

# US-Egypt LiDAR Applications Workshop

The National Authority for Remote Sensing and  
Space Sciences (NARSS)



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Alliance for Integrated Spatial Technologies of the University of South Florida**



<https://www.facebook.com/USF.AIST>



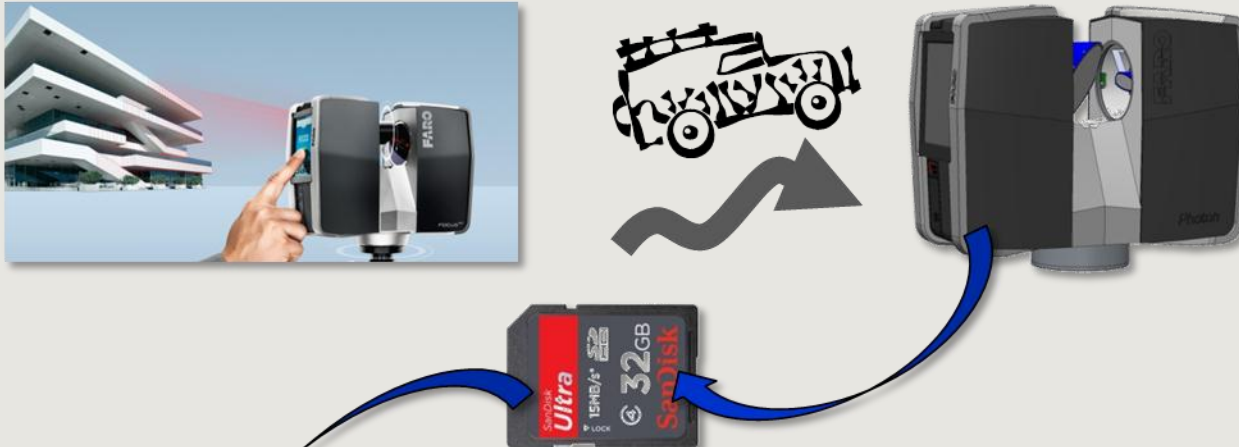
@USF\_AIST



<http://www.youtube.com/AISTUSF>



# Automatic Data Processing Workflow



## Scan data processing

**Automatic** download of scan data

**Automatic** creation of the project

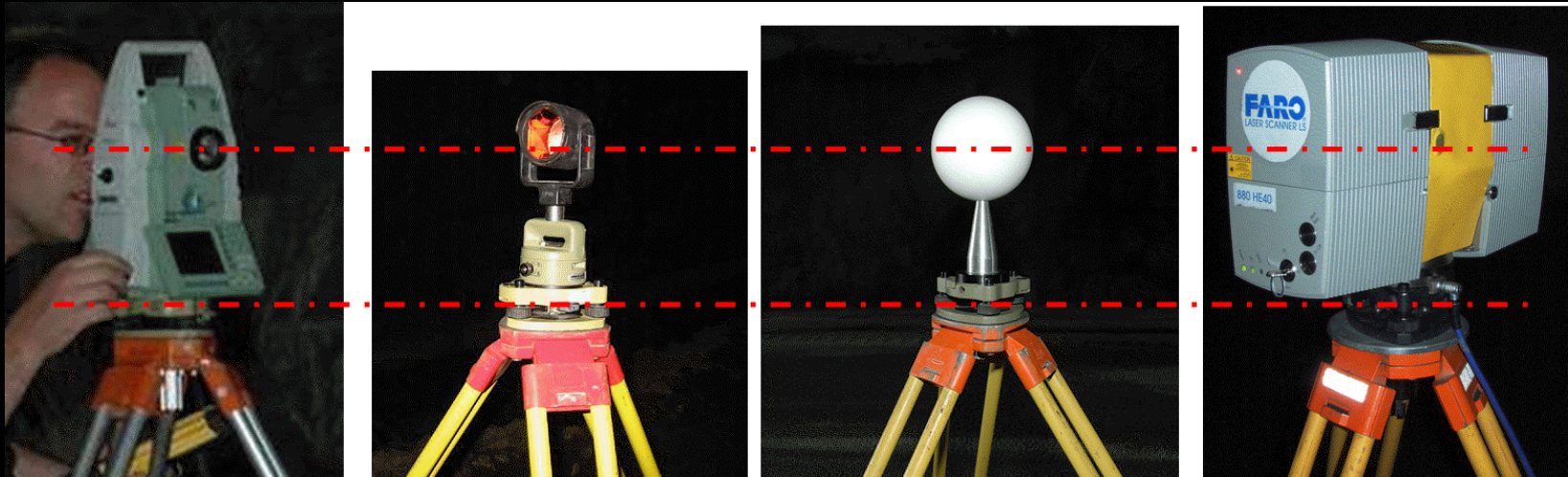
**Automatic** creation clusters for sub-projects

