

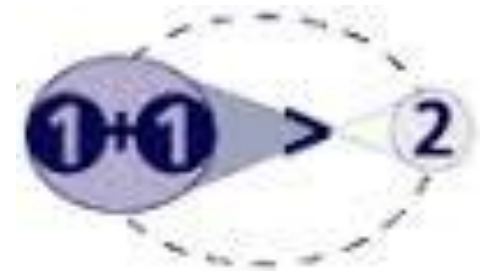
Omek Consortium

Magnet Program



Magnet Program

- OCS – Office of the Chief Scientist
- Magnet – pre competitive stage R&D programs
- Technological building blocks
- technology transfer
- Commercial value
- Collaboration (industrial and academic)





Omek consortium

- Our vision is:

to develop technologies of 3 Dimensional analysis and understanding of the surrounding spatial scene, using existing sensors.



Omek Members

ACADEMIC

INDUSTRY





Omek areas of research



- **Modeling**
 - Efficient representation of data
 - Noise reduction, data correction
- **Registration**
 - Feature extraction
 - 3D to 3D, 2D to 3D
 - Same View Point, different time/ different view point same time
- **Classification**
 - Segmentation
 - Object recognition



Omek Boundaries

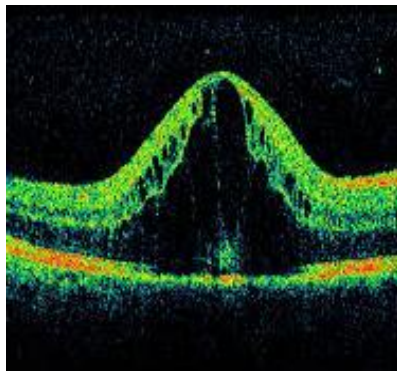
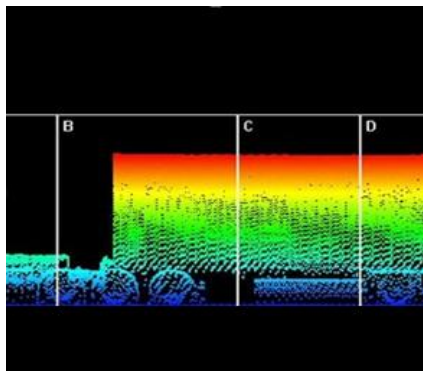
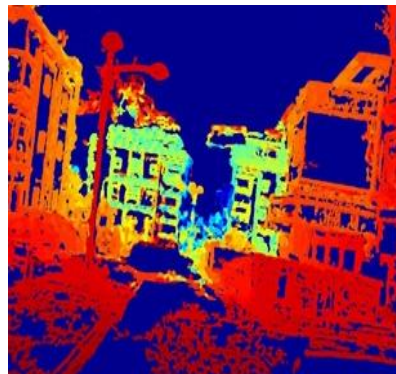
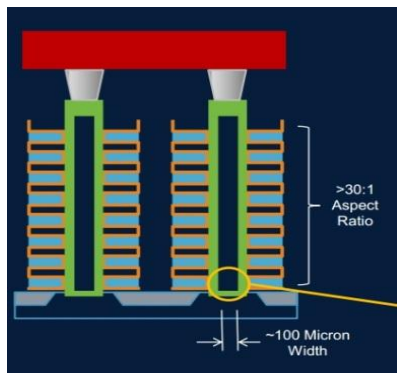


- Omek Inputs:
 - Point clouds (all methods)
 - Additional sensory data
 - RGB
 - Intensity
 - Nav data
 - Sensor parameters
 - Any useful information...



Why??

