



## Twilight Talk

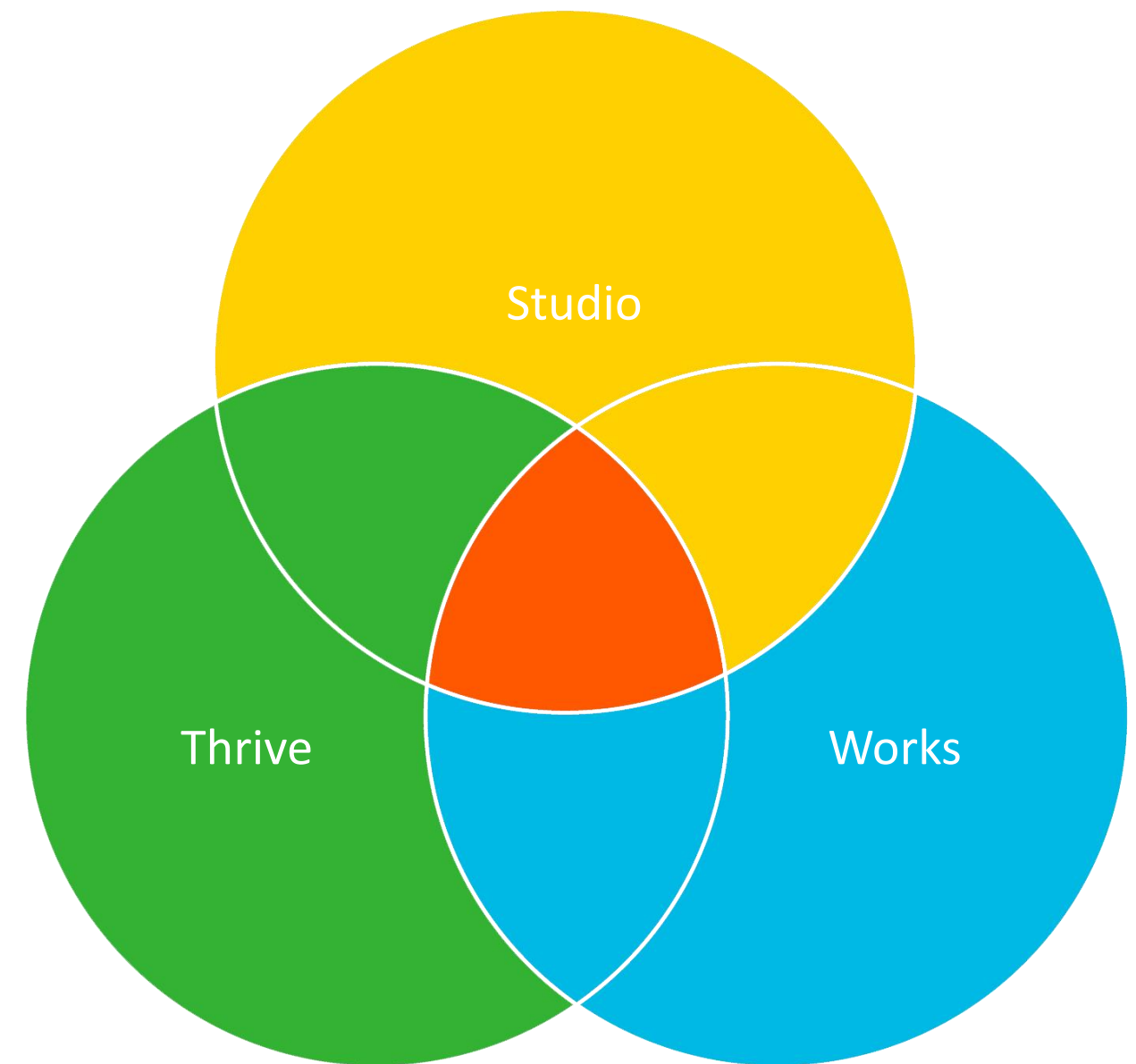
'Using 3D Digital Methods in  
Circular Design'

## Our Approach

The Chetwoods brand has three key elements: **Studio**, **Works** and **Thrive**.

These components inspire, support and complement each other.

