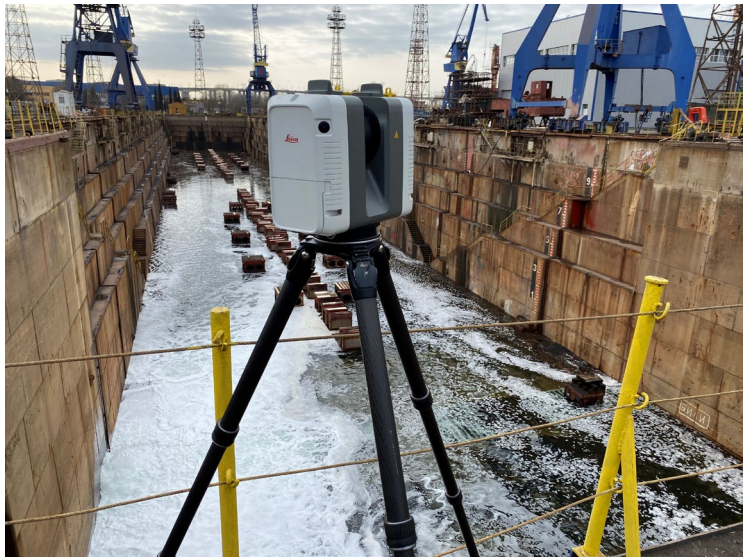
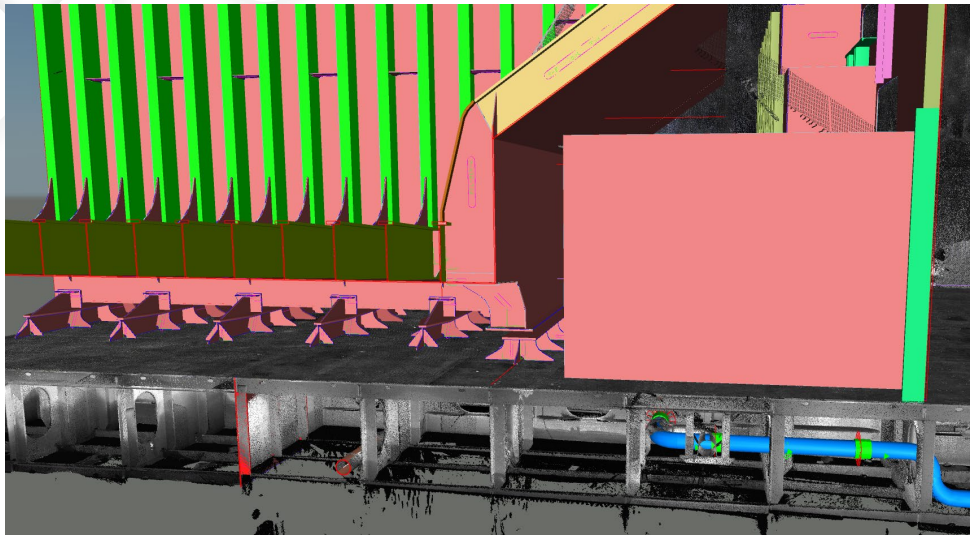
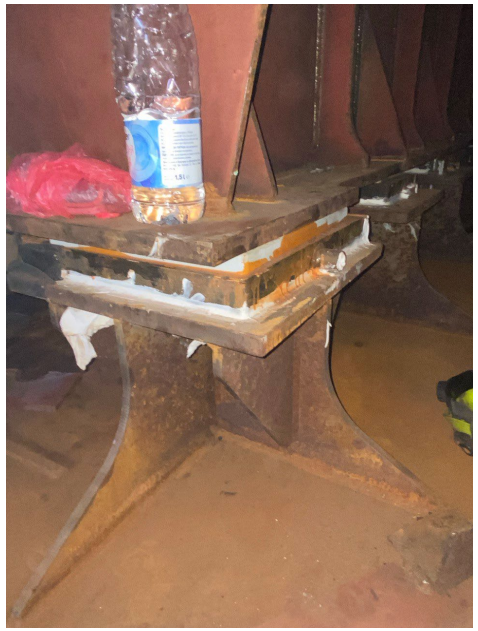
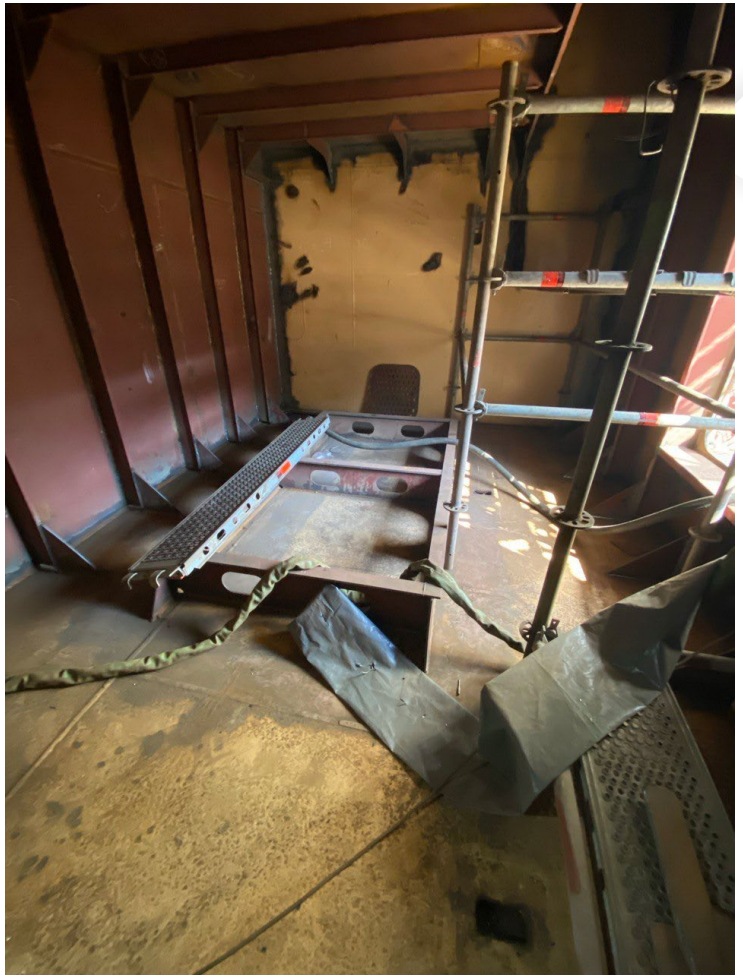
Usage of Point Cloud and ShipConstructor in retrofit projects

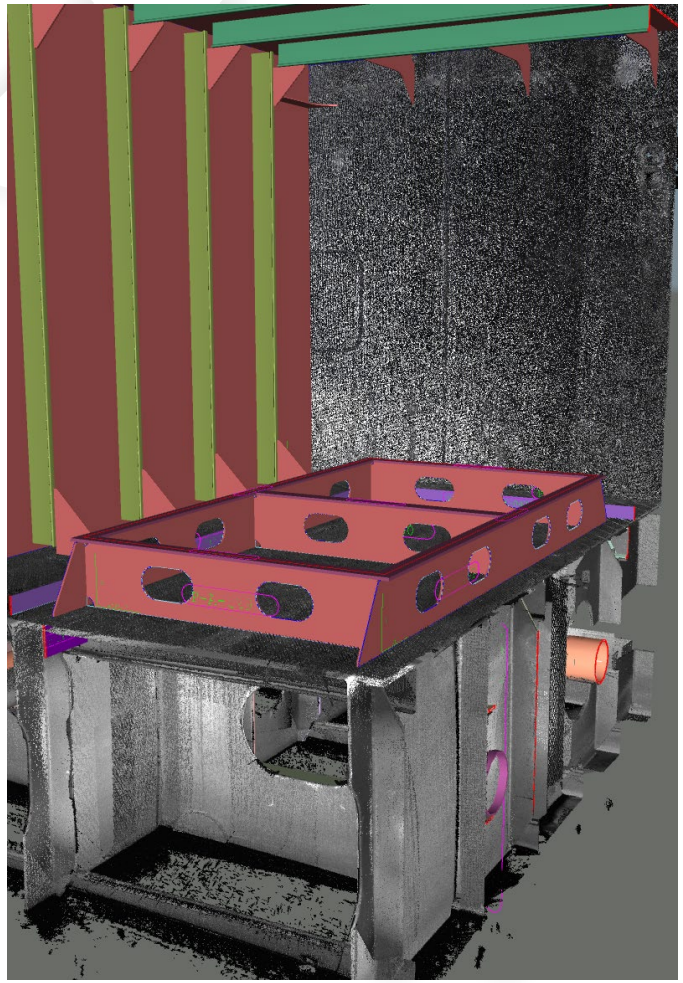


Structural design with ShipConstructor and Point Cloud







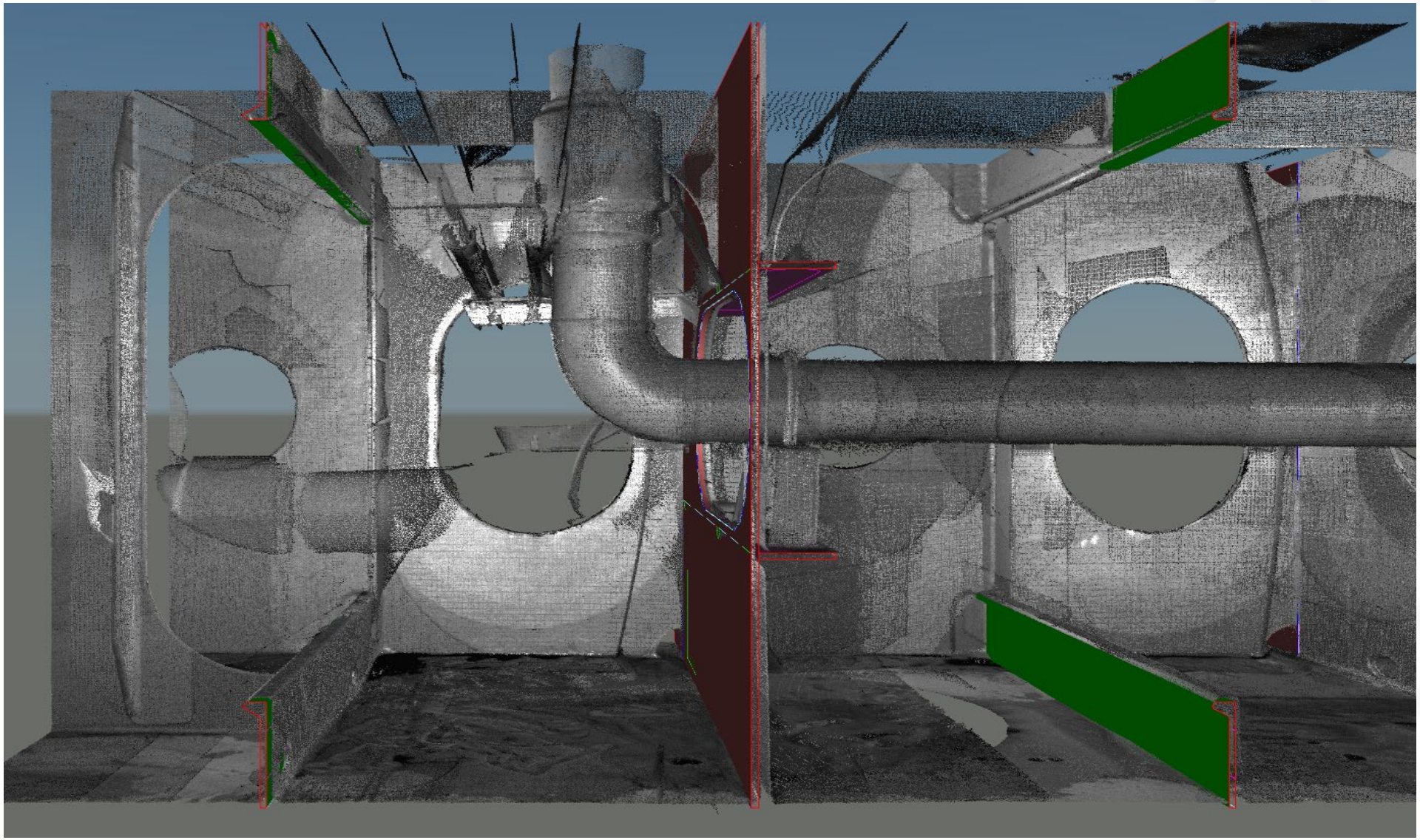


Usage of point cloud with ShipConstructor in structure design

- Analysis and compare of existing drawings and actual design
- Retrofit projects without existing drawings
- Simplified design and local modeling with full understanding of surrounding area

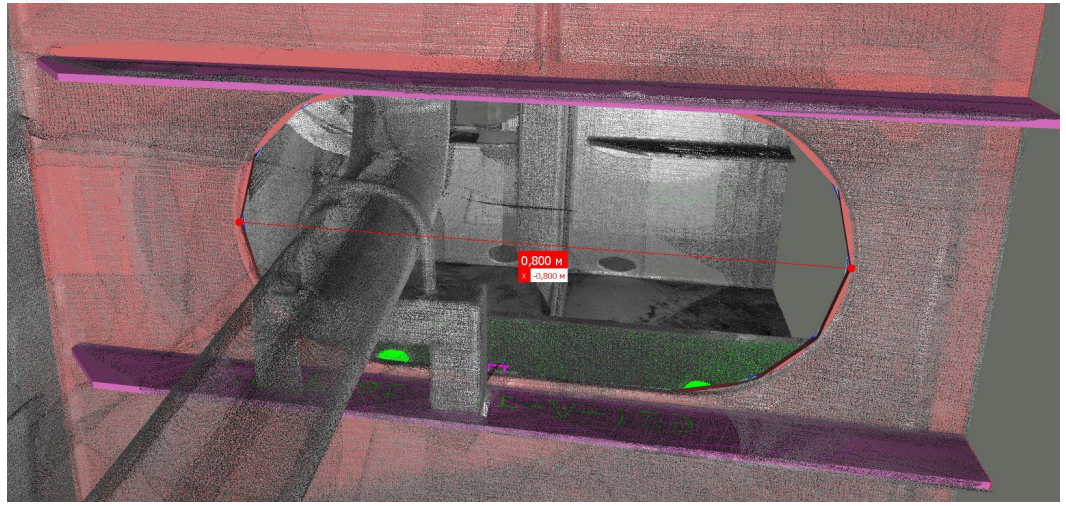
Analysis and compare of existing drawings and actual design