- Sensors are producing raw data



Point Cloud





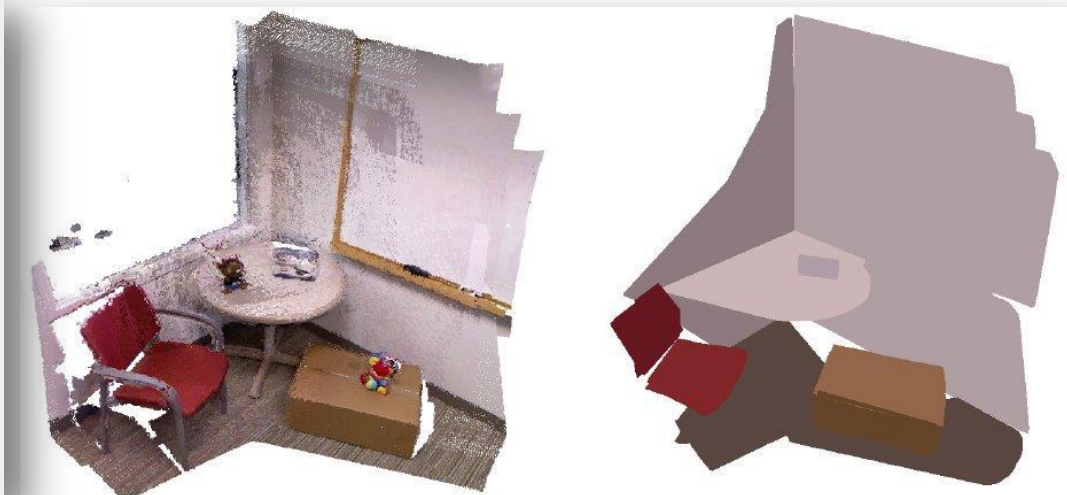
What is this?



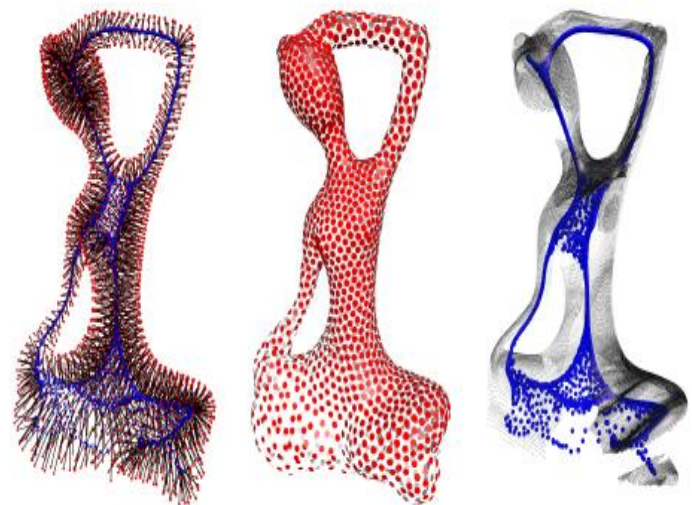
Modeling



- Modeling
 - Noise reduction, data correction
 - Efficient representation of data