- The grand concepts and imaginative leaps emanate from our Studio
- Works finds the best ways of transforming concepts and ideas into actuality
- Thrive contributes its pioneering thinking on enhancing our environment whilst improving our health



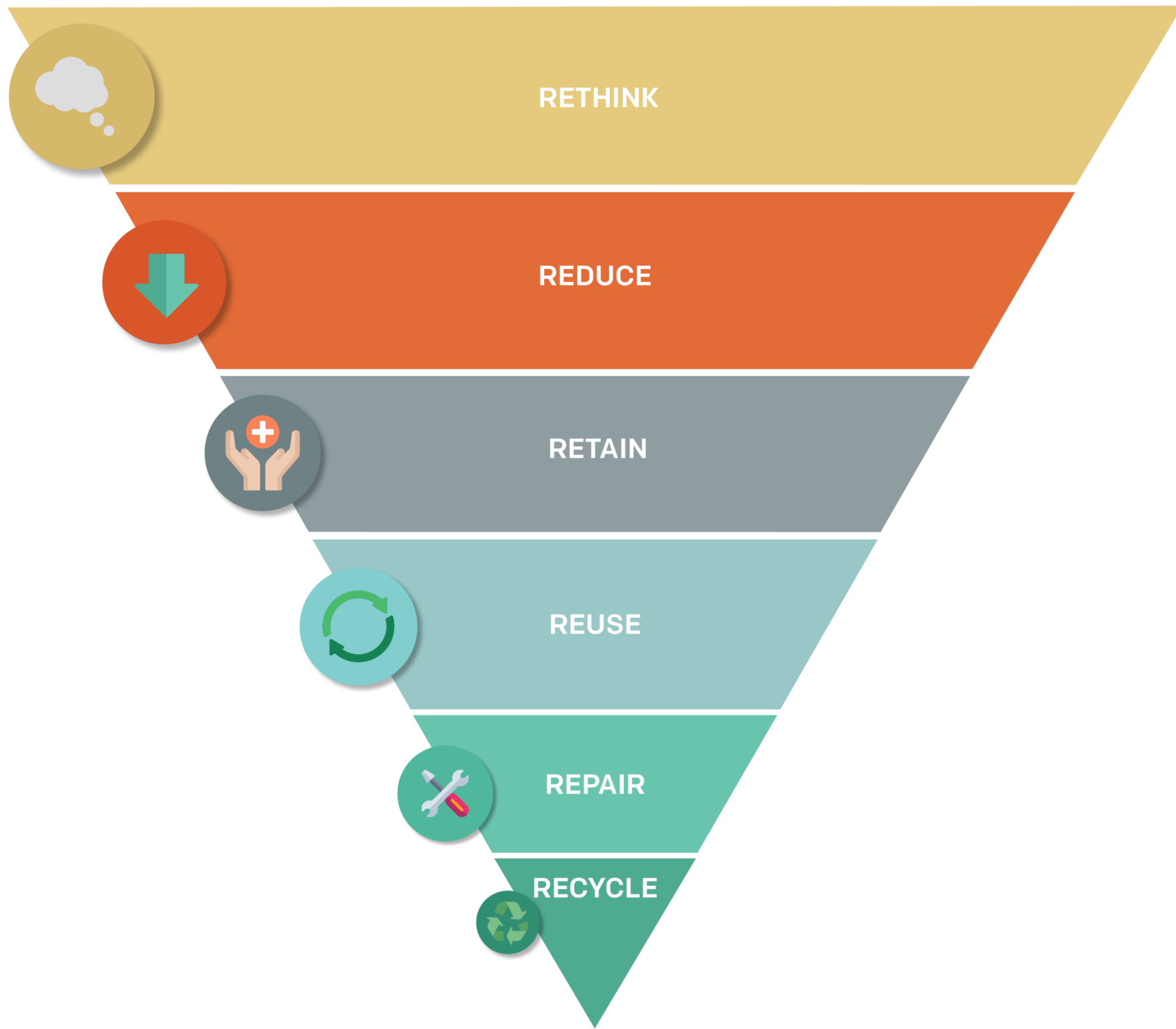


# The Site

## A History of Experimentation

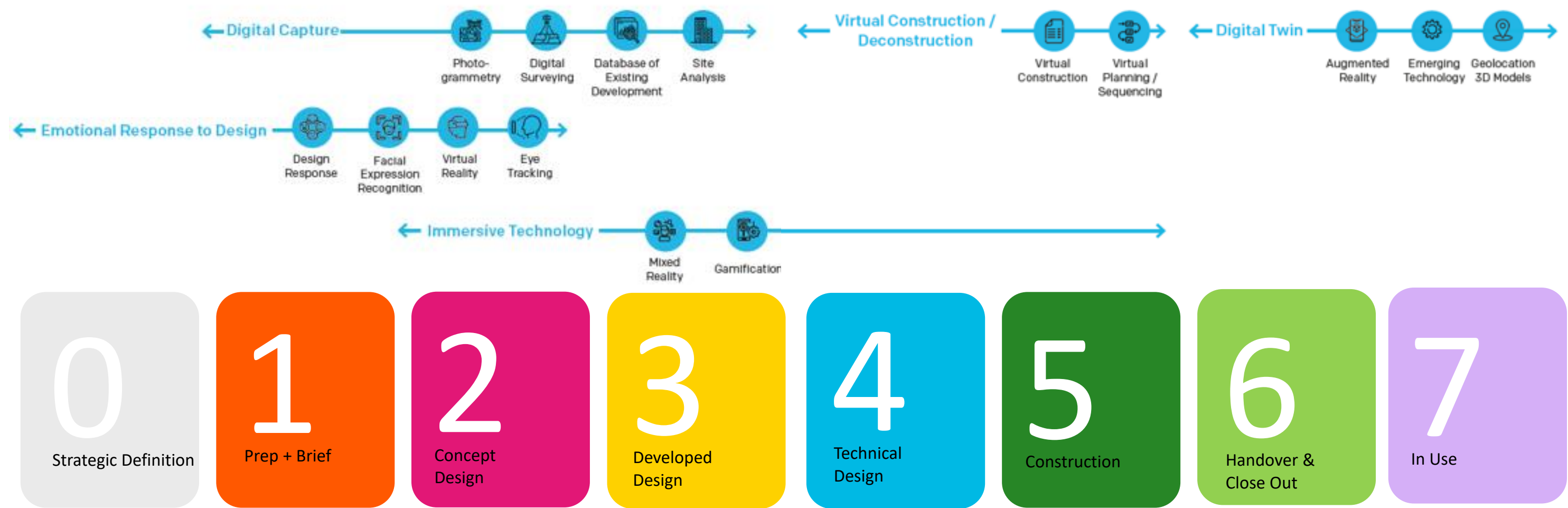


The 6 R's of Sustainability

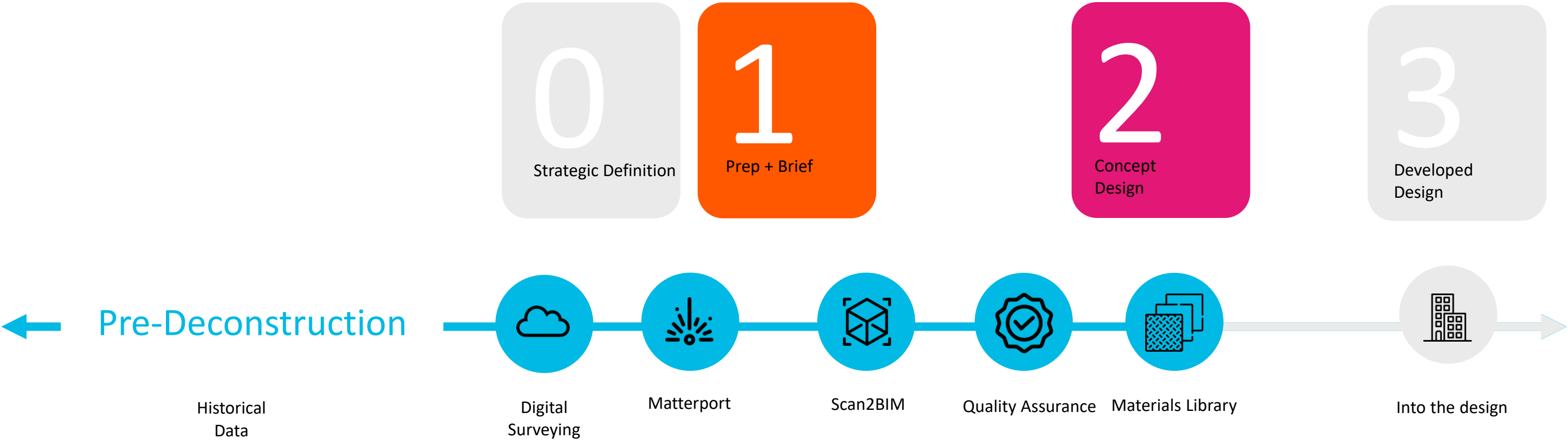