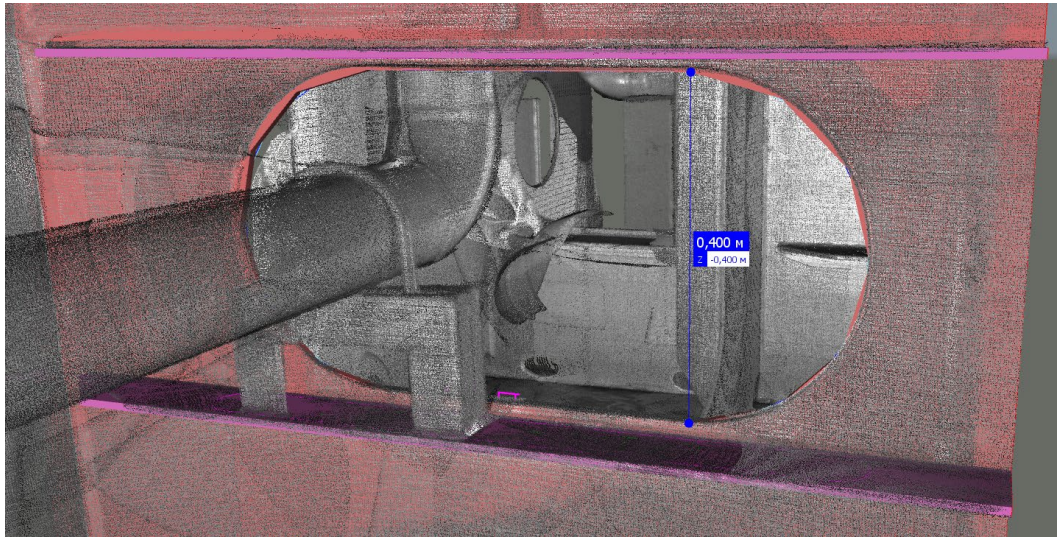
Profile and plate compare

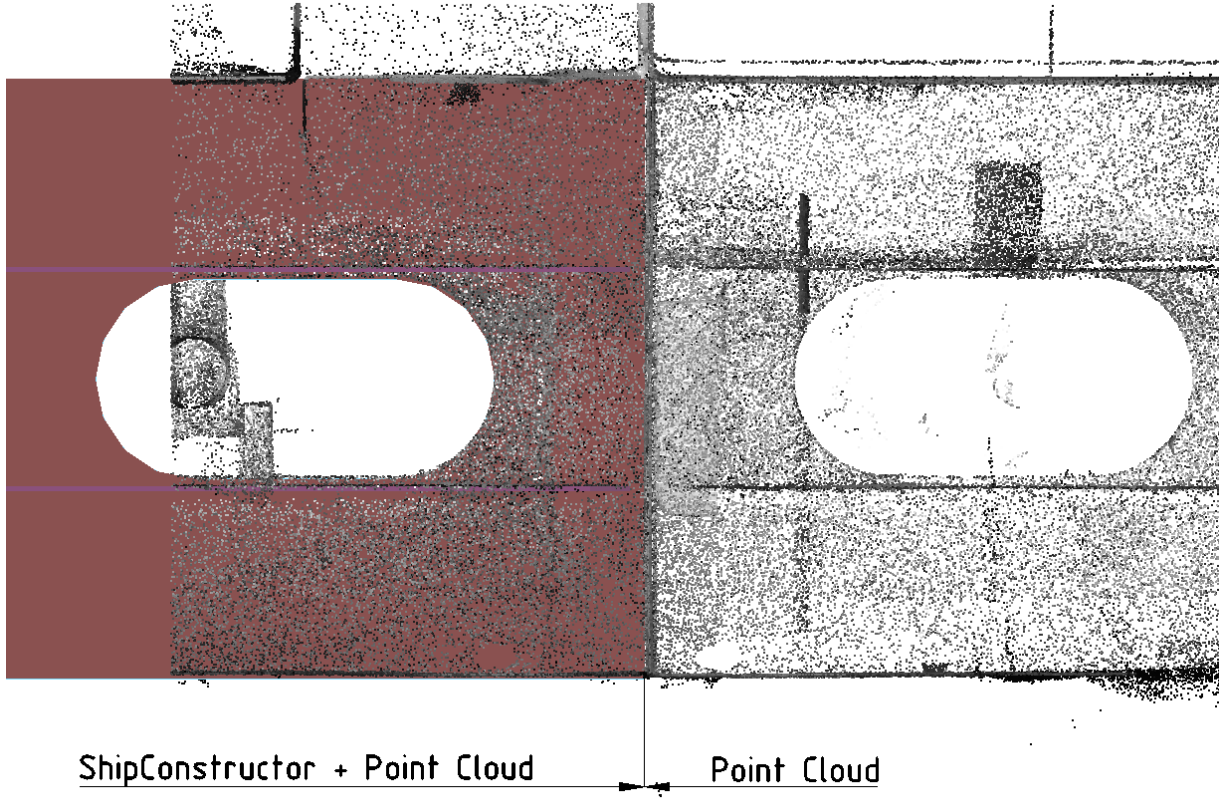


Analysis and compare of existing drawings and actual design

Cut out and opening compare

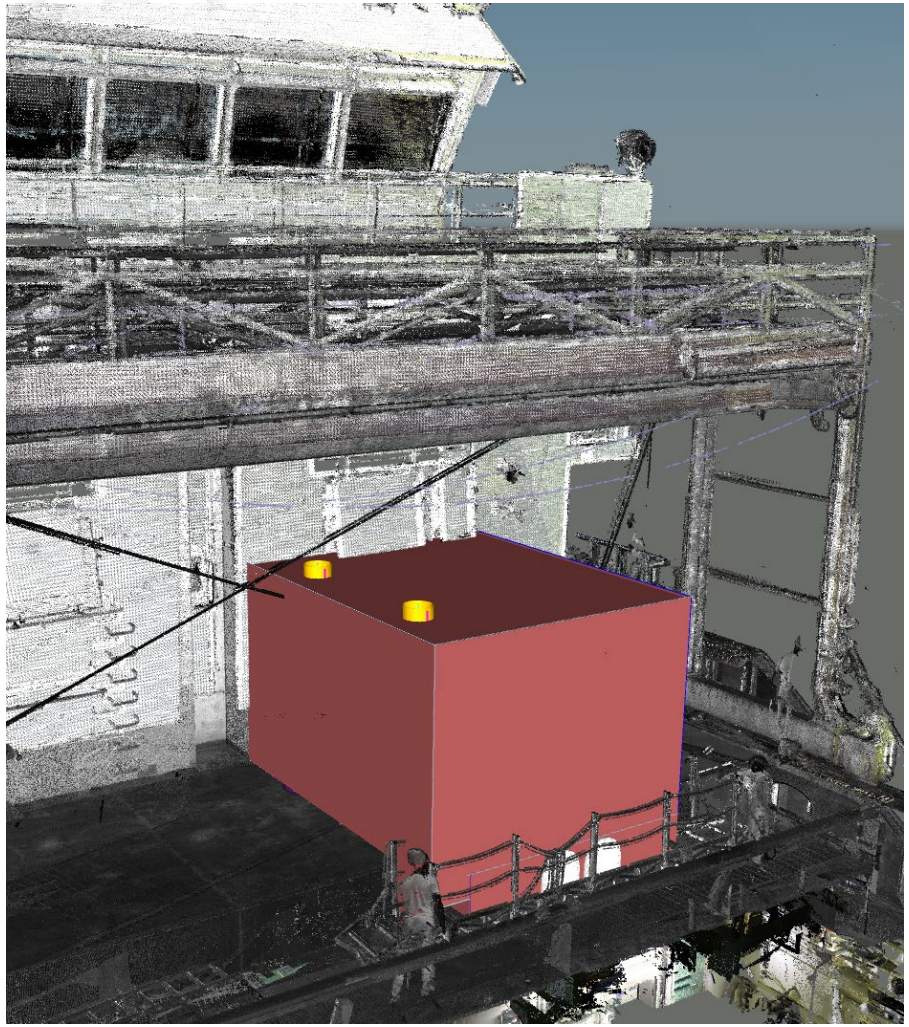


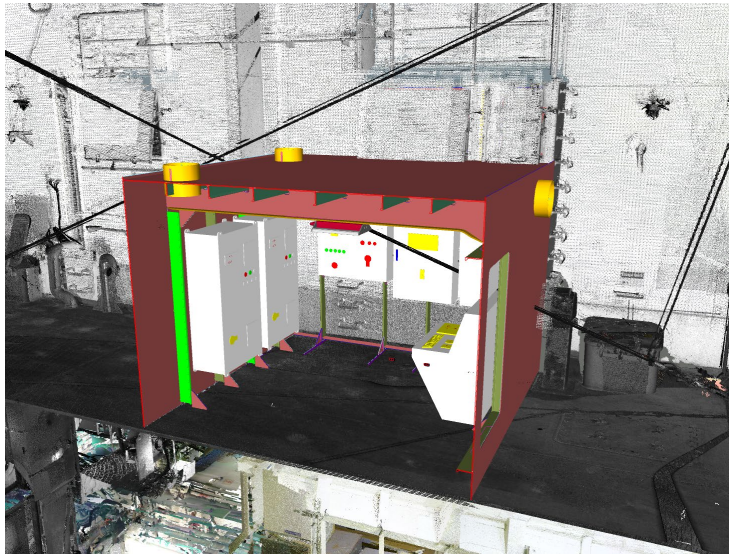


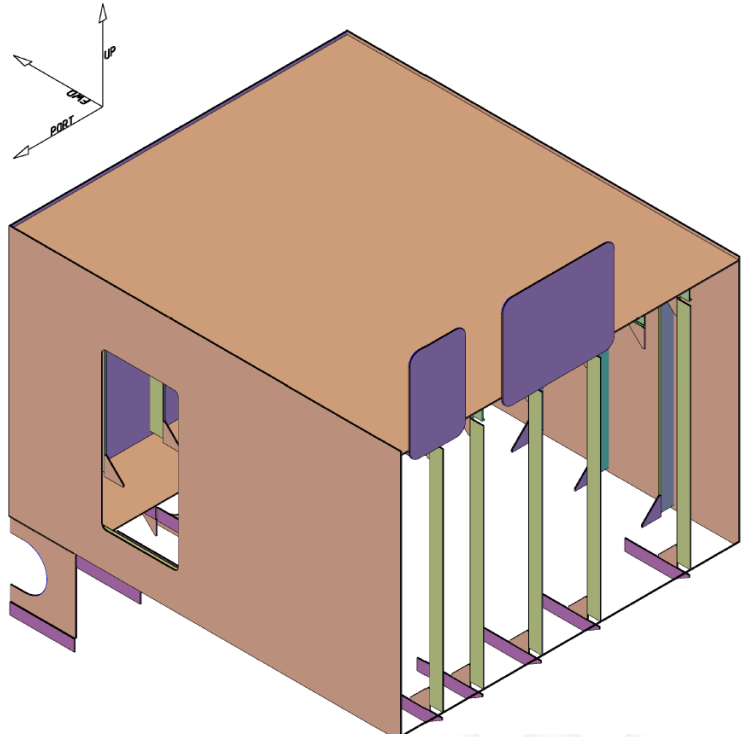


Retrofit projects without existing drawings

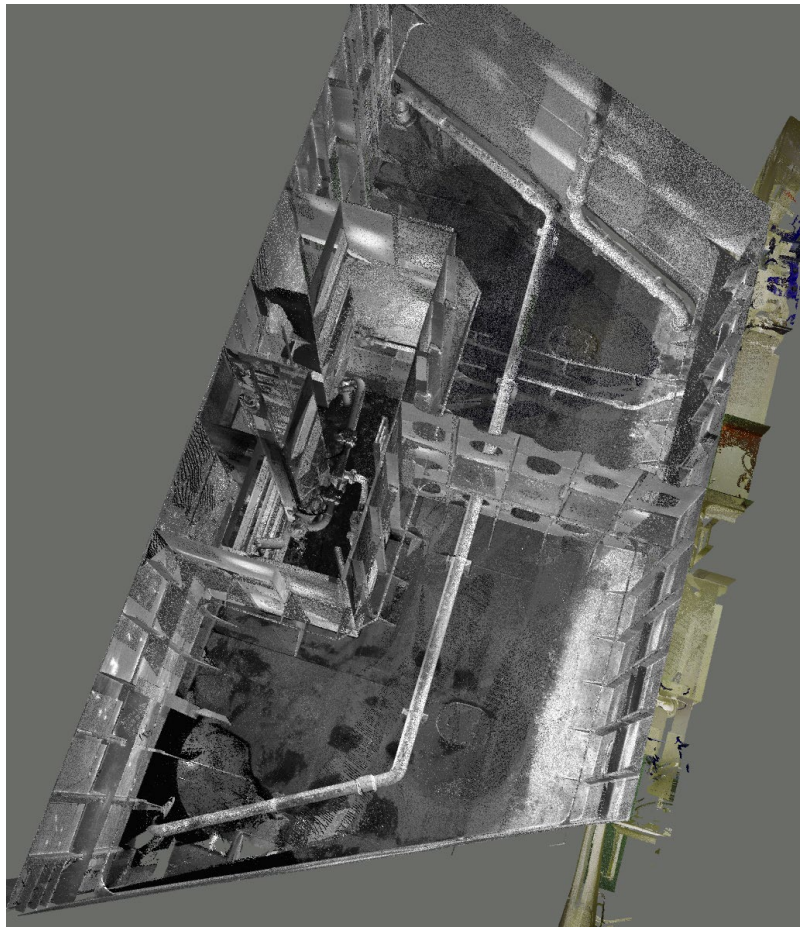
New installed deckhouse based on point cloud data