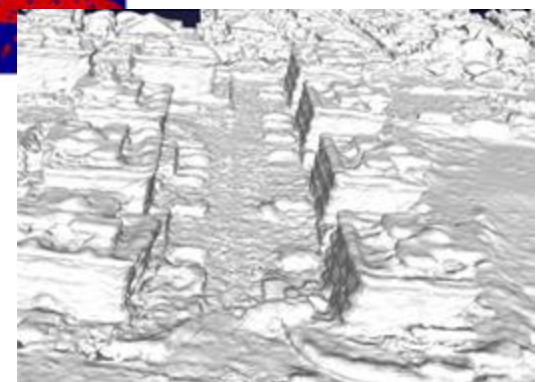
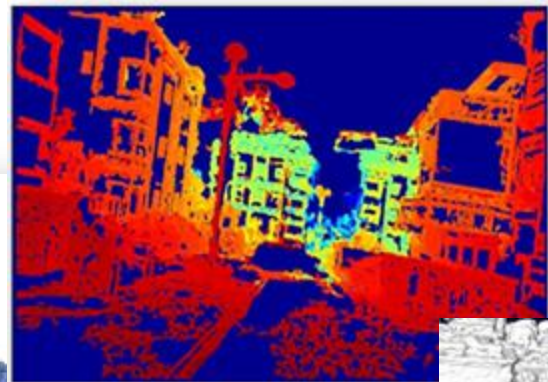
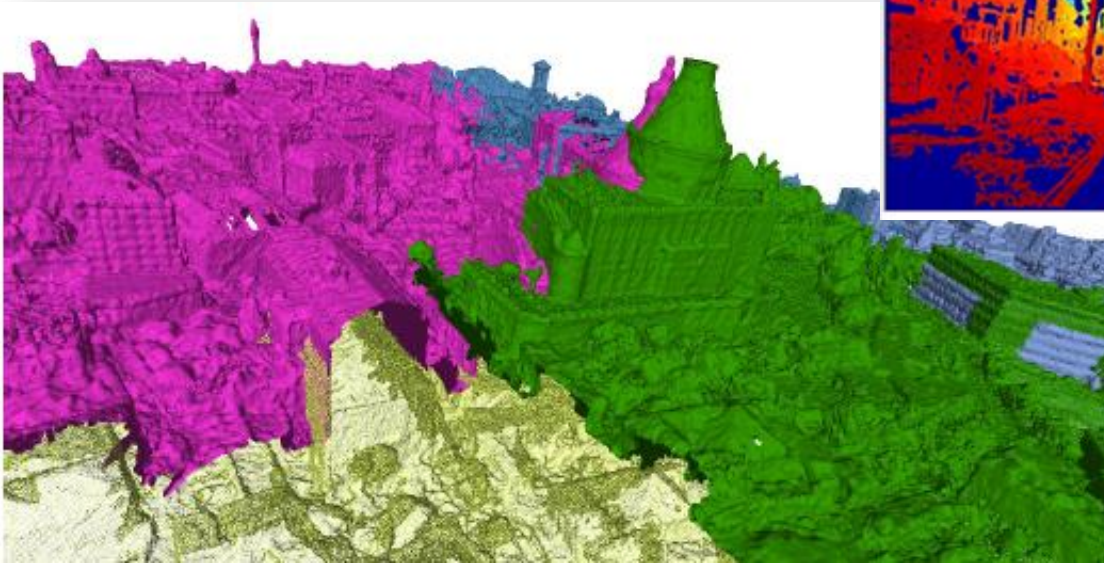