# Chetwoods Works

## Technology as Standard



Chetwoods Works  
Technology Innovation





# Site Proposal

## The Hub Innovation Strategy



Digital  
Surveying



Virtual  
Tour



Scan2BIM



As—built  
Verification



Materials  
Library



3D  
Modelling



Coordination



Project  
Handover



Digital  
Twin

← Pre-Deconstruction

Design Process

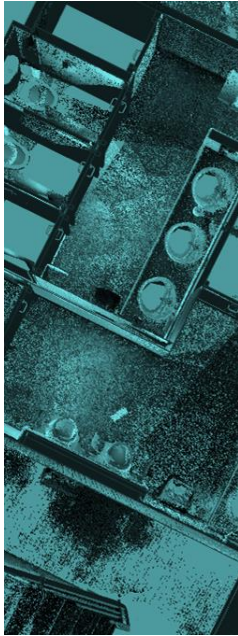
Post Occupancy →



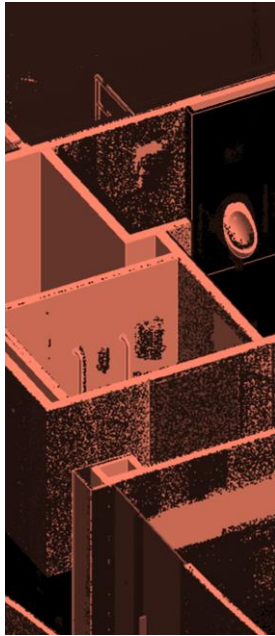
Digital Survey



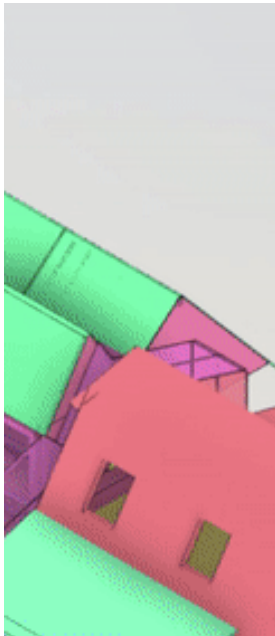
Virtual Tour



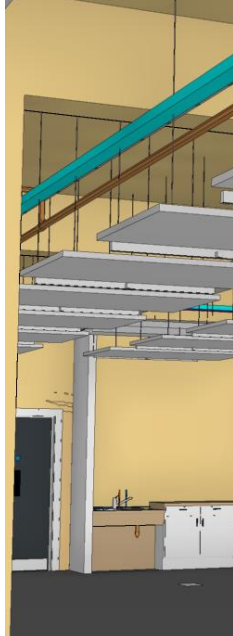
Scan2BIM



As—built  
Verification



Materials Library



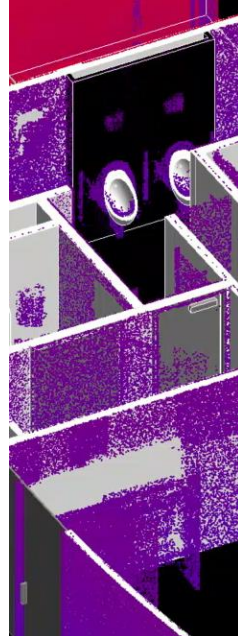
3D Modelling /  
Visualisation



Coordination



Design Review/  
Marketing Suite



Technical  
Review



Building  
Management  
System



Digital Twin  
(Post Occupancy)



