SUSTAINABLE BUILDING INFORMATION WORKSHOP

12. NOVEMBER 2014 - COPENHAGEN

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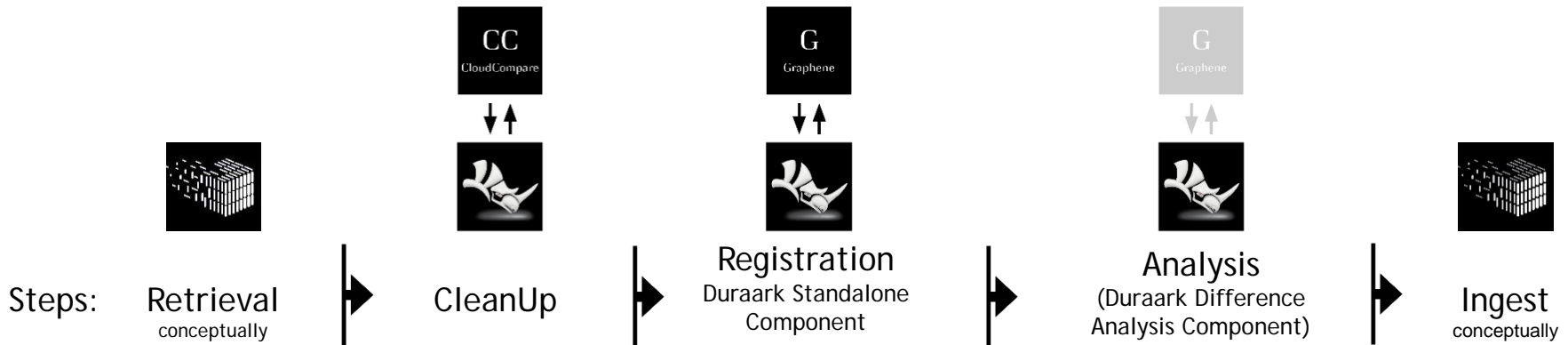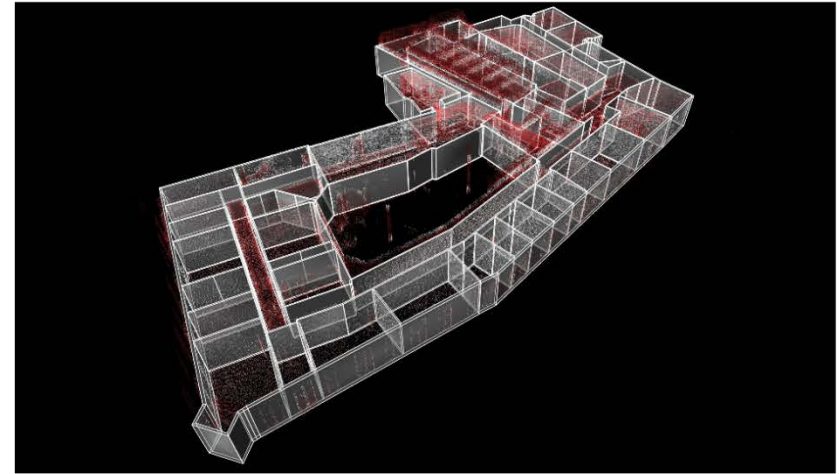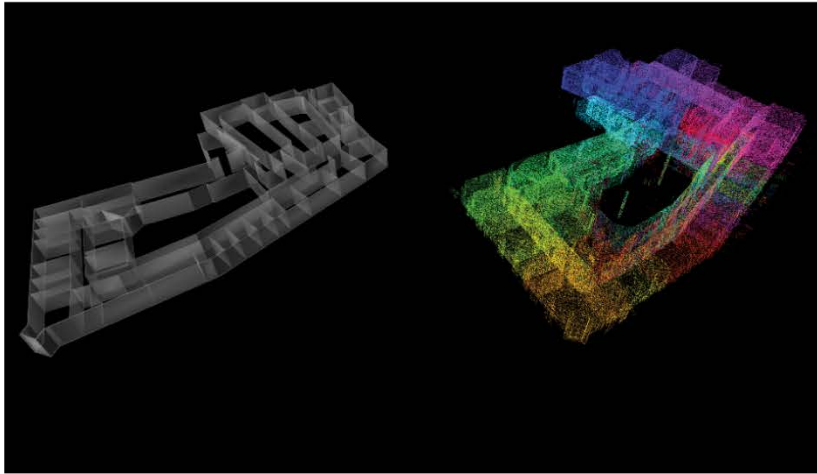
DURAARK
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ARCHITECTURAL
KNOWLEDGE