**Automatic** post-processing and registration

**Manual** verification and improvement

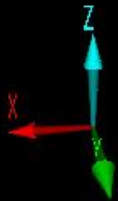
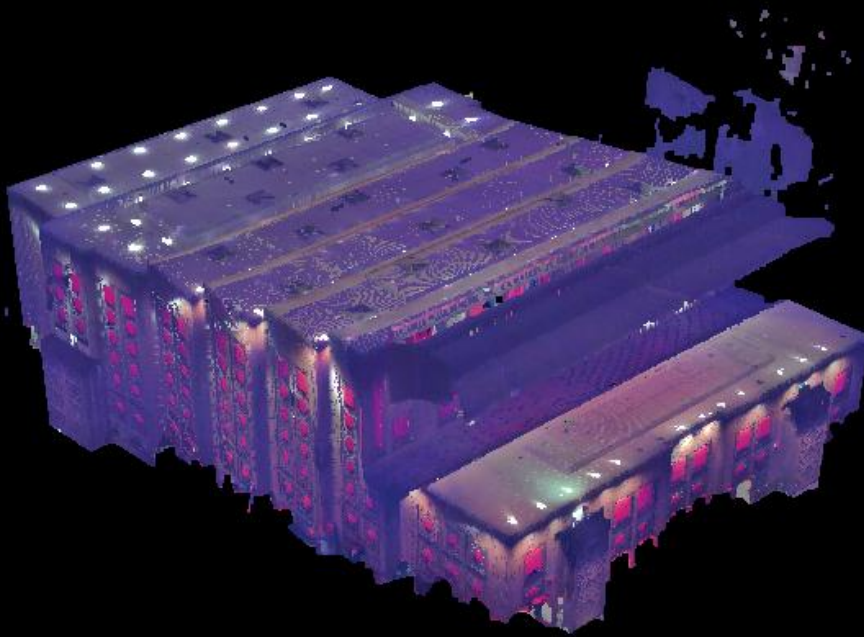
# If you wanted to georeference:

- A *surveyor* is providing the *coordinates* of the reference targets based on a *geodetic coordinate system*
  - Normally, the coordinates are determined with *Total Stations* – or – *GPS systems*

