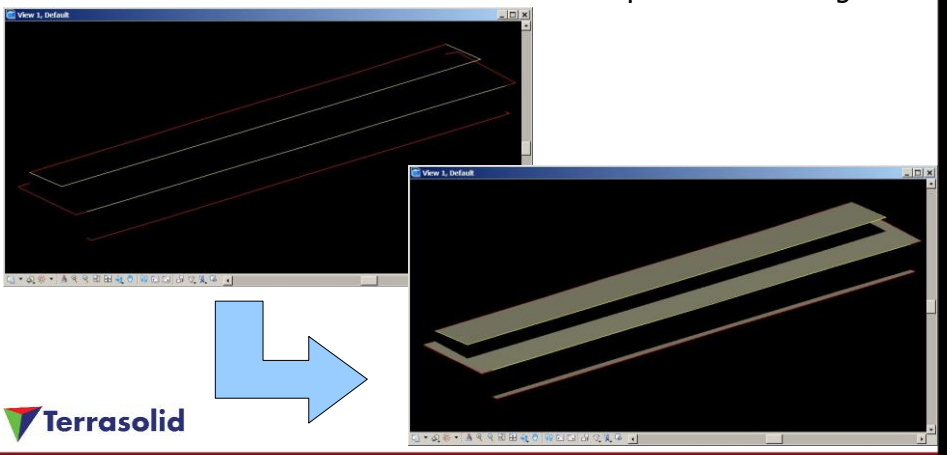
Construct Roof Polygons



- Creates 3D roof polygons from selected 3D roof lines
  - Determines closed polygons from line work
  - Tries to determine which elevations to keep and which to ignore



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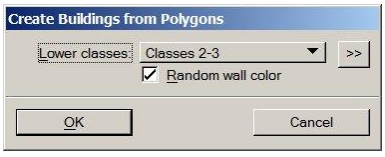
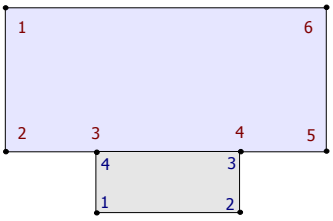
Create Buildings from Polygons



- Creates 3D building models from selected roof polygons
- Uses laser points to get base elevation for walls
- Polygons should share segments:



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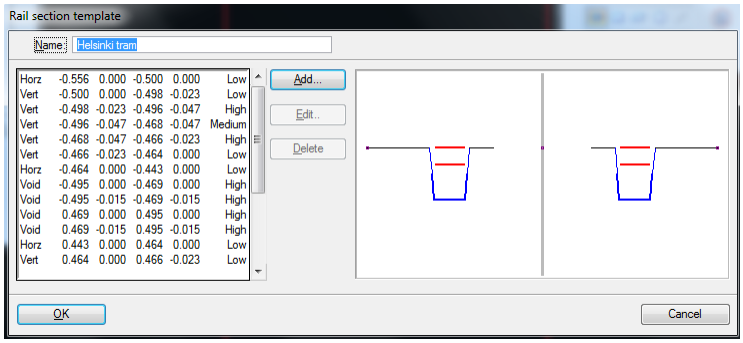
Rail Section Template

- Uses rail section template to locate rail extents and adjust rail centreline based upon the laser data.



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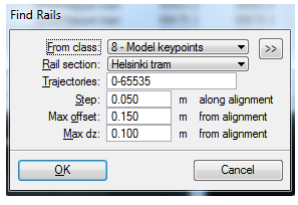
Finding Rails



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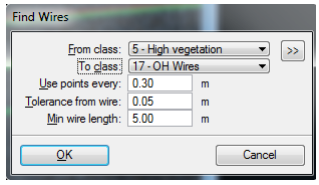
Finding Overhead Wires

- For vectorizing overhead wires
- Designed for tram project



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