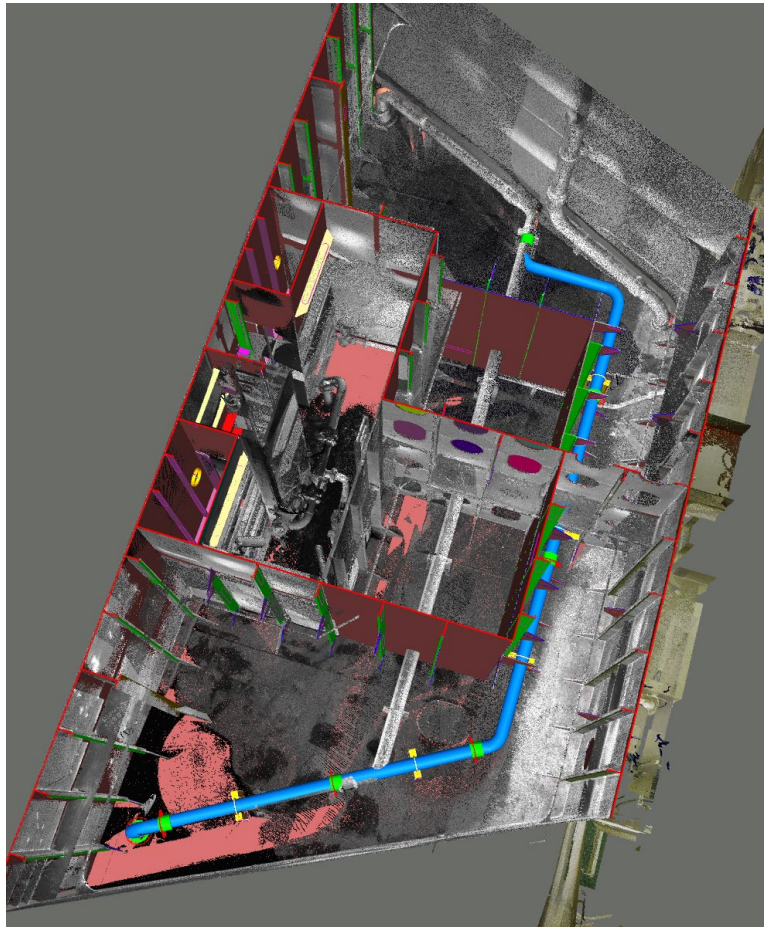


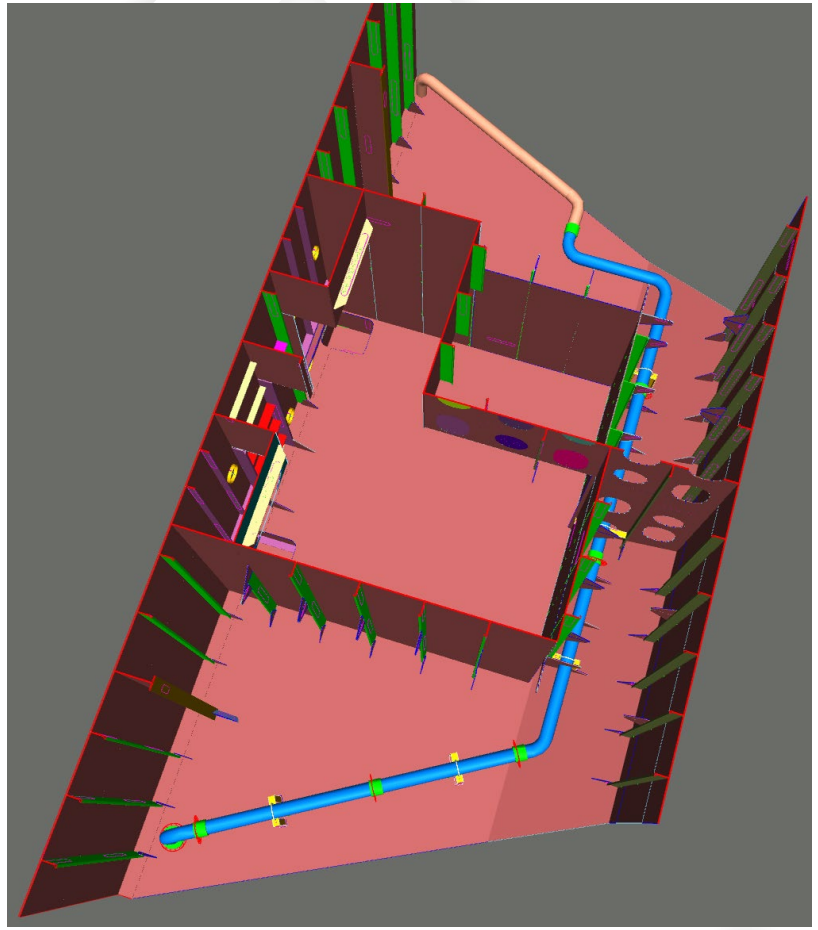




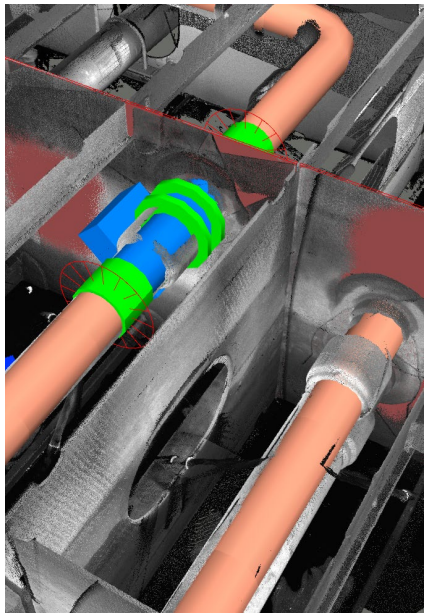
Simplified design and local modeling with full understanding of surrounding area

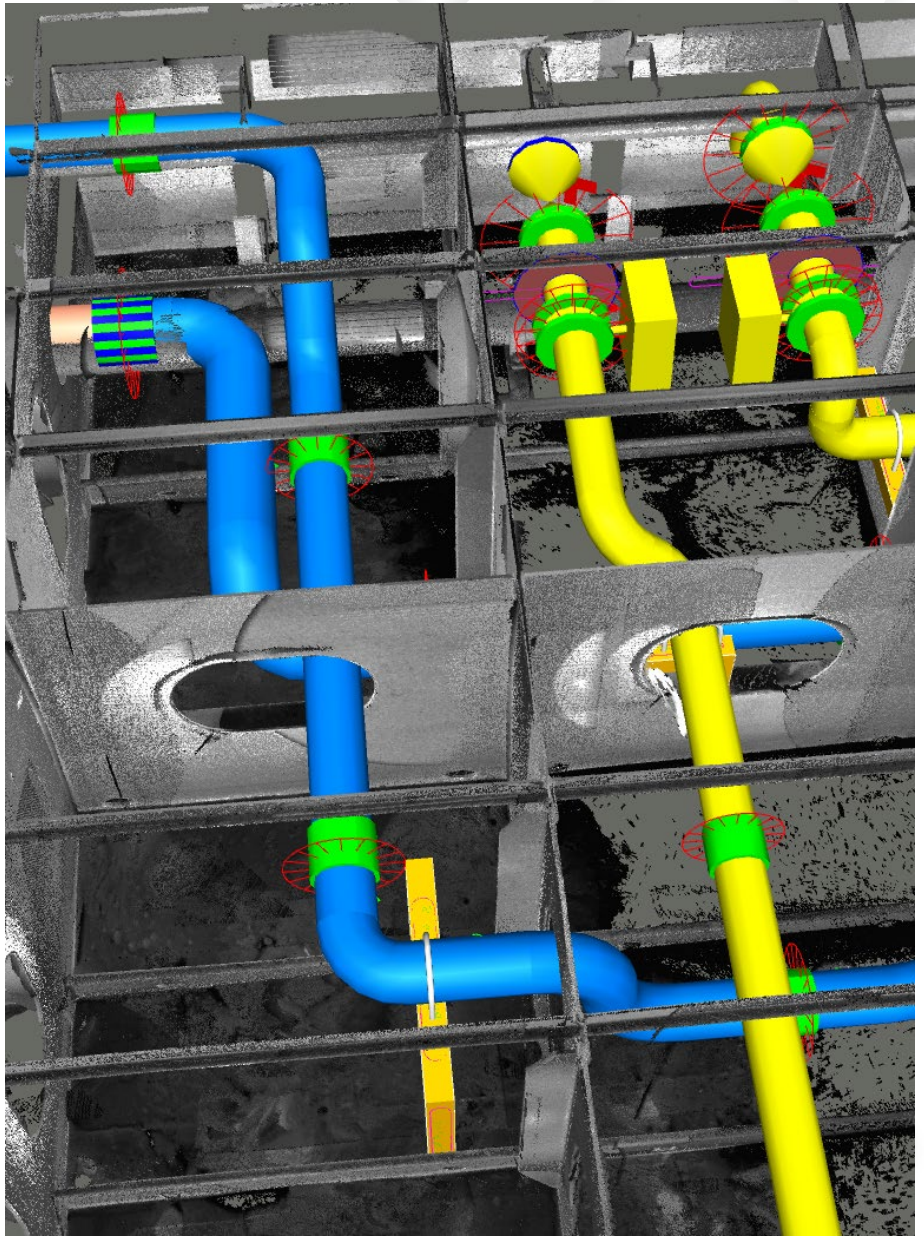






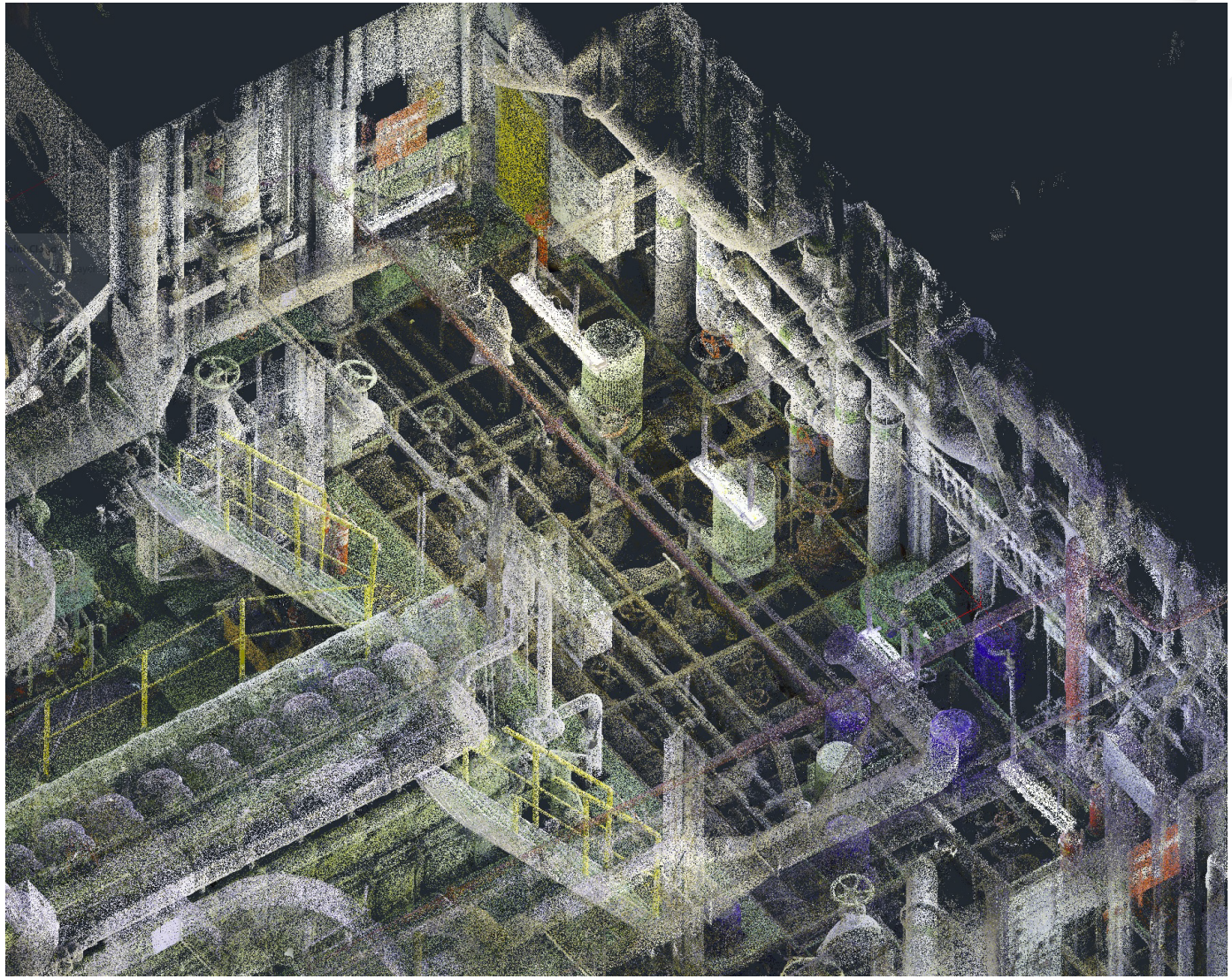
Piping design with ShipConstructor and Point Cloud