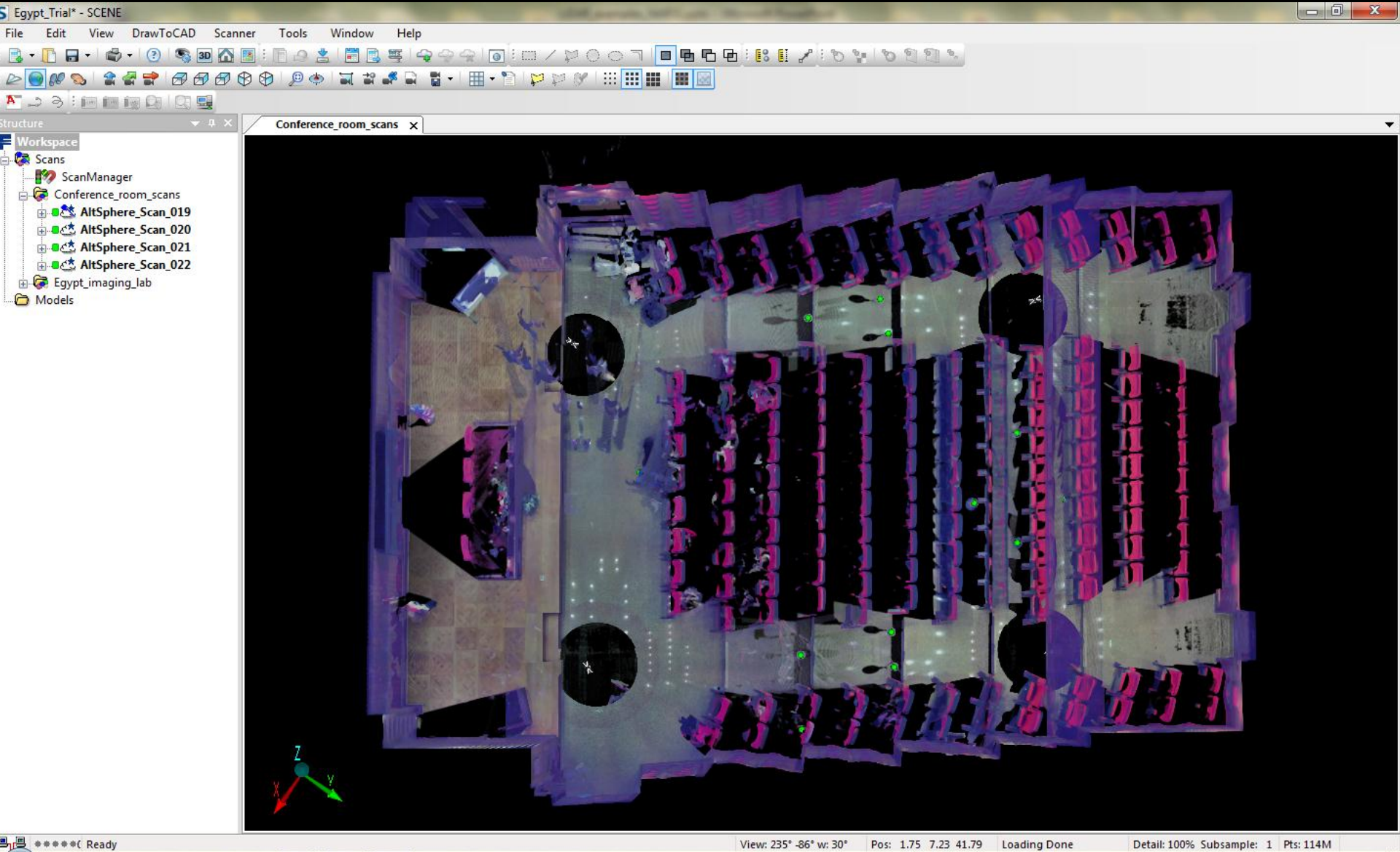


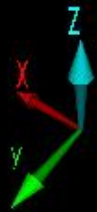
# First Room Example

- Used the FARO Focus3D to capture the NARSS Conference room as a demo of the technology
- Set up was a total of 4 scan positions