Registration



- Registration

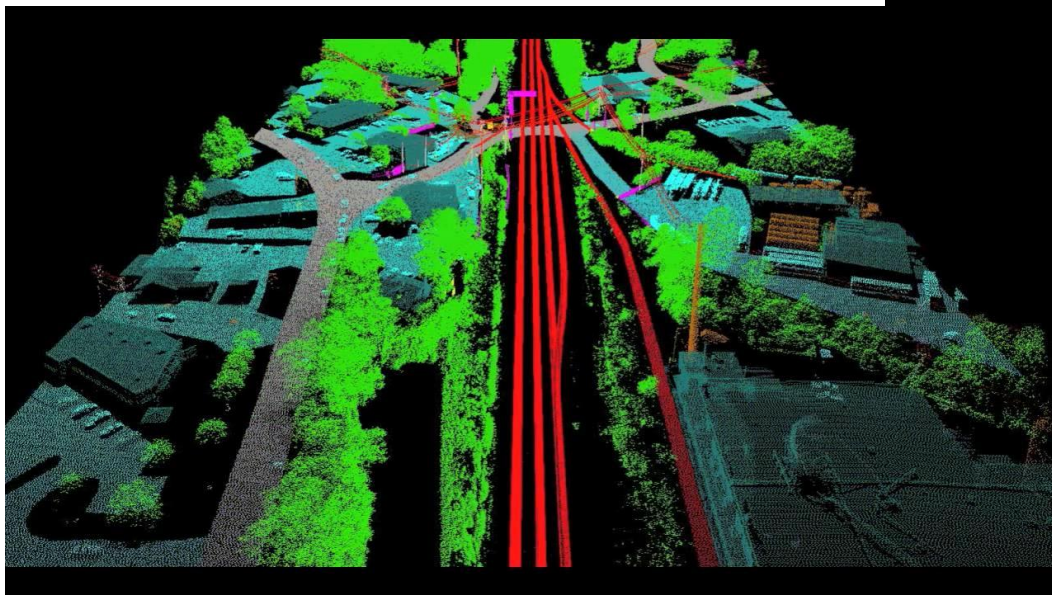
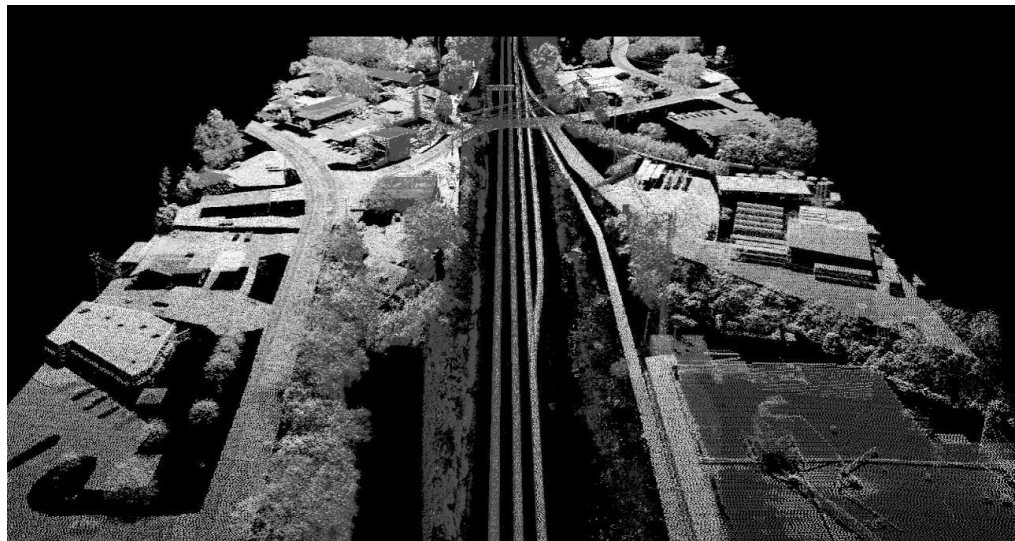
- Feature extraction
- 3D to 3D, 2D to 3D
- Same View Point, different time/ different view point same time



Classification (understanding)