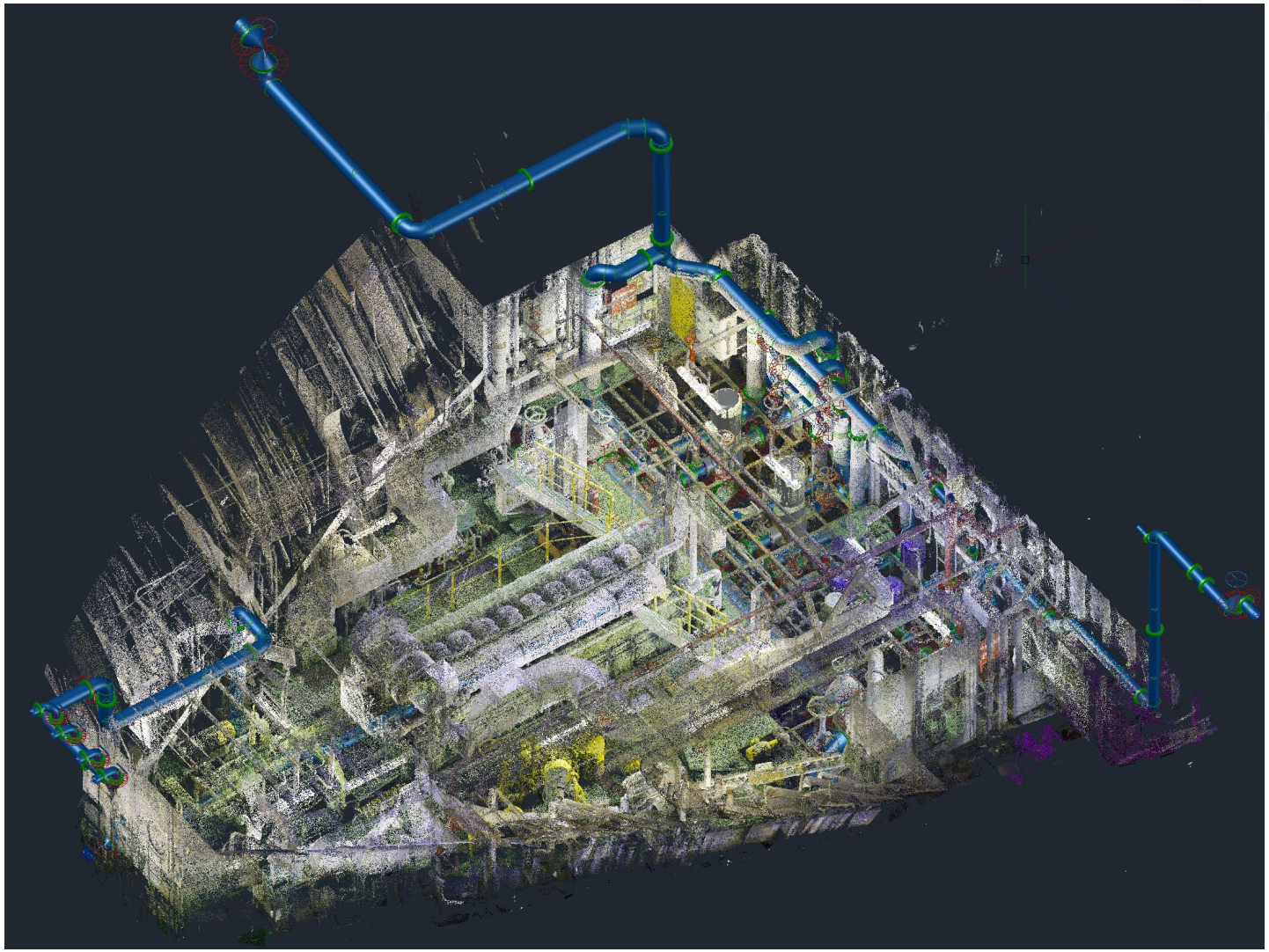


3D laser scanning of the ship

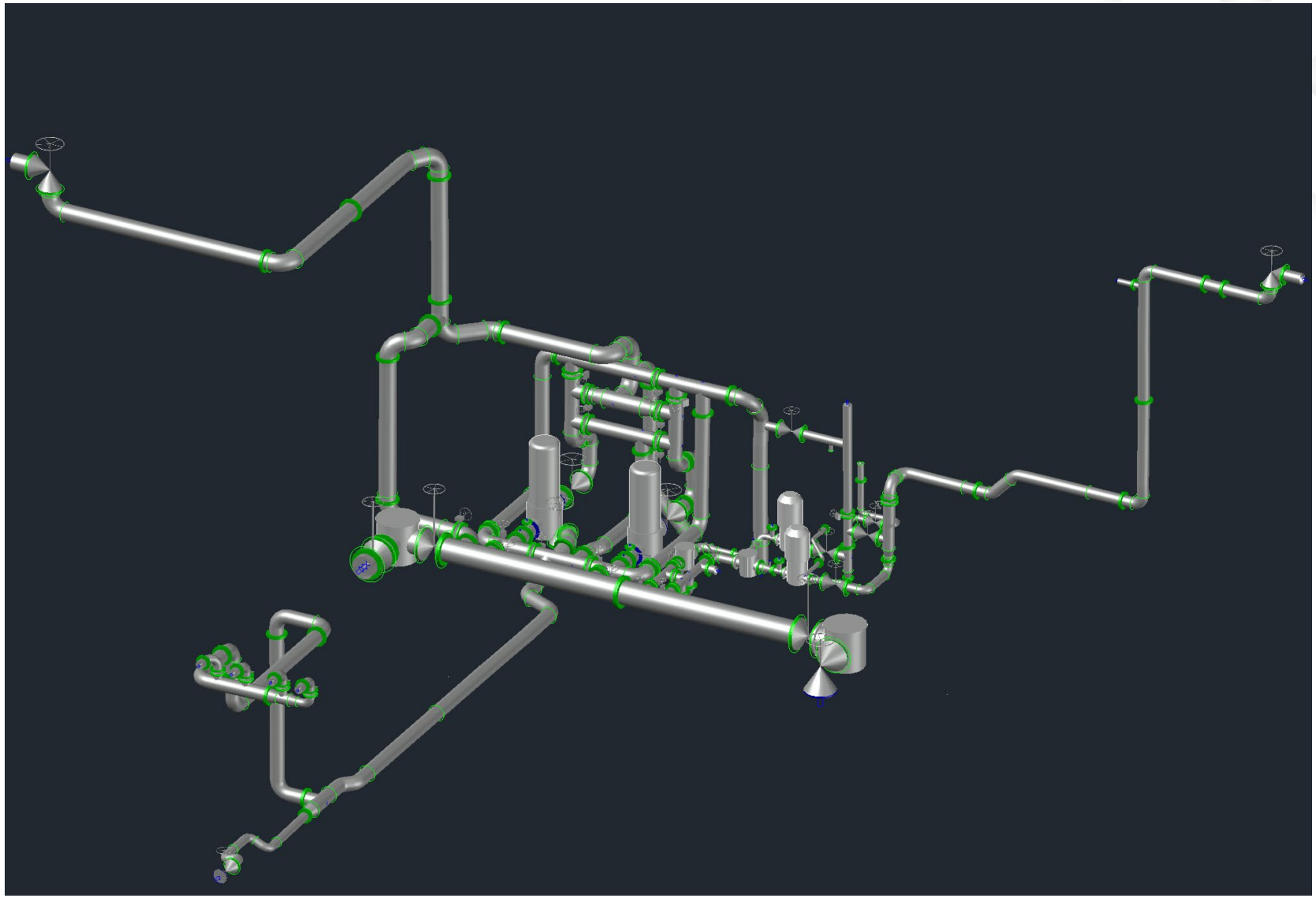
Result of scanning the ship's engine room



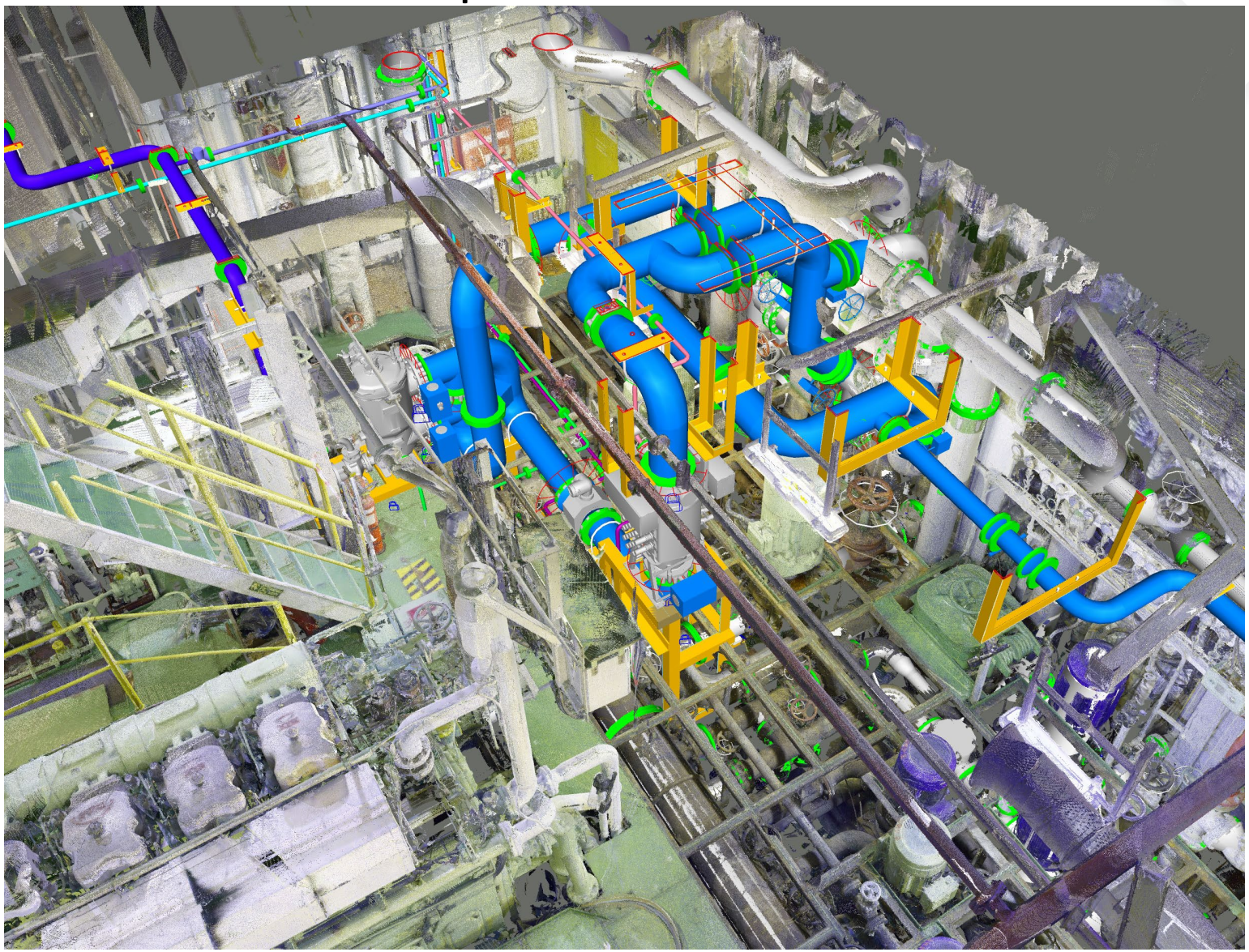
A 3D model of the ship's existing ballast system has been created