# First Room Example

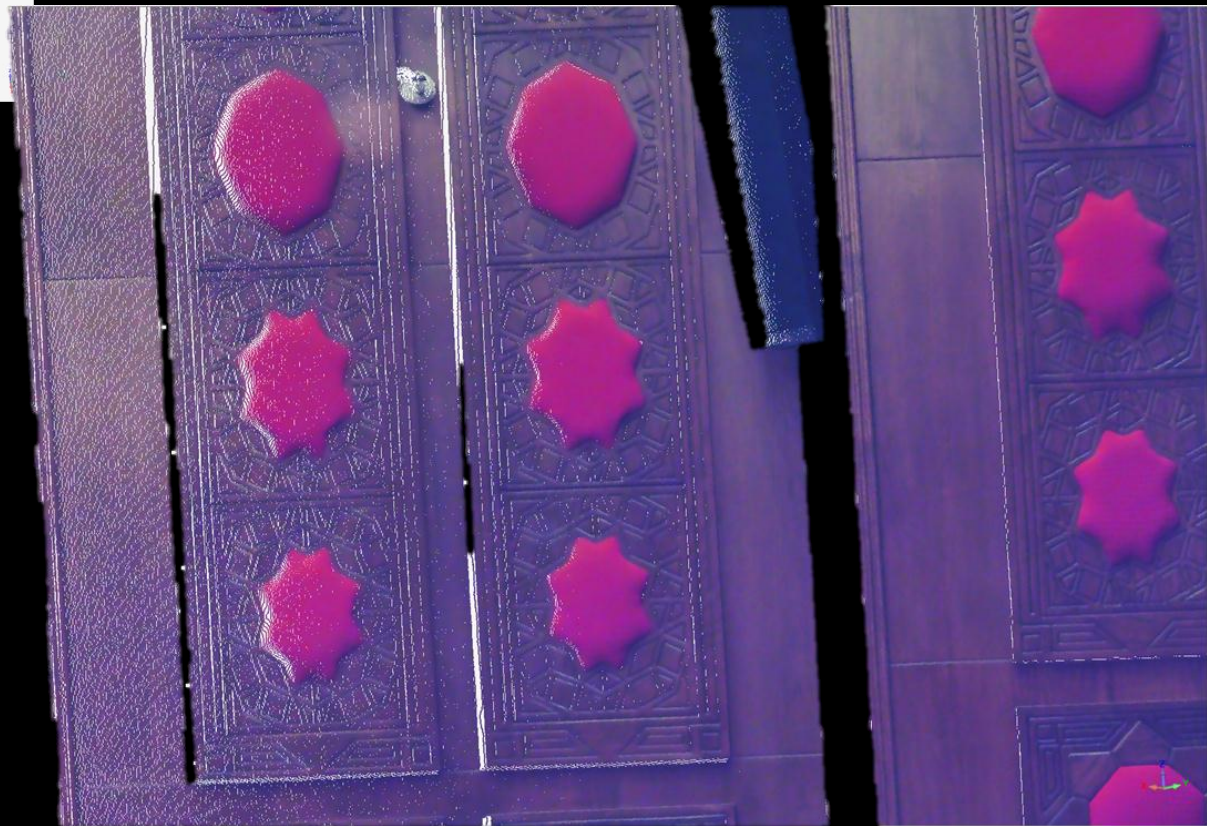
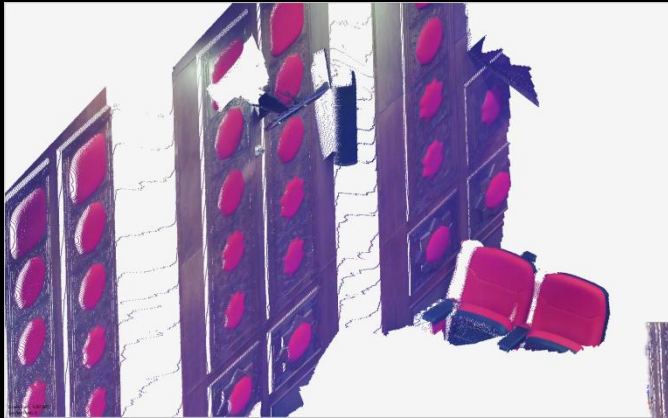




- Workspace
- Scans
    - ScanManager
      - Conference\_room\_scans
        - AltSphere\_Scan\_019
        - AltSphere\_Scan\_020
        - AltSphere\_Scan\_021
        - AltSphere\_Scan\_022
      - Egypt\_imaging\_lab
    - Models