SEVENTH FRAMEWORK
PROGRAMME

ScanCoptor & ScanBot by FaroLabs

The 2D lidar is passively actuated by the operator's natural motion to scan in three dimensions

CSIRO

Zebedee by CSIRO

3D Registration – Automatisation and Higher Speed

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SEVENTH FRAMEWORK
PROGRAMME

Case Studies with DURAARK components

Validation of existing structures and 3d drawings

|				
	CC CloudCompare	G Graphene	G Graphene	
Steps:	Retrieval conceptually	CleanUp	Registration Duraark Standalone Component	Analysis (Duraark Difference Analysis Component)	Ingest conceptually

The Aim is to Show the Difference between a Point Cloud and a corresponding 3D-Model in an Architectural Work Environment
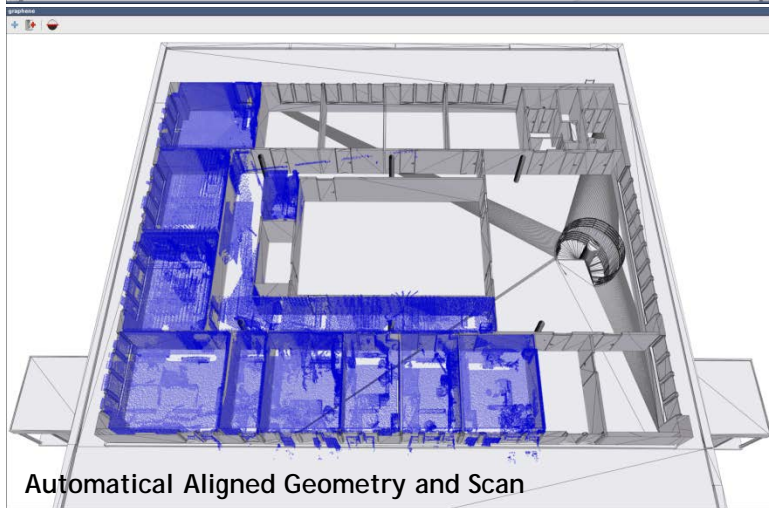