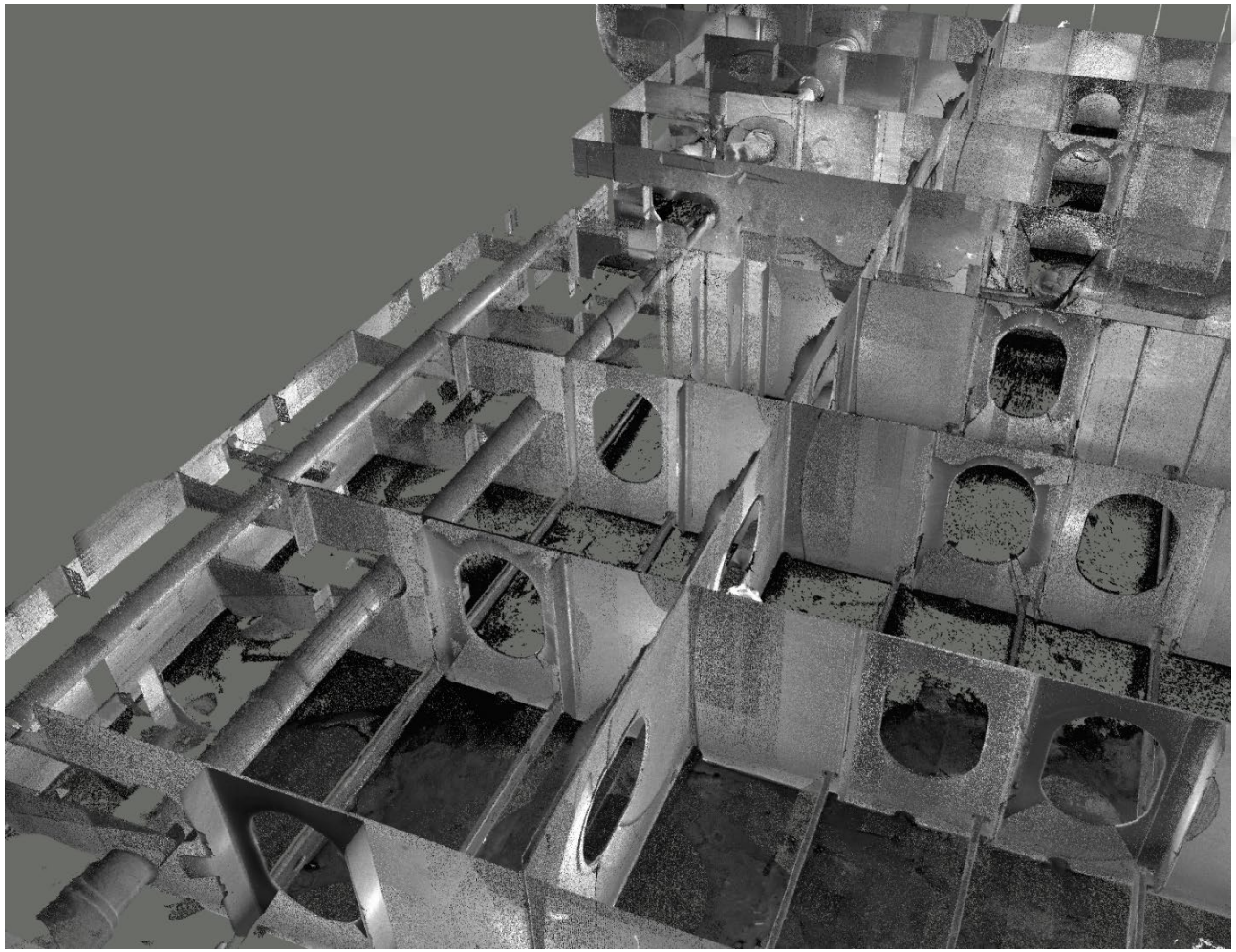
Existing pipeline without Point Cloud



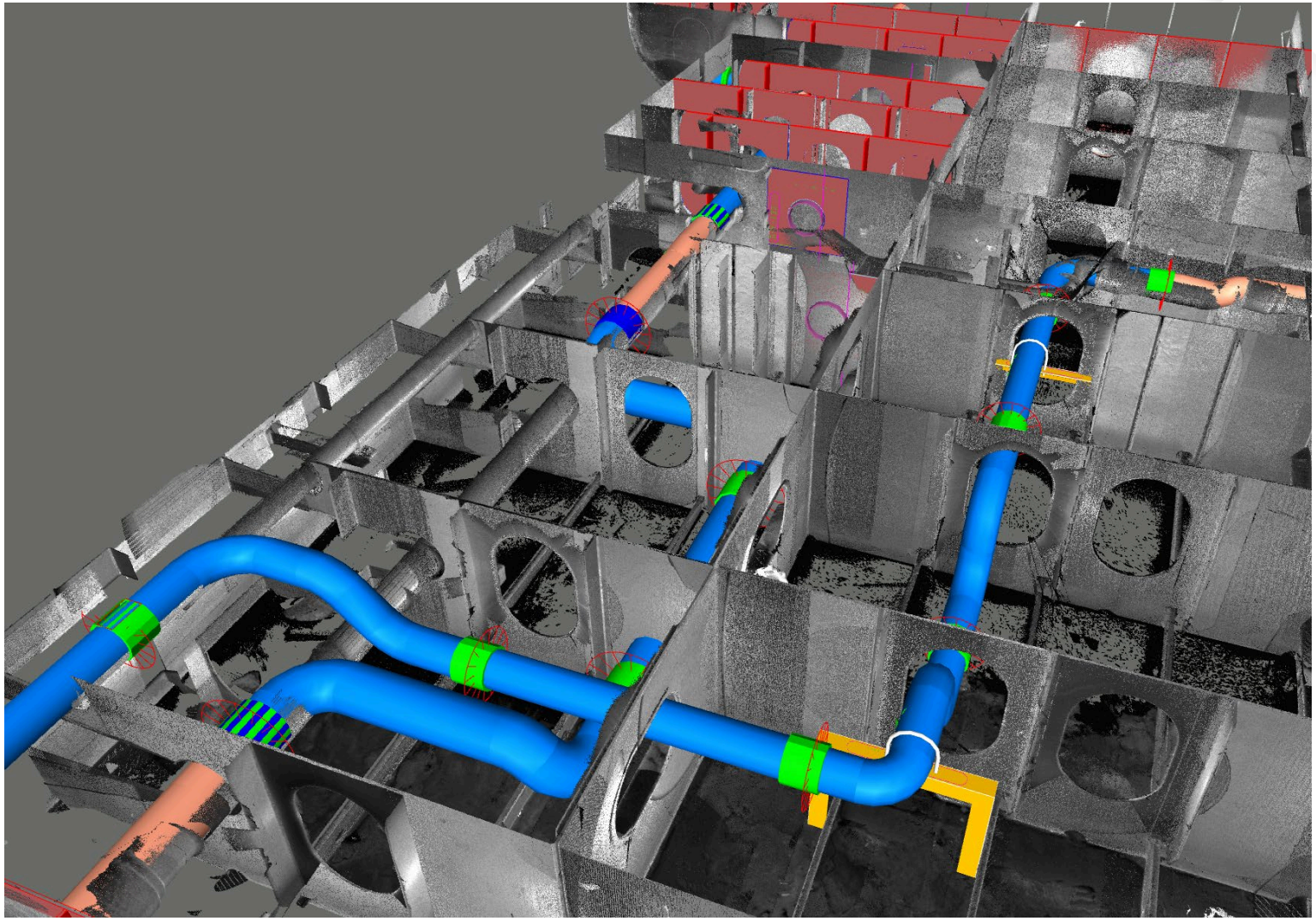
The routing of a new pipeline with ballast water treatment system components was created



Point cloud of the existing structures of the ship.

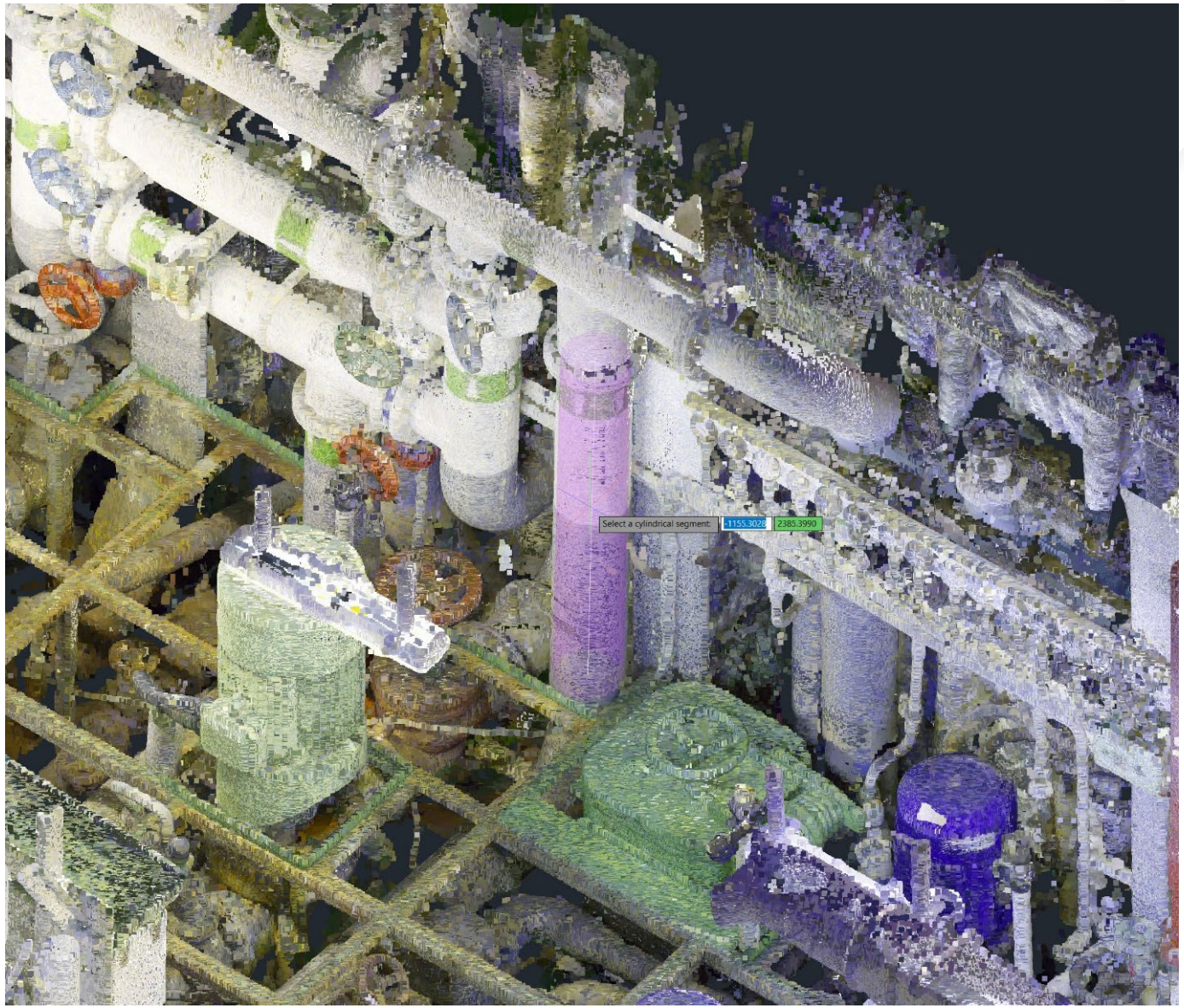


The modeled pipeline in the obtained Point cloud.

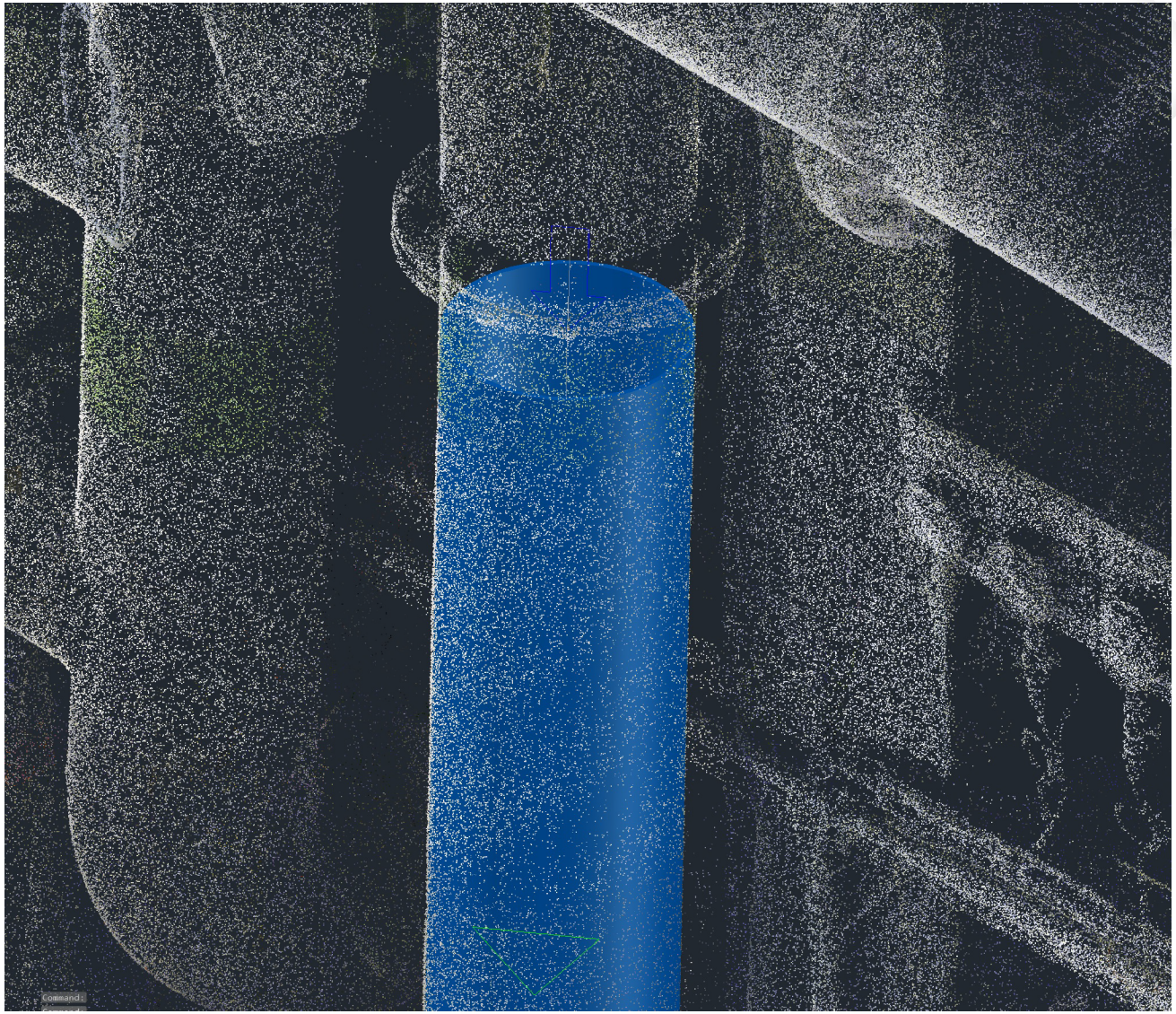


An accurate routing is achieved without additional corrections during installation

Extraction of the central line



Pipeline routing by centerlines

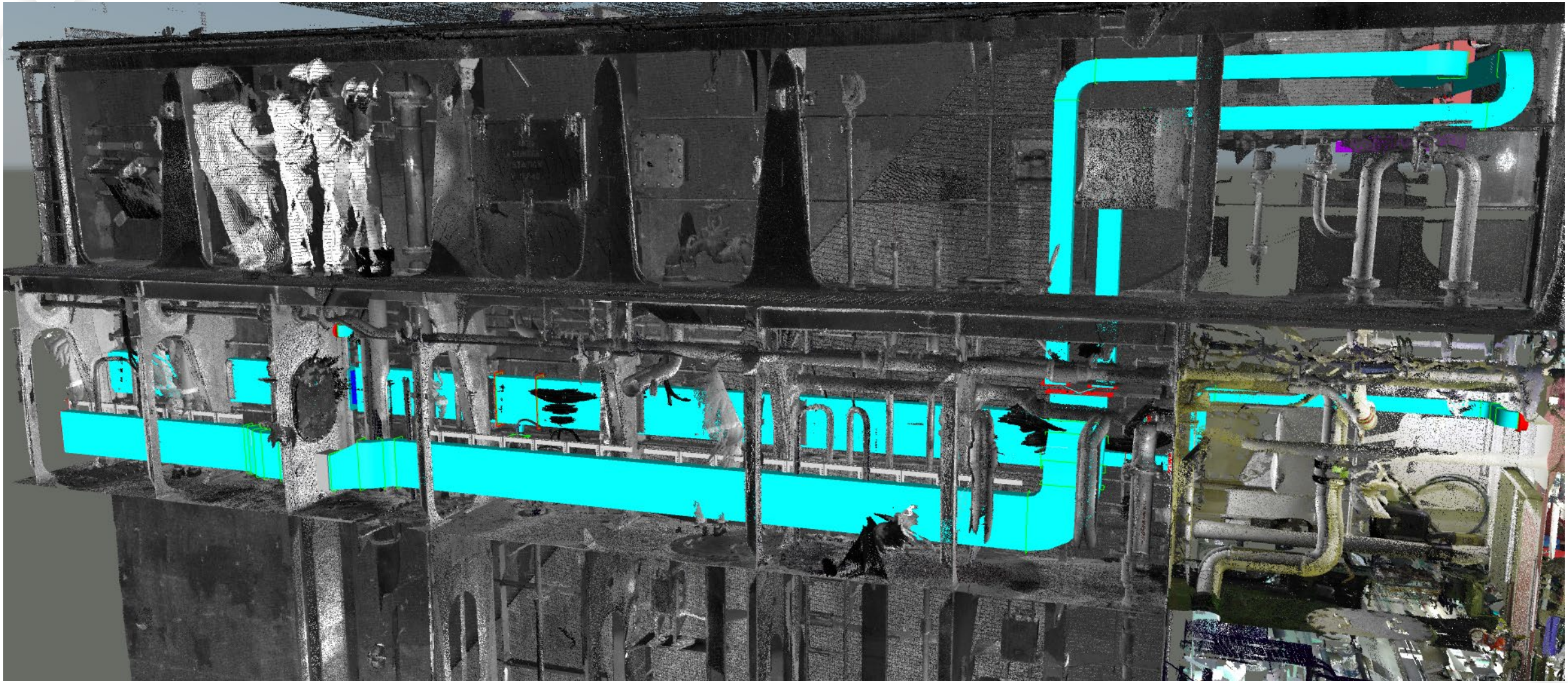


Conclusion

Using the point cloud, we can:

1. Reduce the time for modeling, producing working documentation, and specifications.
2. Perform accurate modeling considering the layout of the space.
3. Accelerate preparatory work for clients and reduce their costs.