# First Room Example





# Point cloud Detail from wall panels in the Demo

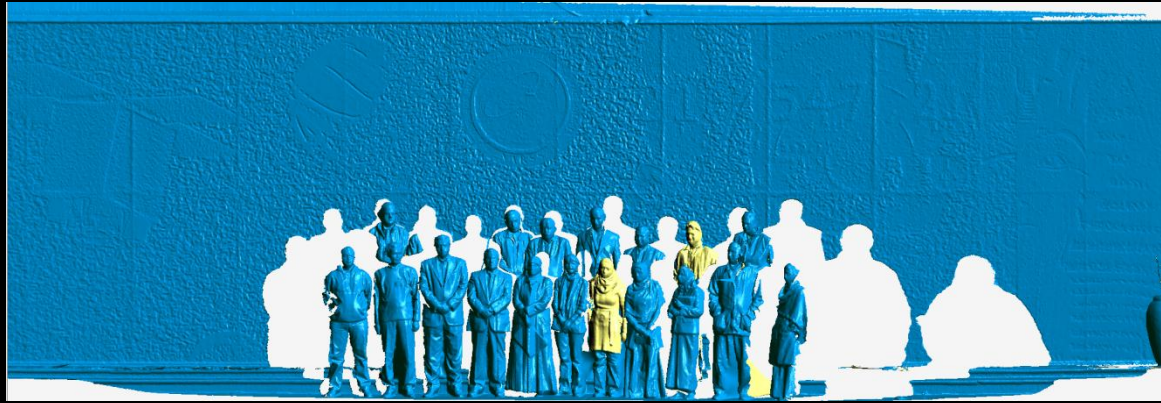


# Group Scan

- Scan taken with FARO Focus3D
- Exported as x,y,z data from FARO Scene
- Imported to Geomagic Studio 2012
- Processed using Geomagic

