Semi automatic 3D city modeling

Miso Iric
Complete 3D
Challenges in 3D modeling

Fme as savior

- 3D city modeling
- Semi automatic solutions
- Examples
3D city modeling

Different ways of creating models

- Lidar /point cloud (automatic)
3D city modeling

Different ways of creating models

- Lidar /point cloud (automatic)
- Image matching (automatic)
3D city modeling

Different ways of creating models

- Lidar / point cloud (automatic)
- Image matching (automatic)
- Photogrammetric (manually)
3D city modeling

Photogrammetric method (pros and cons)

- Most accurate
  - +/- pixel resolution
  - 8 cm/pix
3D city modeling

Photogrammetric method (pros and cons)

- Most accurate
- Traditional way and challenges
  - need to map all details on roofs
3D city modeling

Photogrammetric method (pros and cons)

- Most accurate
- Traditional way and challenges
  - need to map all details on roofs
  - need accuracy on snapping
3D city modeling

Photogrammetric method (pros and cons)

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- Traditional way and challenges
  - need to map all details on roofs
  - need accuracy on snapping
  - often making roofs one by one
3D city modeling

Photogrammetric method (pros and cons)

- Most accurate
- Traditional way and challenges
  - need to map all details on roofs
  - need accuracy on snapping
  - often making roofs one by one
  - time and work consuming

mapping polygon 25 sec
mapping line with snapping 10 sec
selecting and making roof 8 sec
time for one roof = 43 sec
Semi automatic with fme

Photogrammetric method

- No need for mapping all the details
Semi automatic with fme

Photogrammetric method

- No need for mapping all the details
- 8 times quicker
  - everything is done in one fme run
Semi automatic with fme

Photogrammetric method

- No need for mapping all the details
- 8 times quicker
  - everything is done in one fme run
  - automatic building volume with splitted parts (roof, side, foot)
Semi automatic with fme

Photogrammetric method

- No need for mapping all the details
- 8 times quicker
- Allows sluggish mapping :)  
  ○ roofs are not snapped and overlaps each others with intersection
Semi automatic with fme

Photogrammetric method

- No need for mapping all the details
- 8 times quicker
- Allows sluggish mapping :)  
  - roofs are not snapped and overlaps each others with intersection
  - automatic merging
Semi automatic with fme

Photogrammetric method

- No need for mapping all the details
- 8 times quicker
- Allows sluggish mapping :)
- Different roof types and combinations
  - V
  - L
  - Z
  - U
  - Sculptor
  - Multi
  - ...
Semi automatic with fme

Photogrammetric method

- No need for mapping all the details
- 8 times quicker
- Allows sluggish mapping :)
- Combining for best result
Semi automatic with fme

Photogrammetric method

- No need for mapping all the details
- 8 times quicker
- Allows sluggish mapping :)
- Other benefits with fme
  - Direct DB storage
  - Export in many different formats
  - Export for different usement
  - ...

...
Examples
Examples
Examples
THANK YOU!

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