DURAARK: Use Case - Design and Retrofitting

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DURAARK
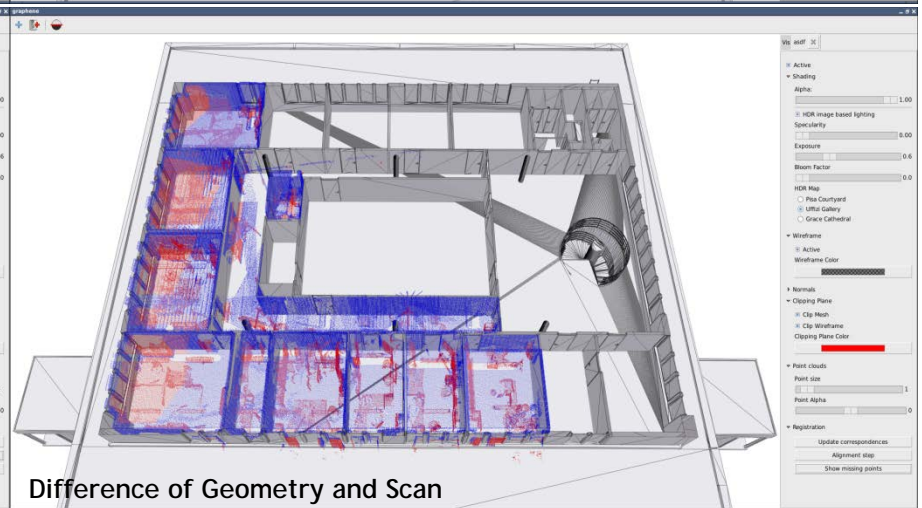DURABLE
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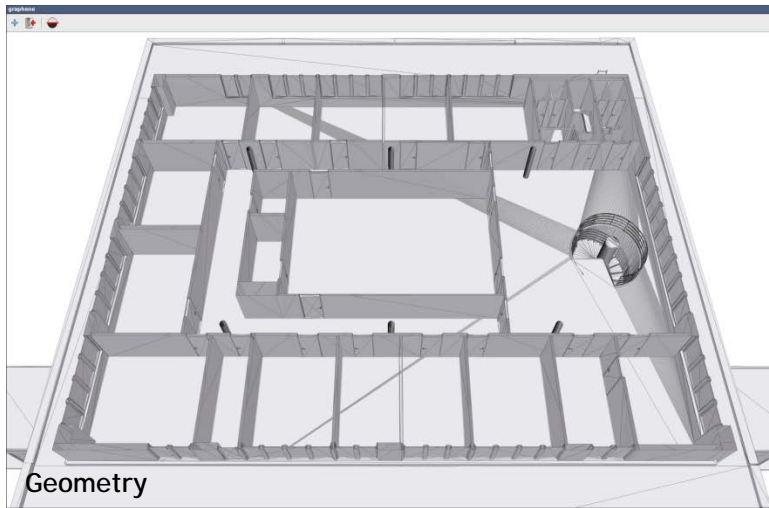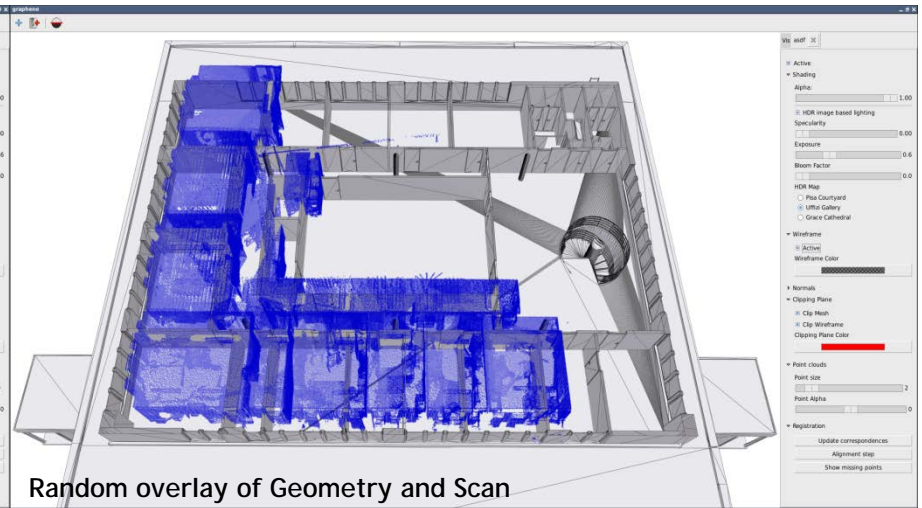
Geometry