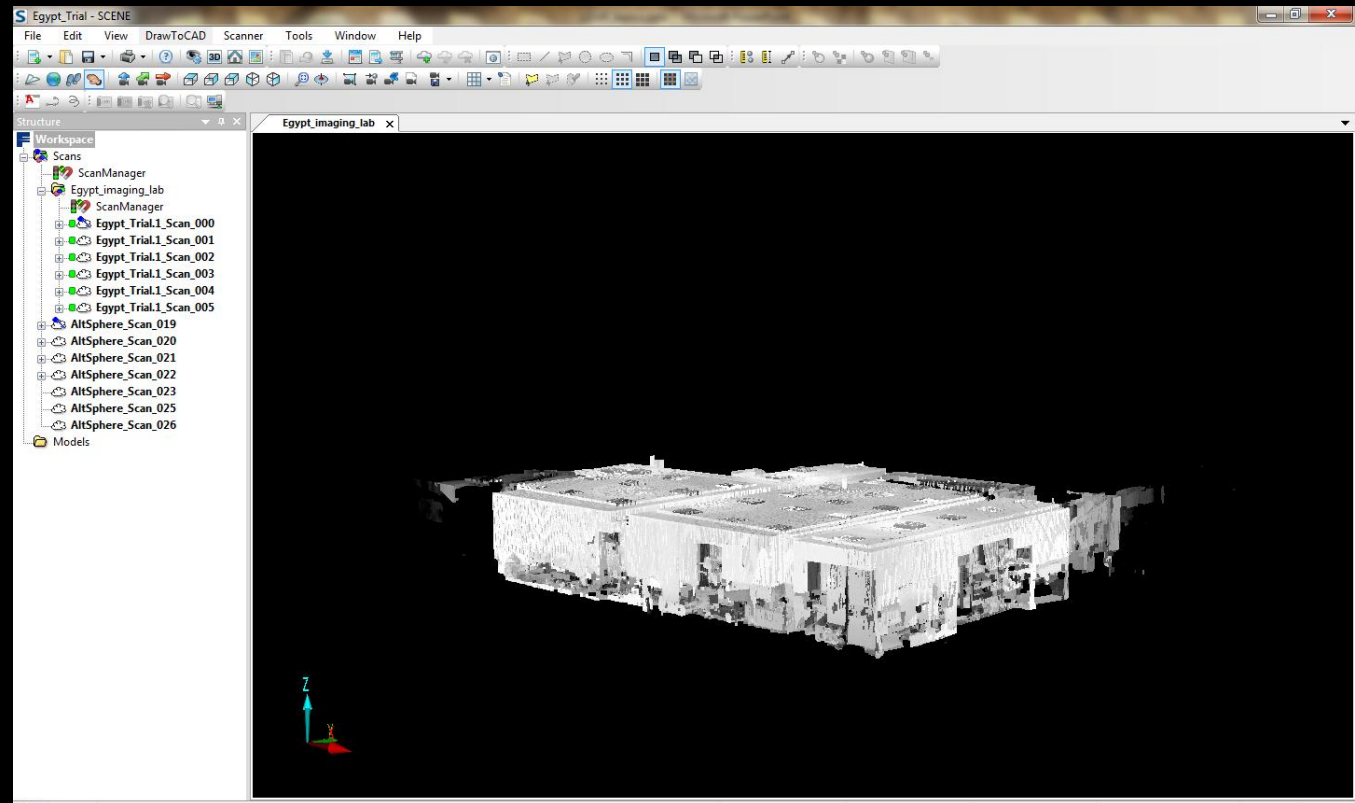


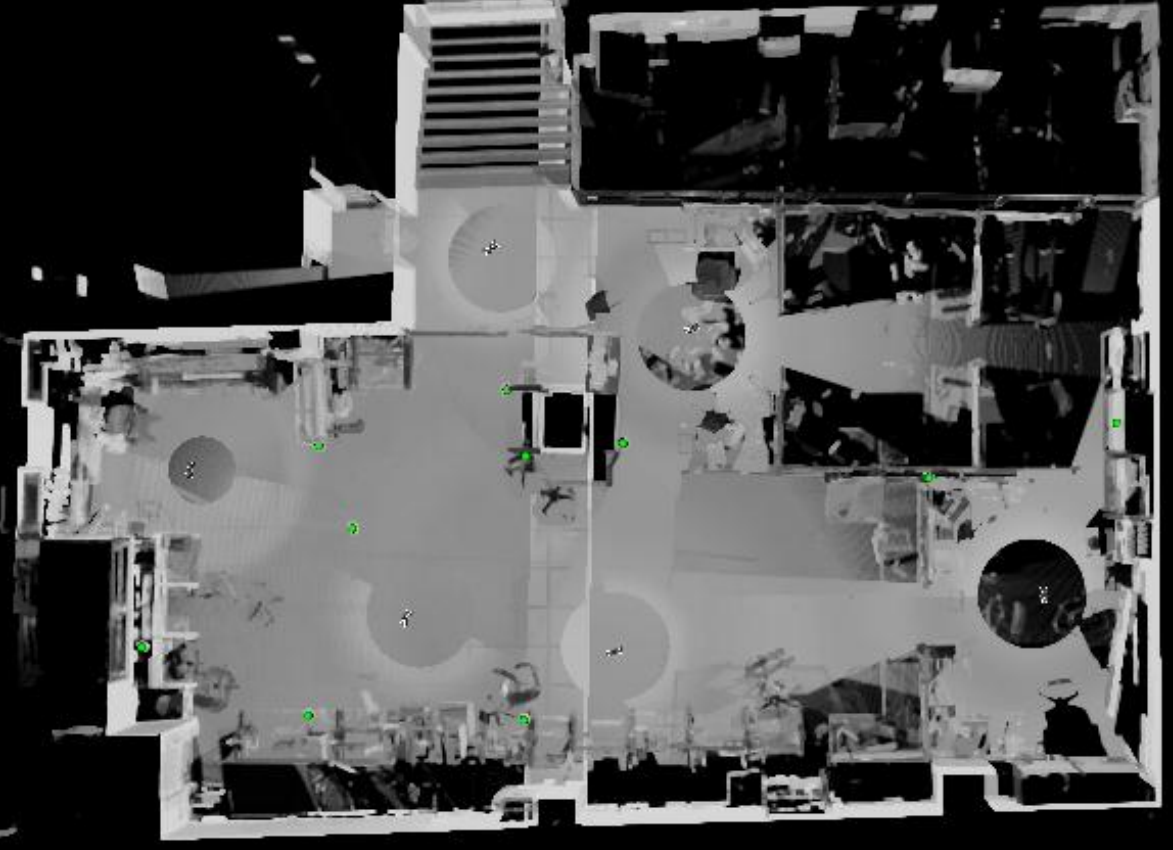
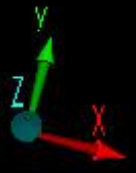
# Group Scan Processing



