

# Reconstruction of 3D Indoor Space from observed Point Clouds

- 3D models of indoor spaces are required by a wide range of applications such as:
  - Indoor routing and navigation
  - Services for handicapped persons
  - Indoor robotics
  - Facility Management
  - Building energy simulations
- Nowadays, laser scanners are often used to capture spatial indoor data in a rapid way
- Your Task:
  - Interpret the large-scale point cloud
  - Extract homogeneous surfaces of indoor space
  - Perform generalization in order to remove building installations or furniture
  - Describe remaining surfaces using the boundary representation geometry model
  - Build a topologically correct model
- Large range of algorithms and software are available → find the best solution!

## Project Characteristics

Modeling: ★☆☆☆☆  
Mathematics: ★★☆☆☆  
Programming: ★★★☆☆