Random overlay of Geometry and Scan

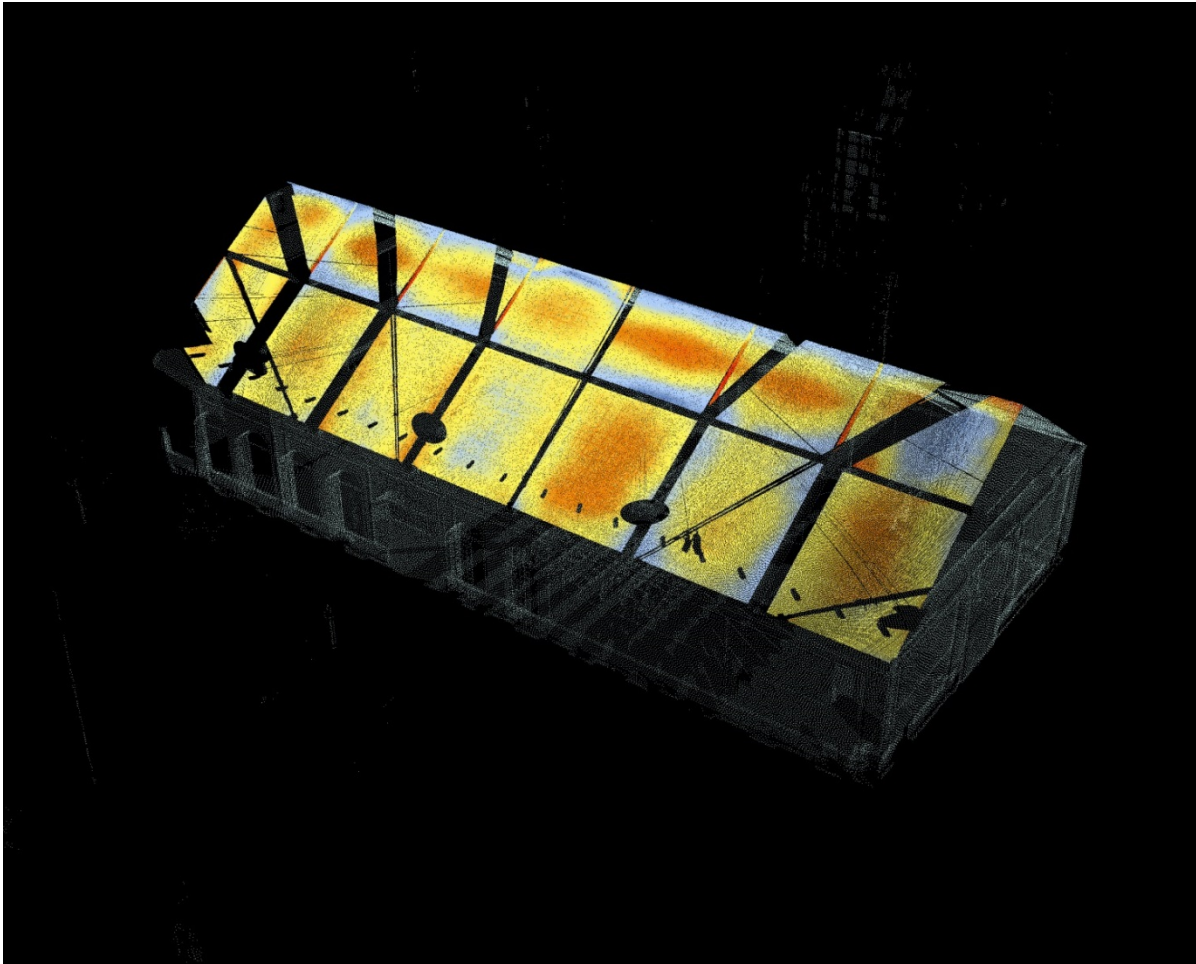Automatical Aligned Geometry and Scan

Difference of Geometry and Scan

DURAARK Demo

DURAARK Components - Geometry / Scan Difference

Martin Tamke, Henrik Leander Evers - (CITA) / Copenhagen

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Question:

Display of deviation in pointcloudscan from found plane
(the ceiling is sagging!)

DURAARK Workflow - Geometry / Scan Difference

5   13 / 06 / 13   Martin Tamke, Henrik Leander Evers - (CITA) / Copenhagen   CITA

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Case Studies with DURAARK components
Validation of existing structures and 3d drawings

Steps: Retrieval → CleanUp → Room Clustering (Duraark Room Clustering Component) → Geometry Generation (Duraark IFC Extraction Component) → Analysis (Duraark Difference Analysis Component) → Ingest