Pre Construction  
Survey



Design Process  
(BIM)



Digital Twin  
(Post Occupancy)





# Digital Surveying Gathering Information

1

Prep + Brief



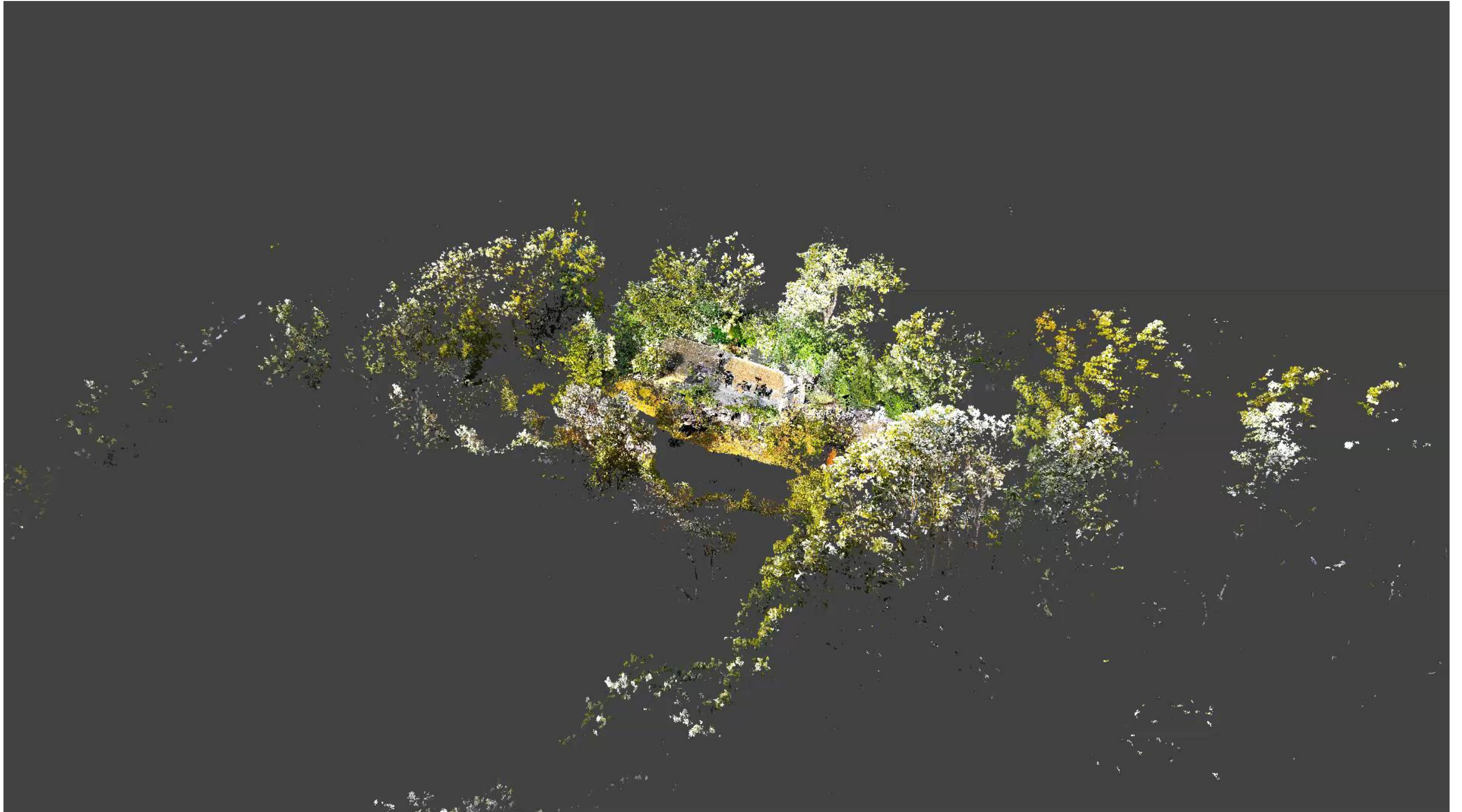




# Point Cloud Digital Starting Point

1