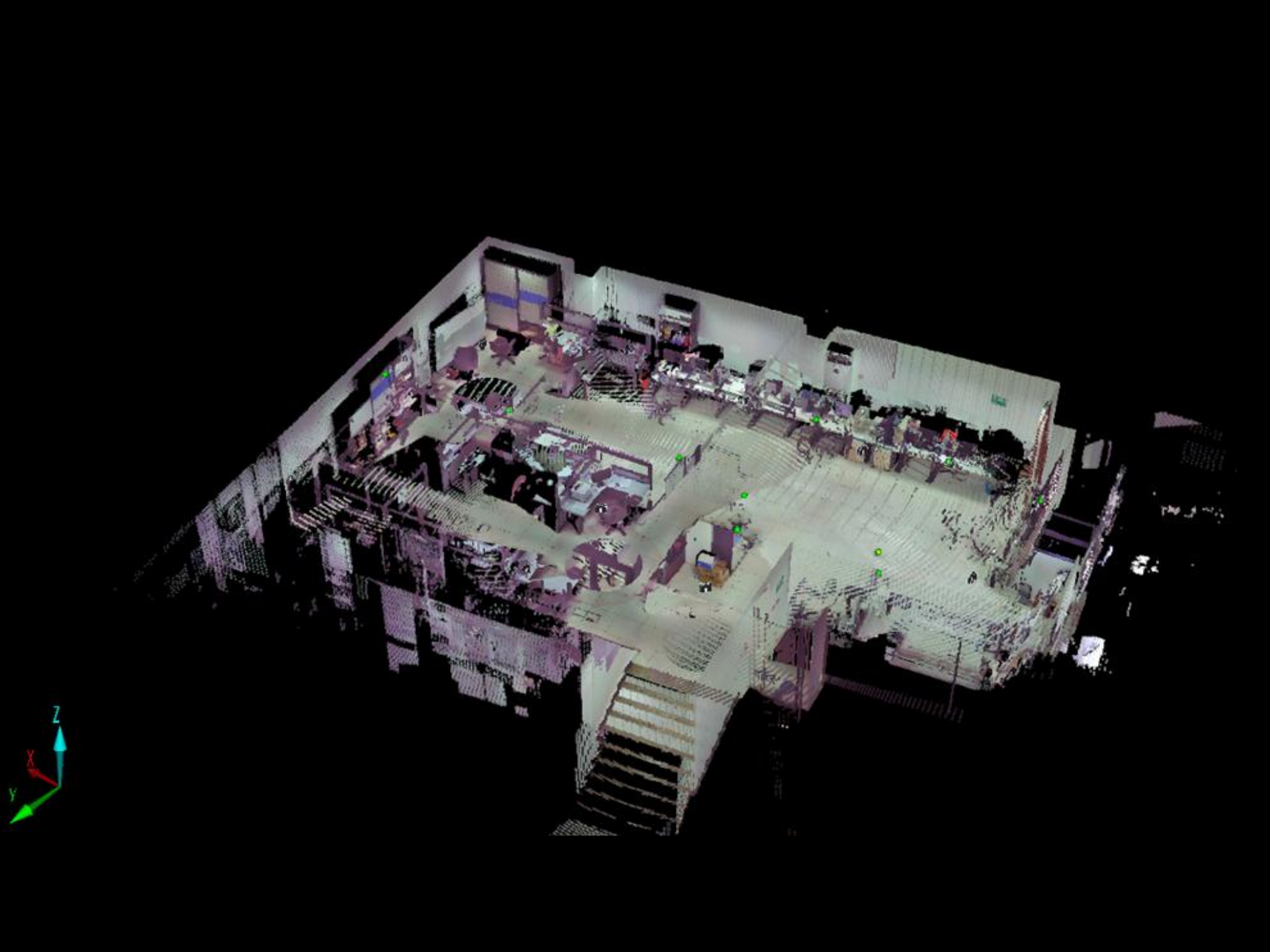
# Imaging Lab Scans

- Total of 6 scans taken with the FARO Focus3D
- Processed (Registered) in SCENE software
- Data also exported as x,y,z