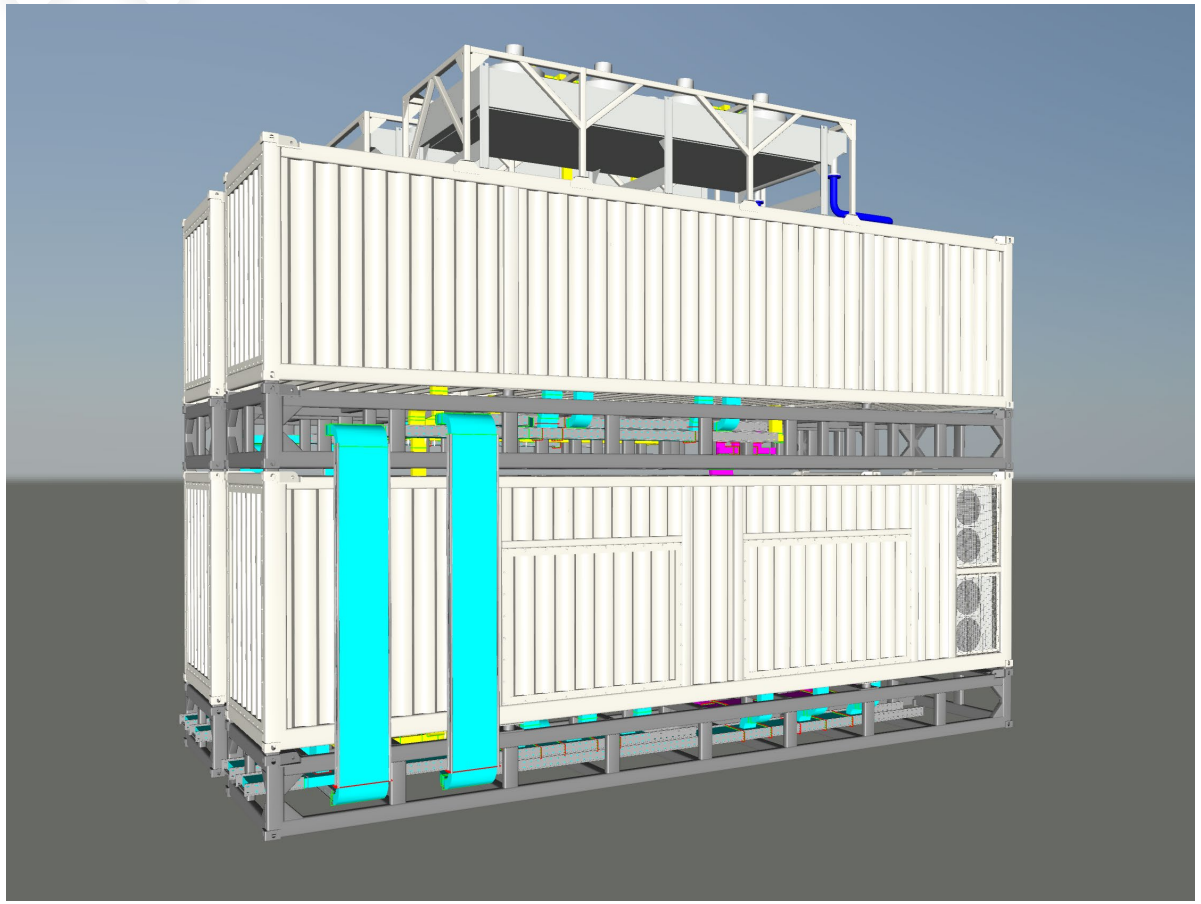
Electrical design with ShipConstructor and Point Cloud

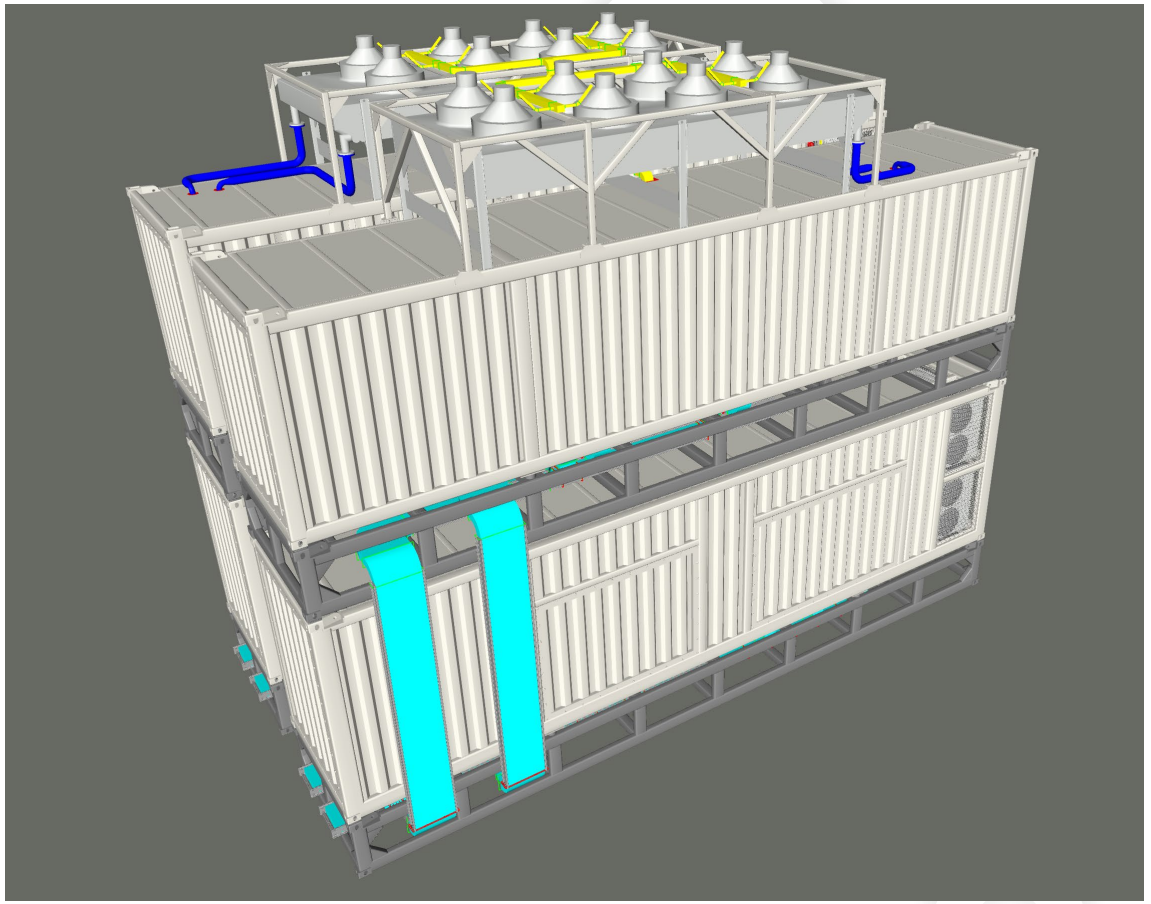


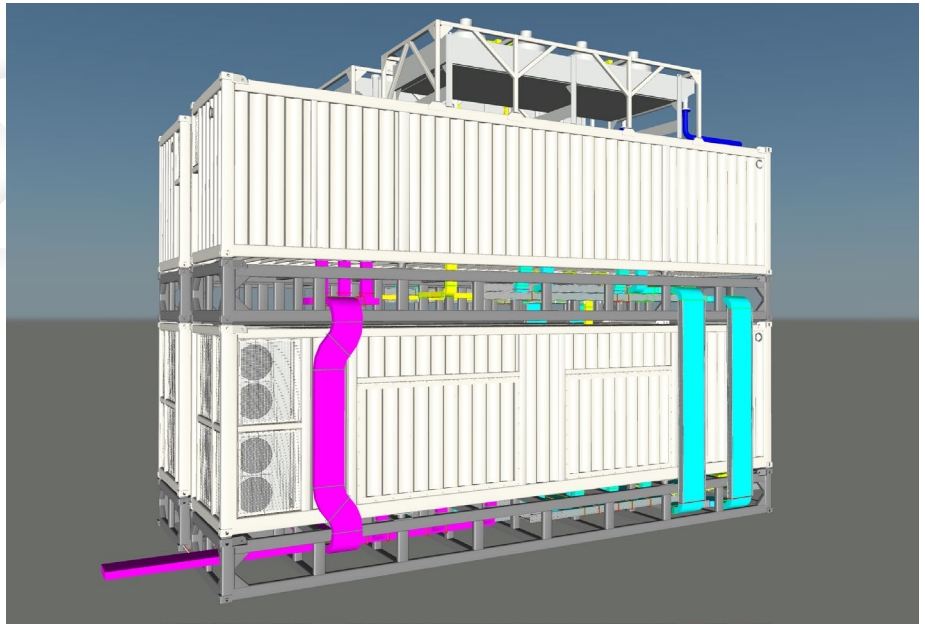
Usage of electrical design with ShipConstructor

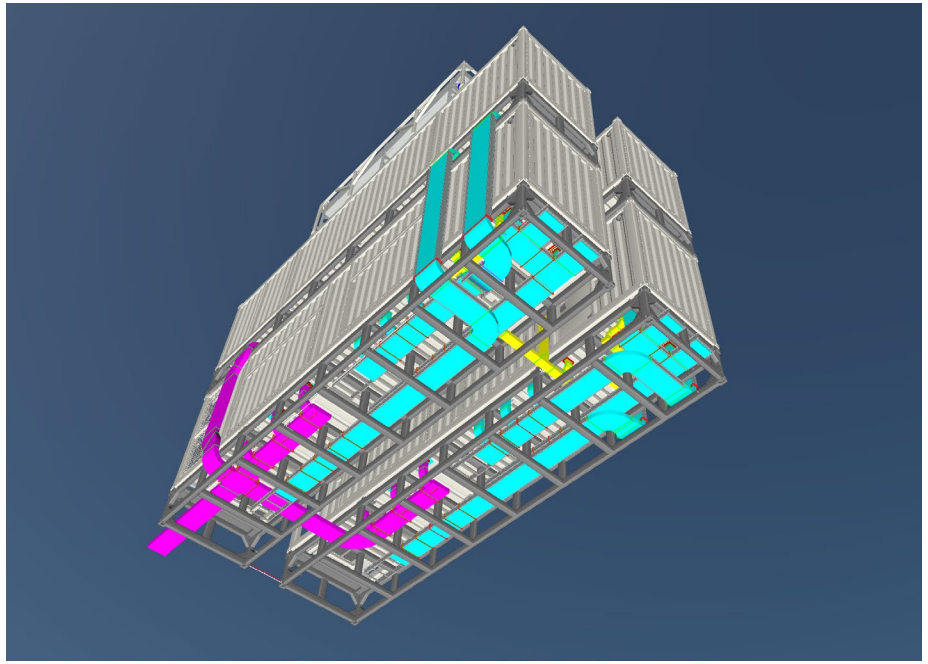
- Complex solution for marine electrical systems.
- Electrical design with point cloud.
- Challenges that we are facing.