conceptually

conceptually
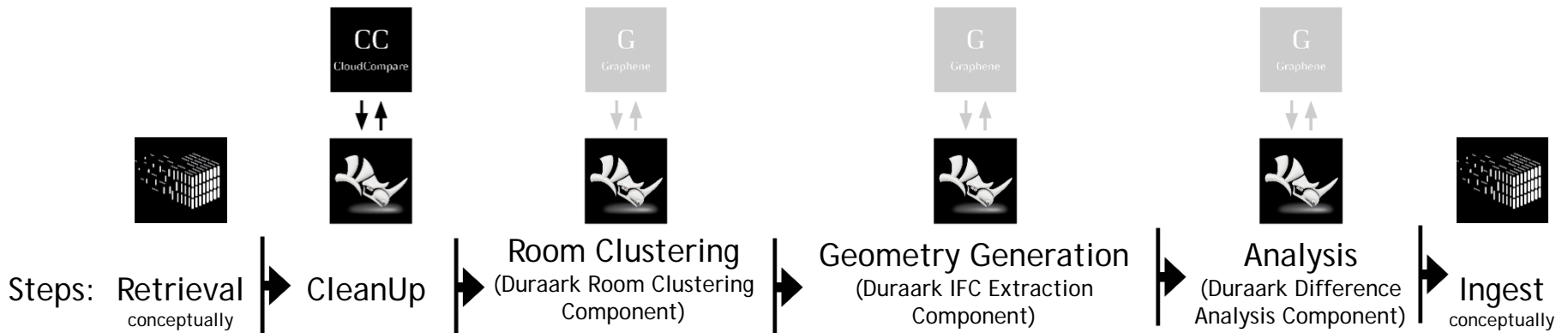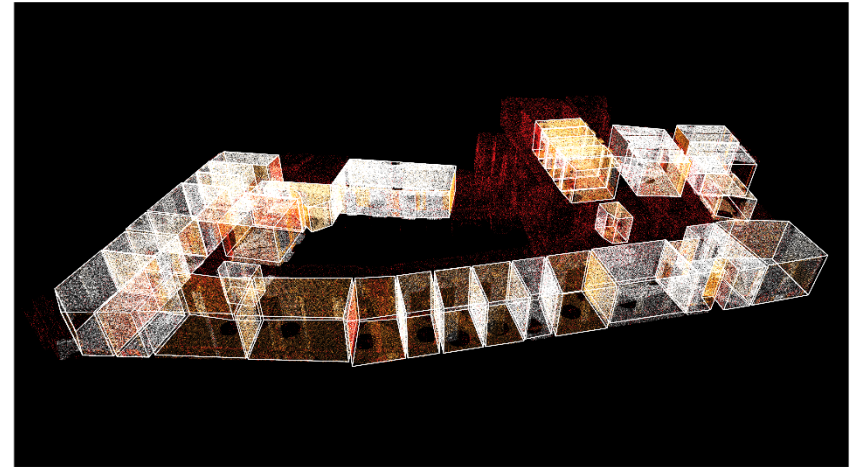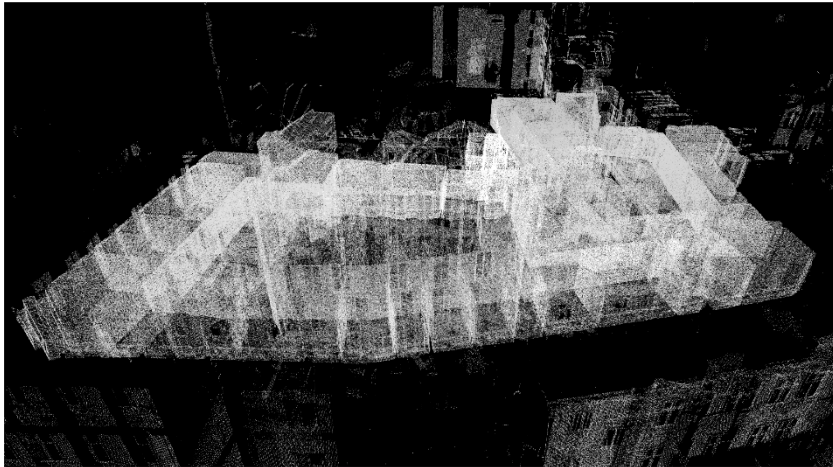
The Aim is to create a Semi-Automated Workflow