- Classification
 - Segmentation
 - Object recognition



Rails

Trees

Buildings

Power lines

roads



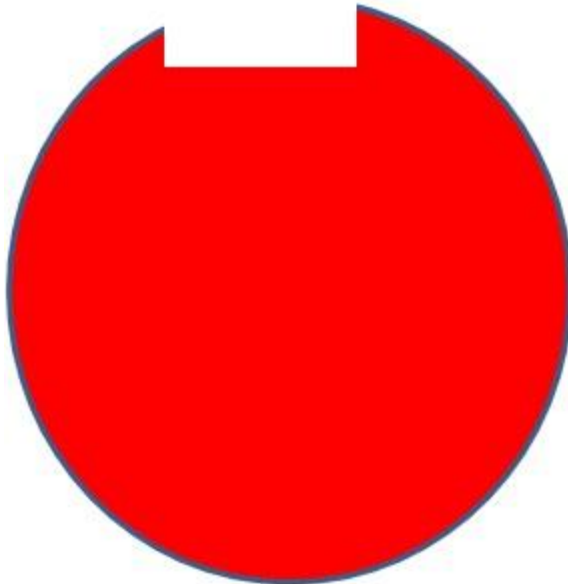
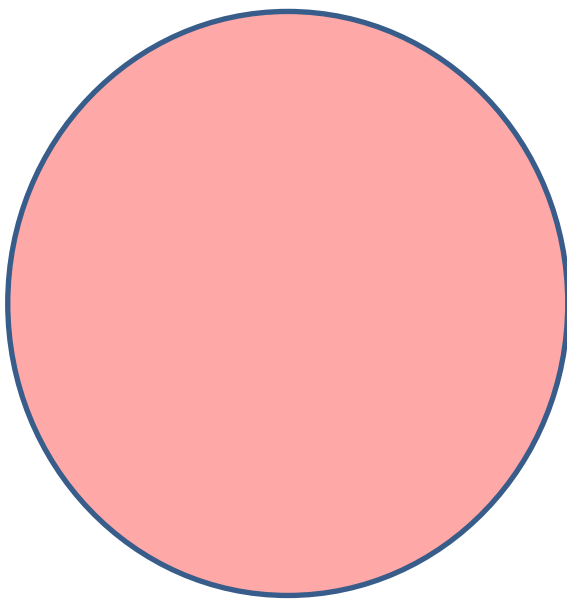
WHAT'S NEW?



Combining areas



- Registration

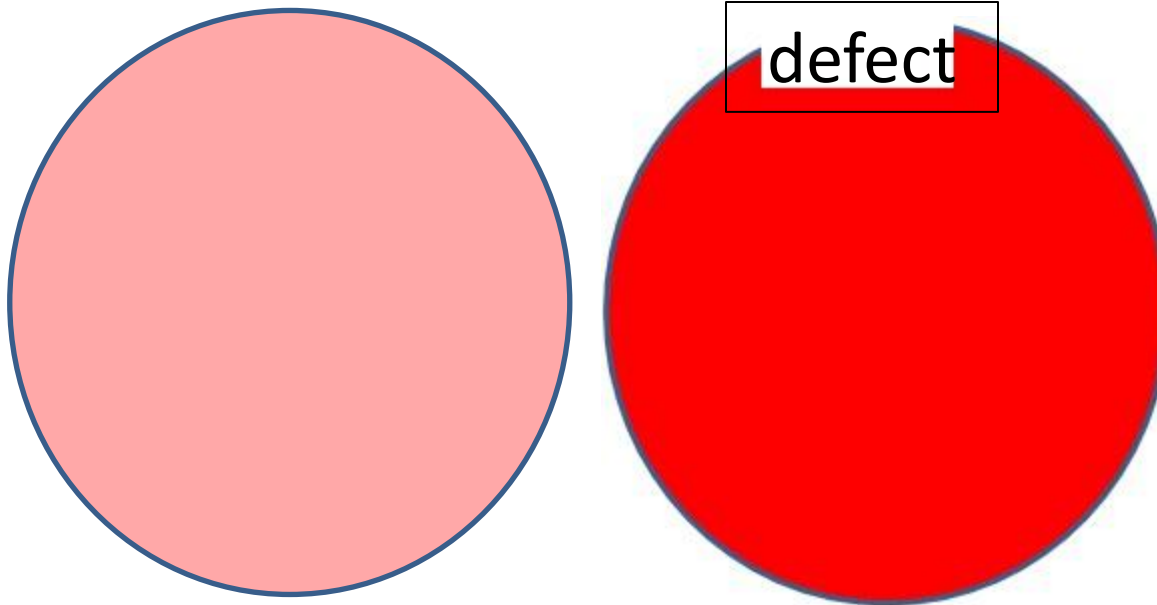




Combining areas



- Classification **&** Registration





Combining areas



- Semantics and registration
- Semantics and Modeling
- Modeling and de noising
- Modeling and segmentation
- Etc...