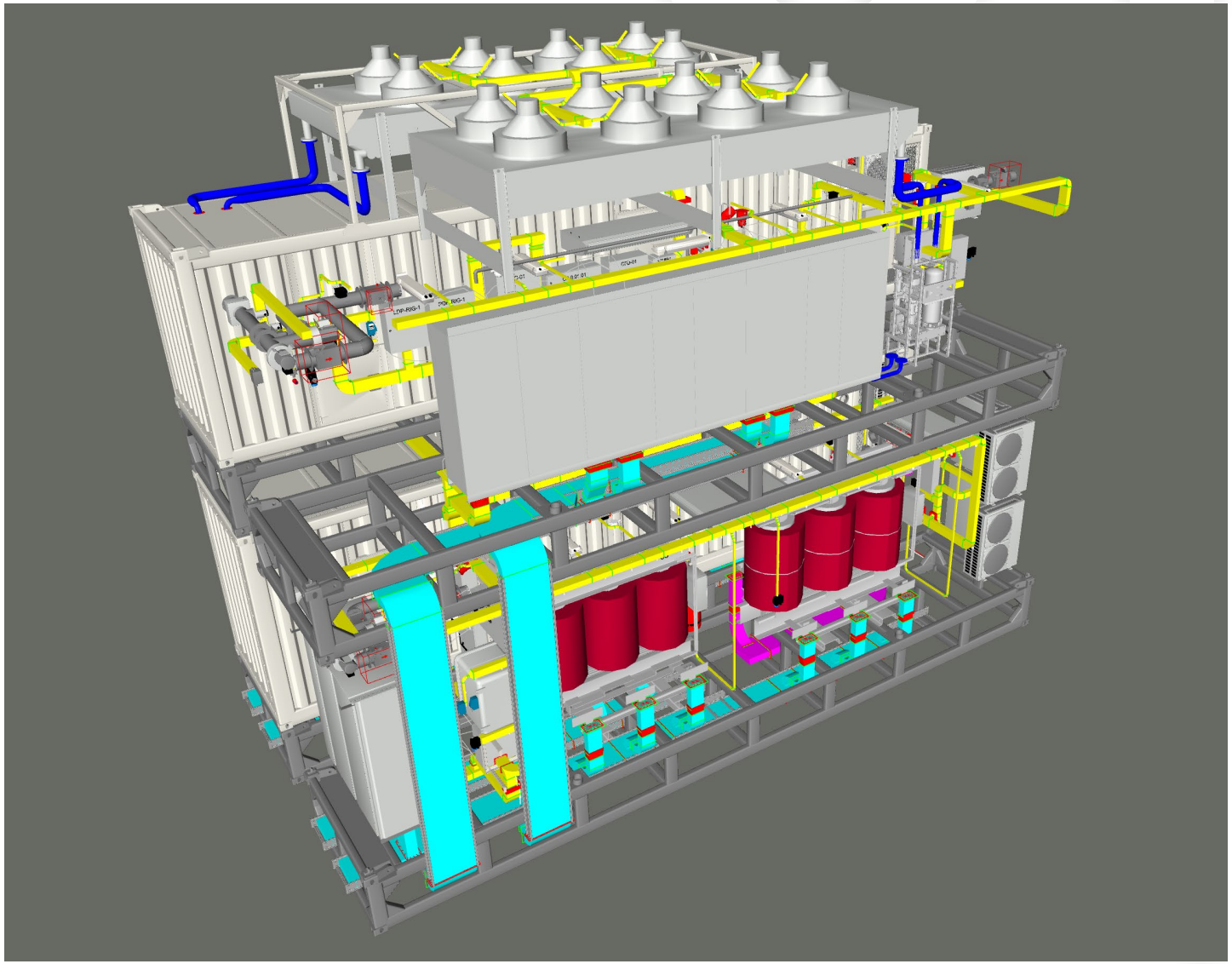
Electrical design for rig E.House



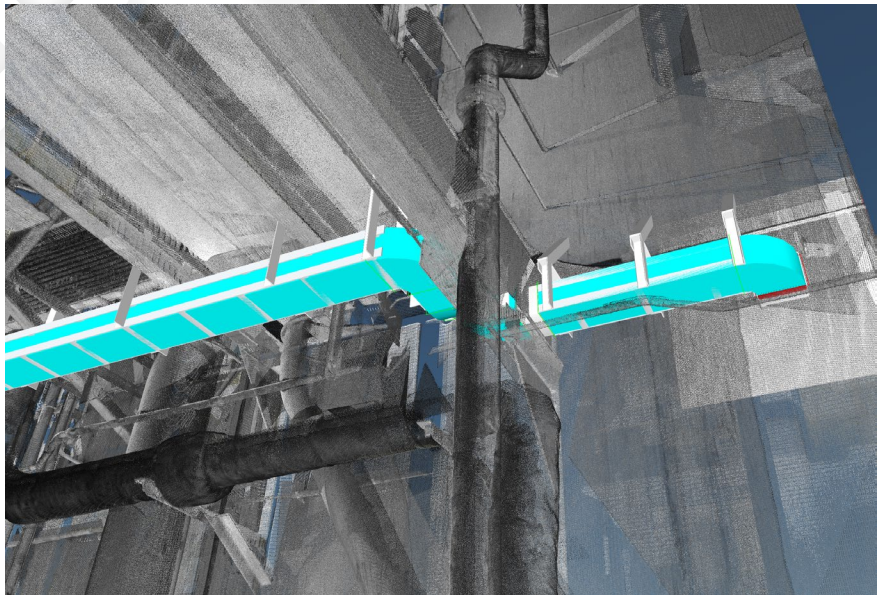


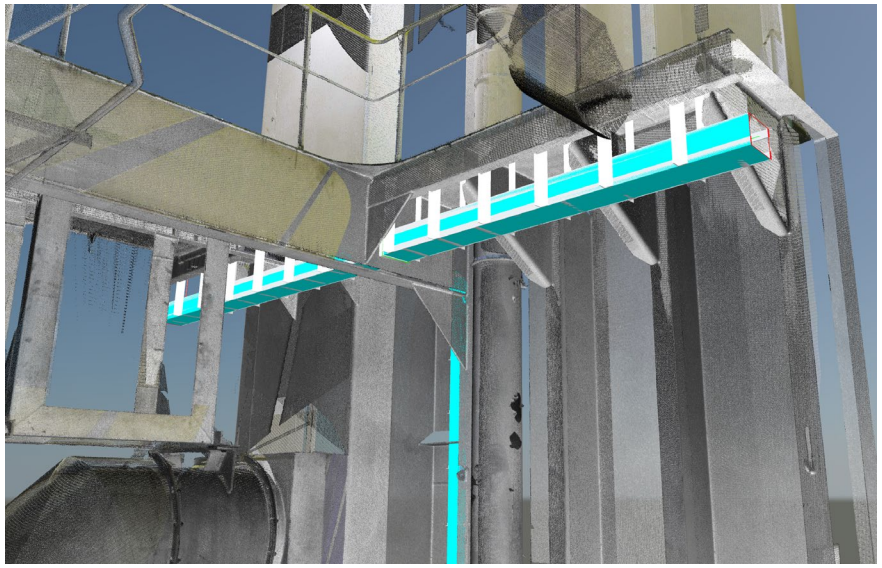


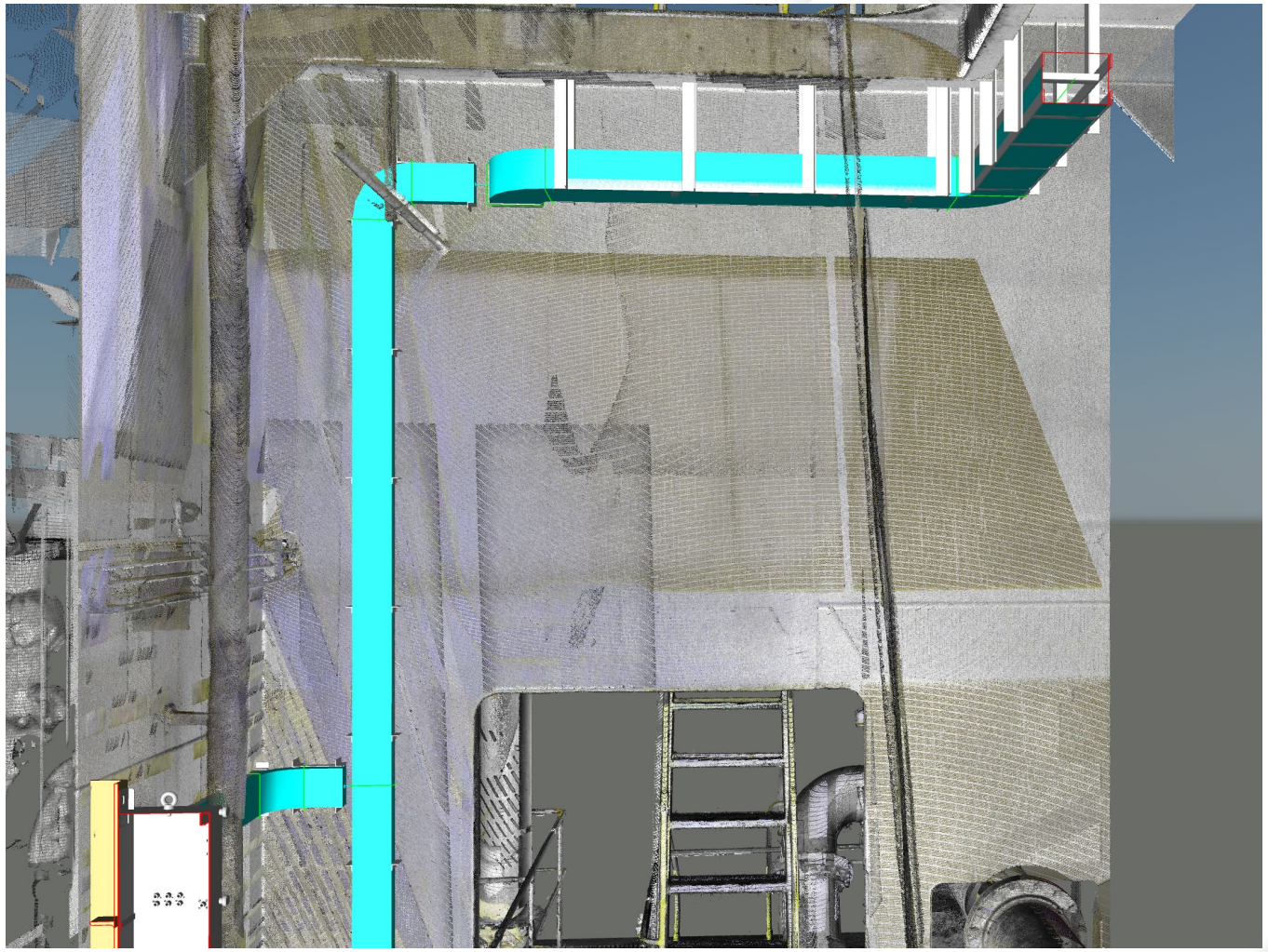


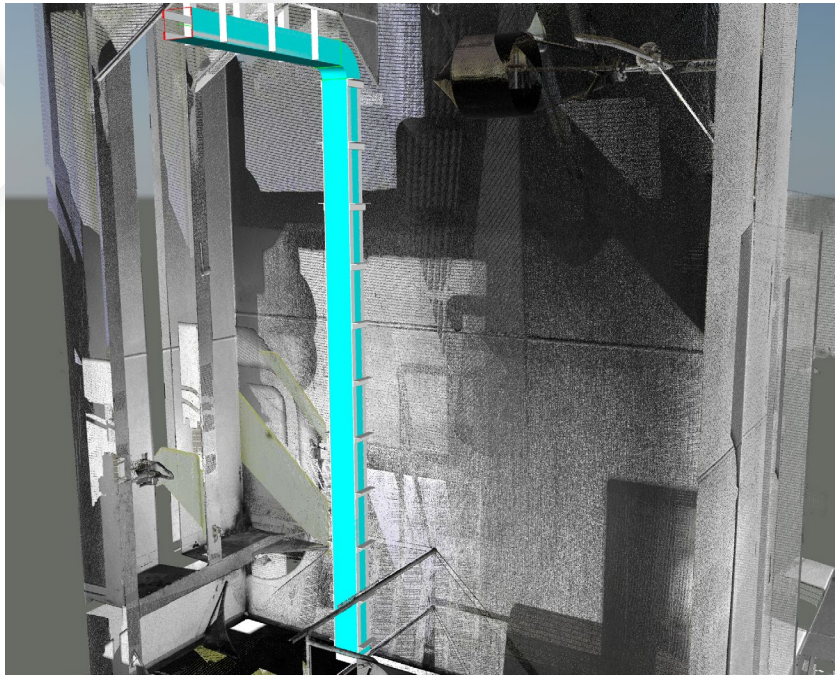


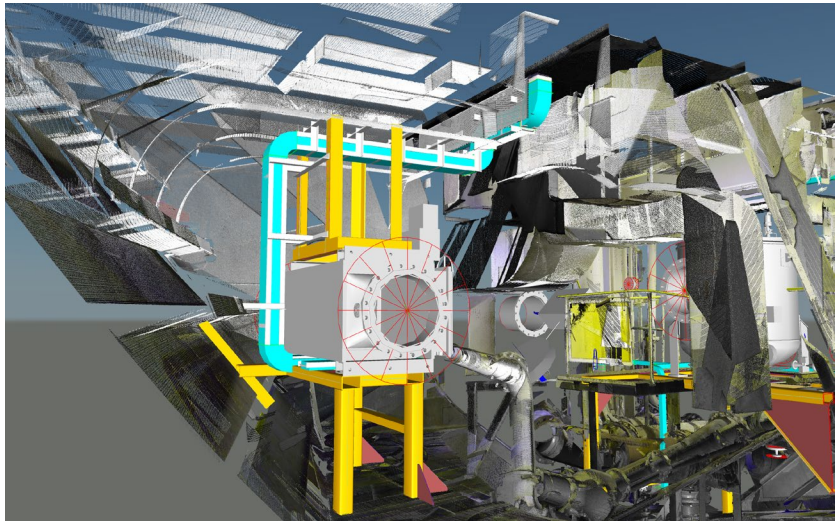
Electrical design with point cloud.