from Point Cloud to 3D-Model in an Architectural Work Environment
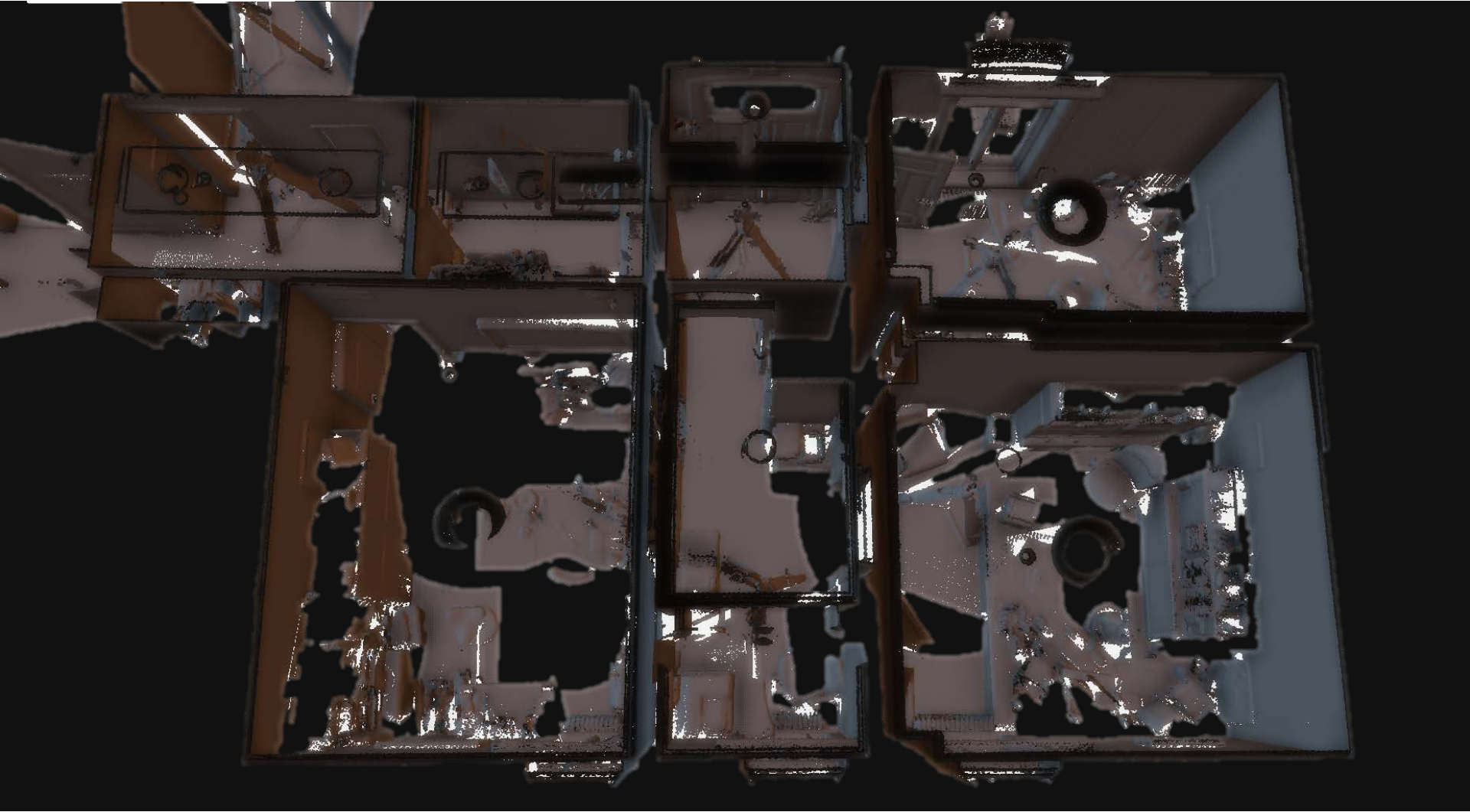
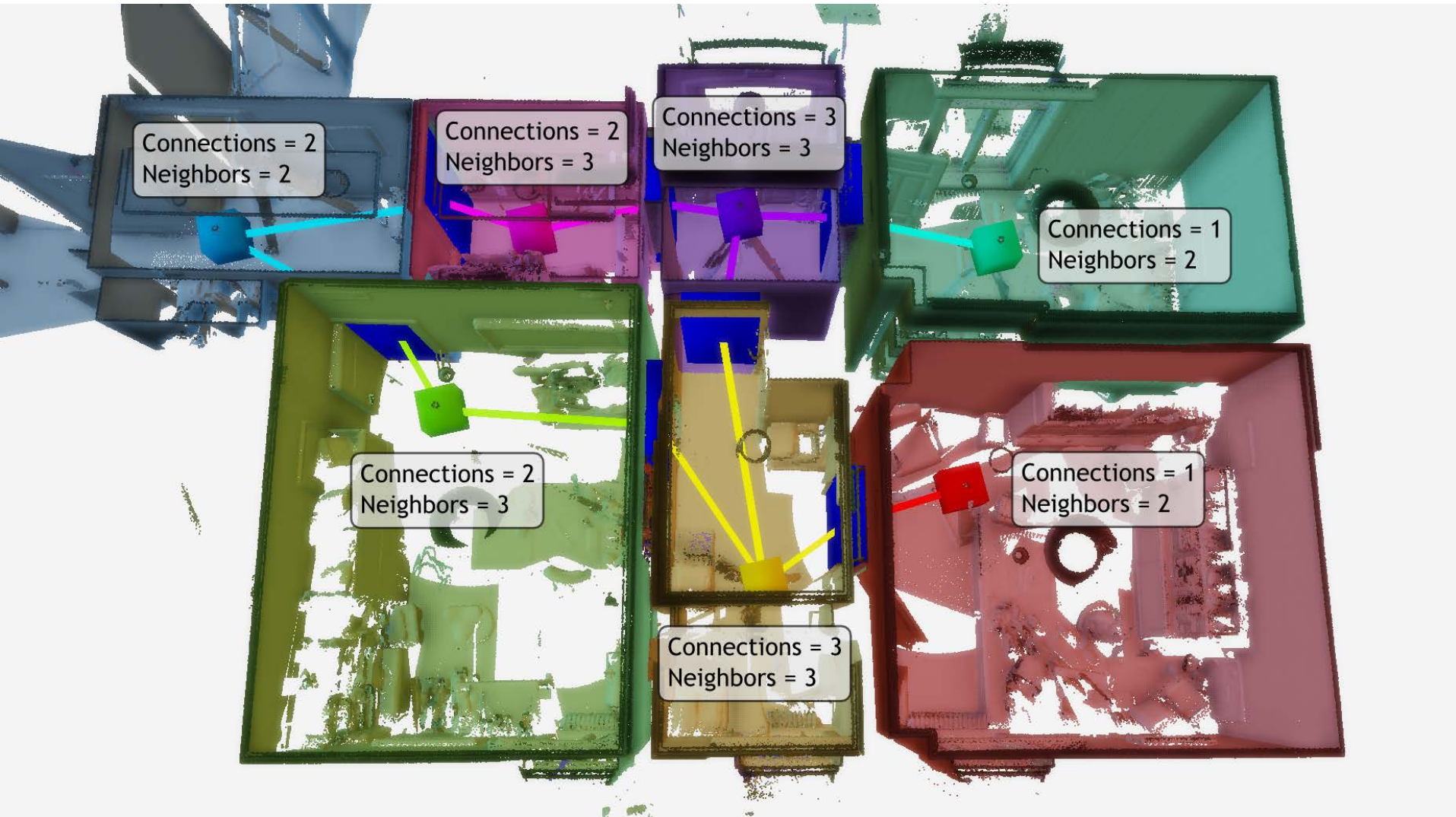**DURAARK: Use Case - Design and Retrofitting**