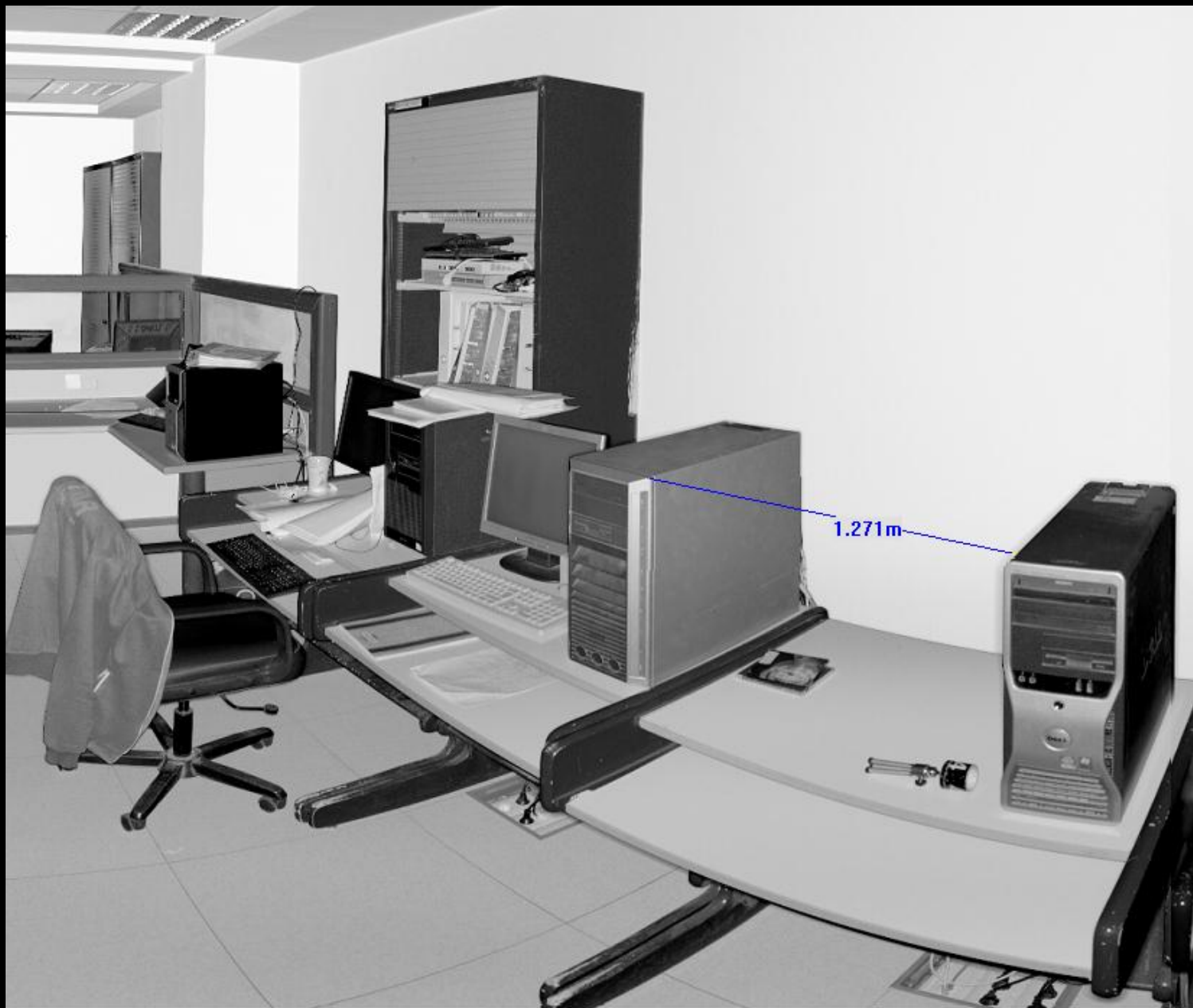




- Structure
- Workspace
    - Scans
      - ScanManager
        - Conference\_room\_scans
        - Egypt\_imaging\_lab
          - ScanManager
            - Egypt\_Trial.1\_Scan\_000
            - Egypt\_Trial.1\_Scan\_001
            - Egypt\_Trial.1\_Scan\_002
            - Egypt\_Trial.1\_Scan\_003
            - Egypt\_Trial.1\_Scan\_004
            - Egypt\_Trial.1\_Scan\_005
  - Models







urement.

Row: 1555, Col: 2418

170.38° -19.380° d: 2.697m

XYZ: 5.049m 3.041m -1.797m