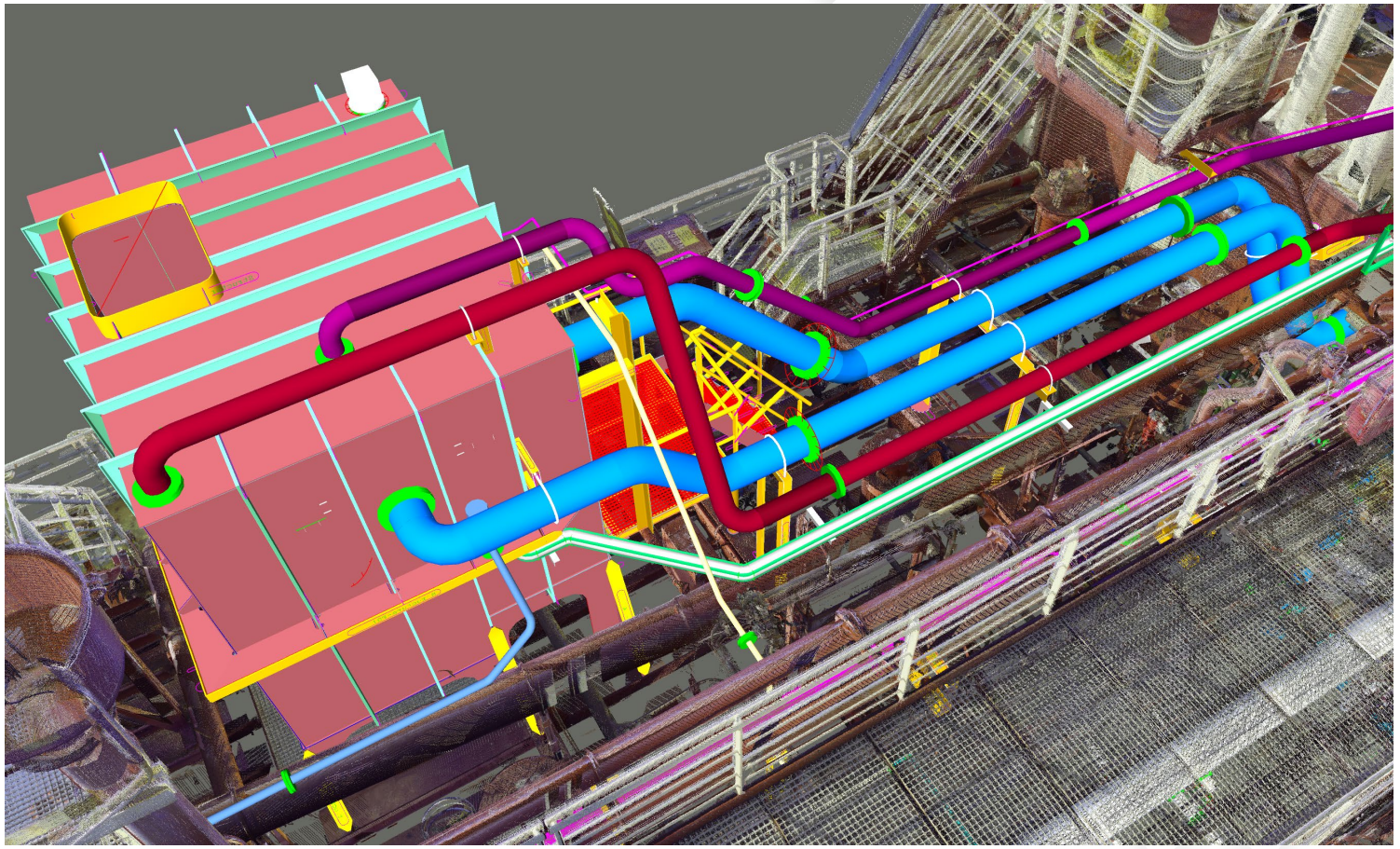






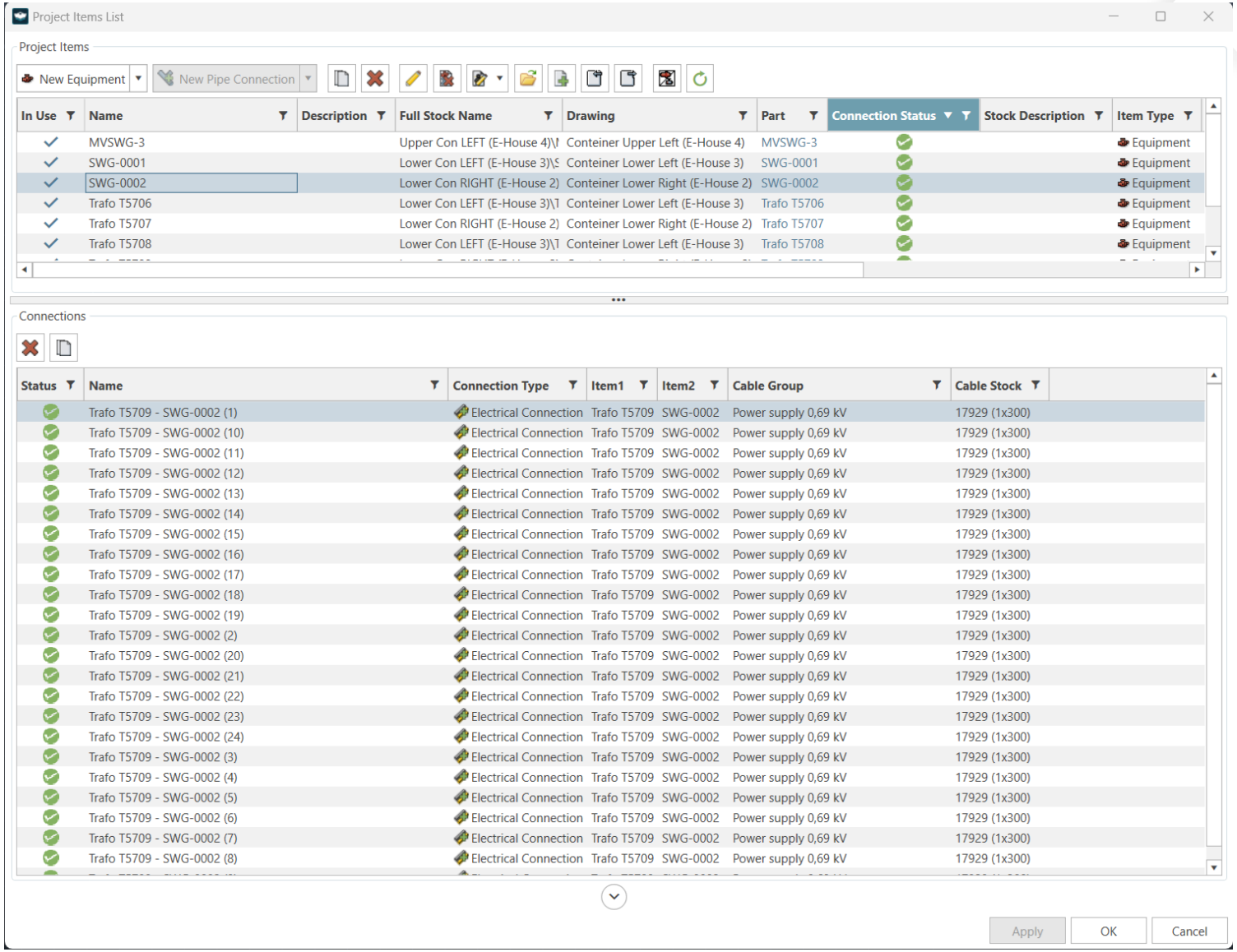




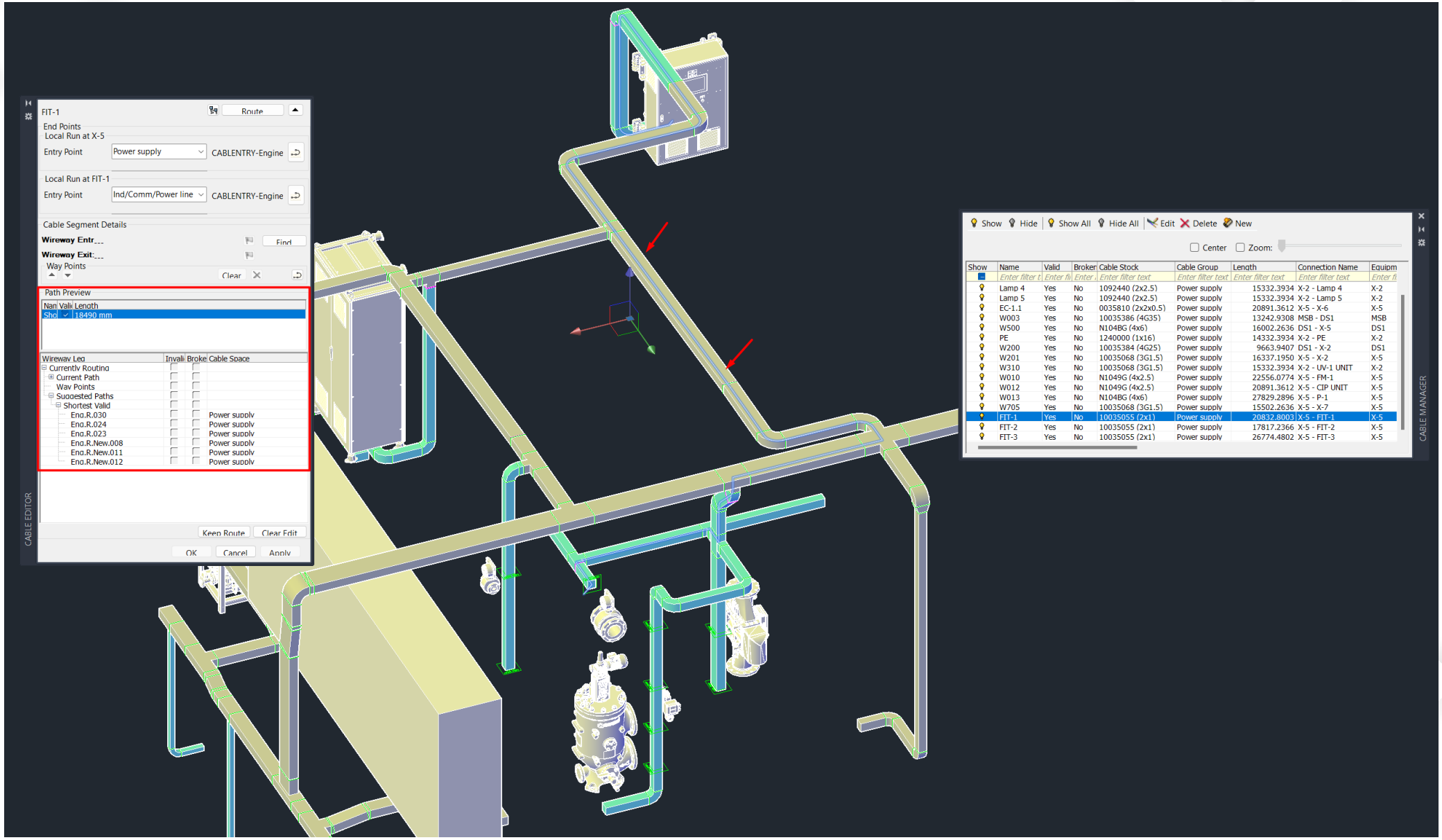


Challenges that we are facing

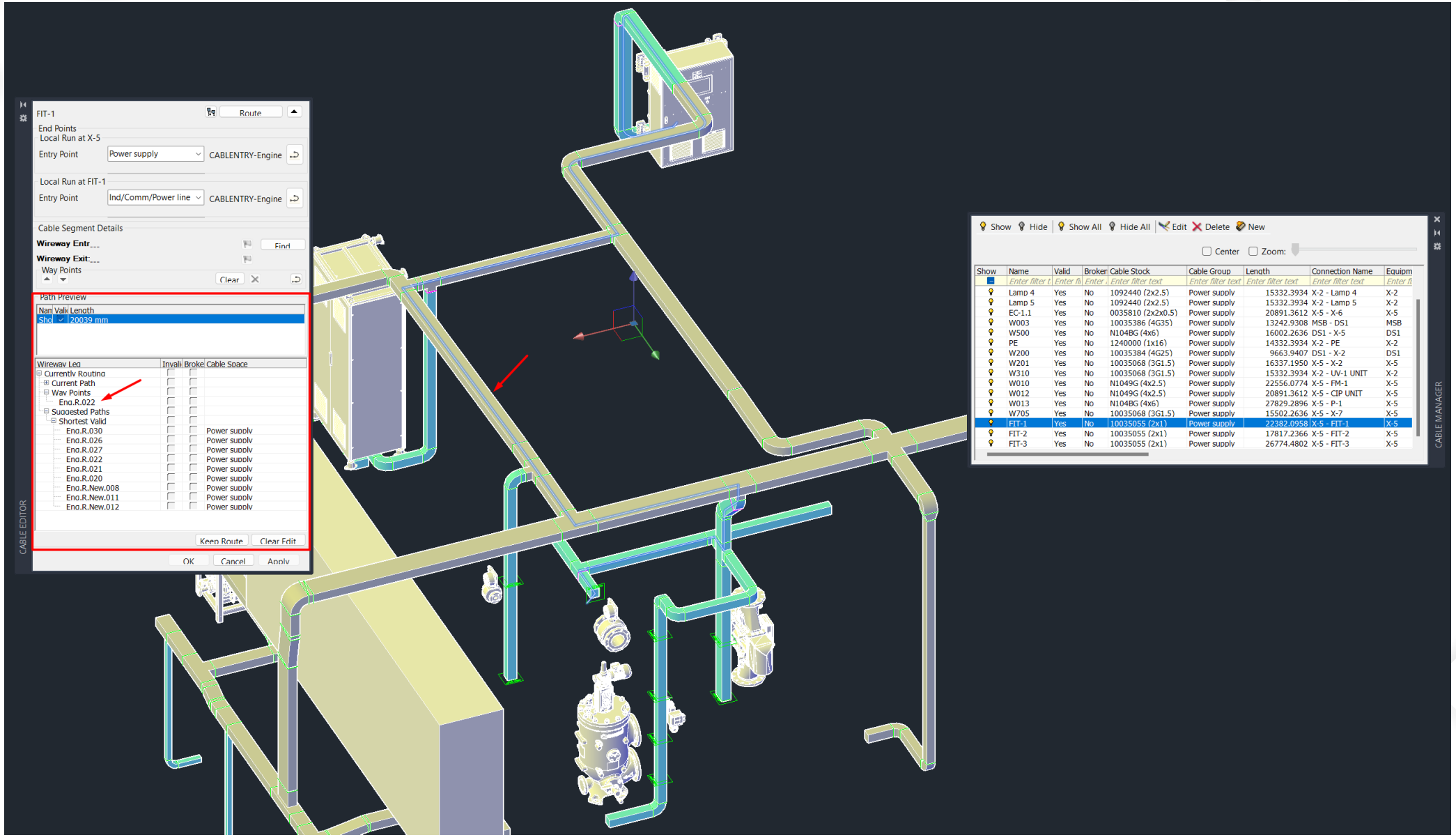
PIL, one of the steps for cable routing



Creating space allocation and cable routing



Another option of cable routing



Developing production drawings