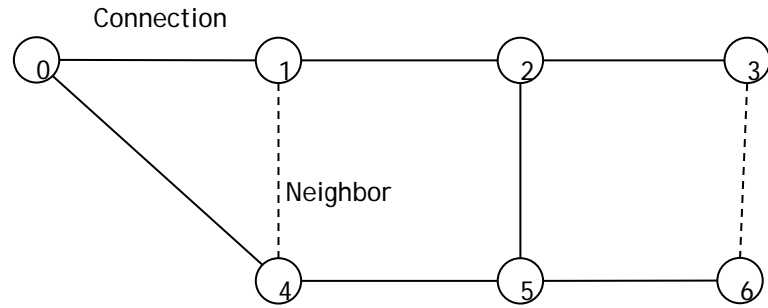CITA - Centre for Information Technology and Architecture // Copenhagen

6   13 / 06 / 13
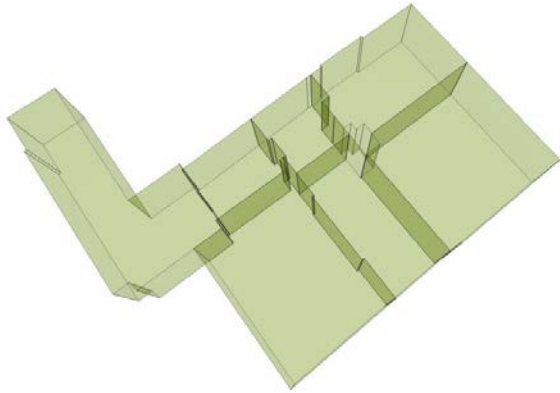
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DURAARK Workbench – Automated Detection of Spaces

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PROGRAMME

Connections = 2
Neighbors = 2

Connections = 2
Neighbors = 3

Connections = 3
Neighbors = 3

Connections = 1
Neighbors = 2

Connections = 2
Neighbors = 3

Connections = 3
Neighbors = 3

Connections = 1
Neighbors = 2

Classification – Automated Detection of Spaces

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Connection

Neighbor

Solibri Model Checker

Level 1
0 mm
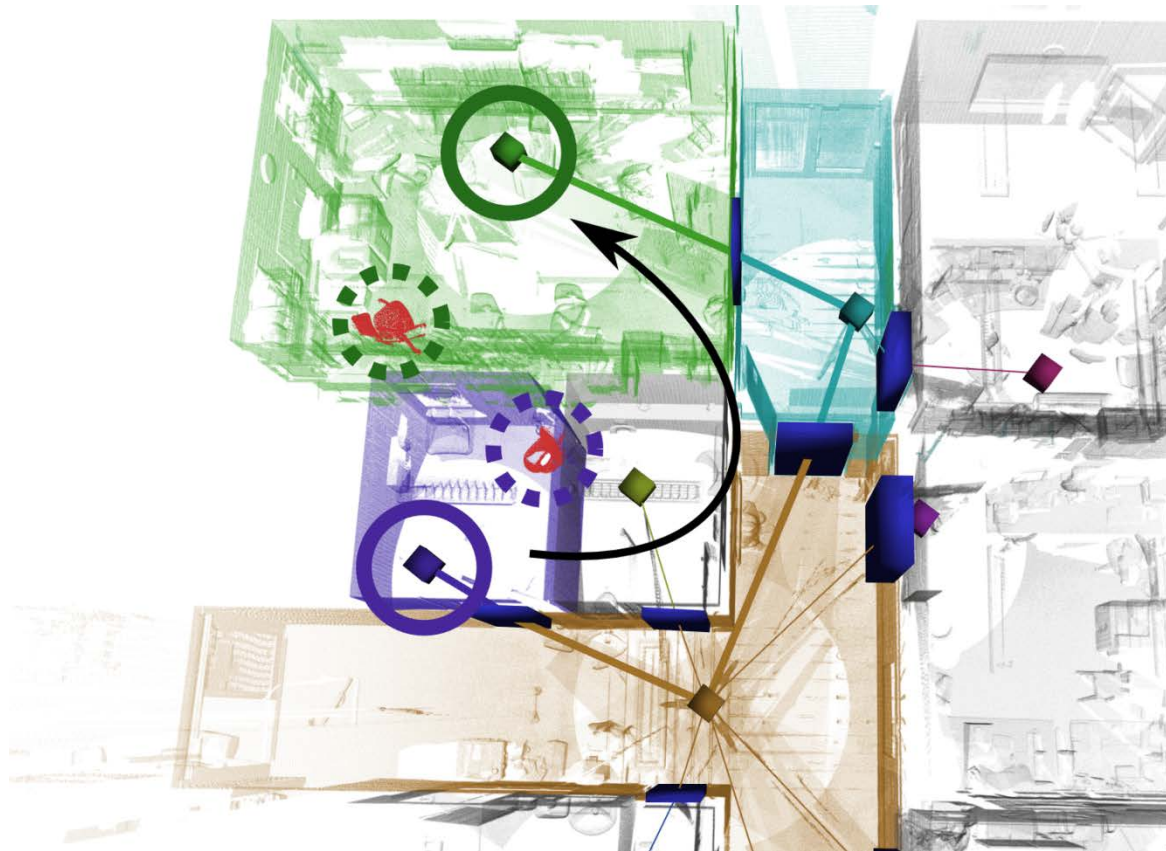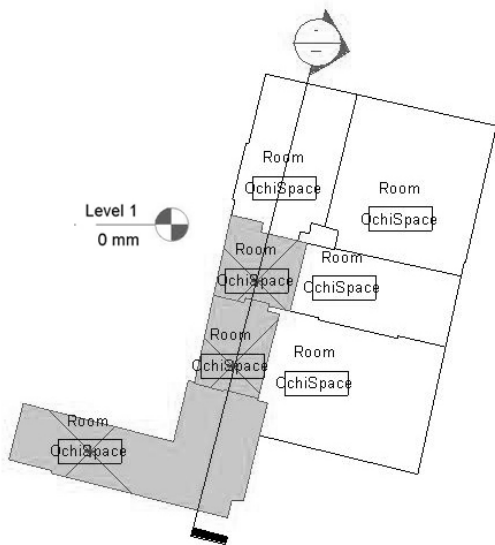
Autodesk Revit

IFC Export – Spaces / Room Connectivity

Morten Myrup (CITA) Copenhagen

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