Prep + Brief







Matterport  
High-quality 360 images

1

Prep + Brief

# Butterfly House Edited



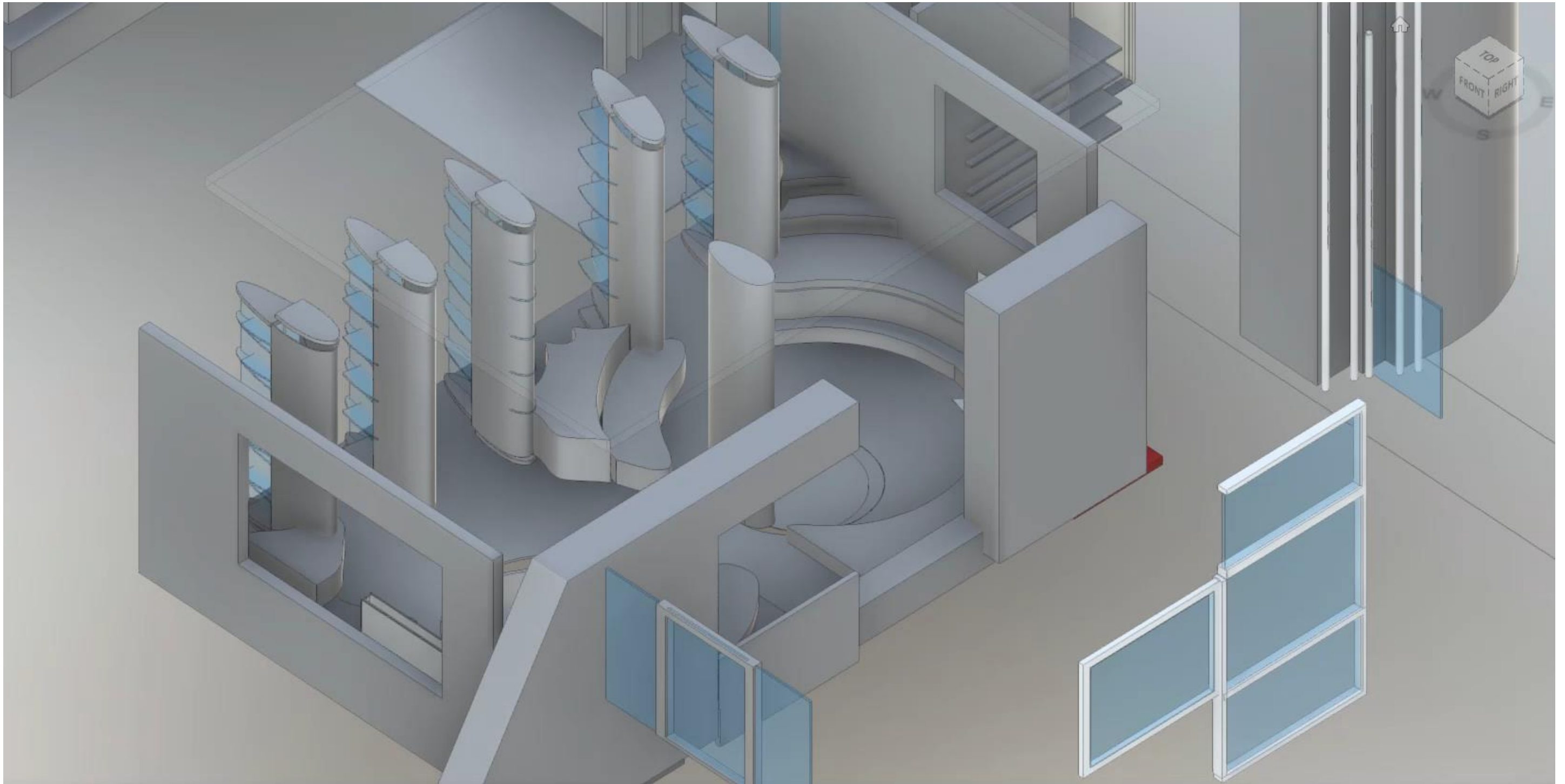
Explore 3D Space



POWERED BY







<https://autode.sk/3NgoT9S>

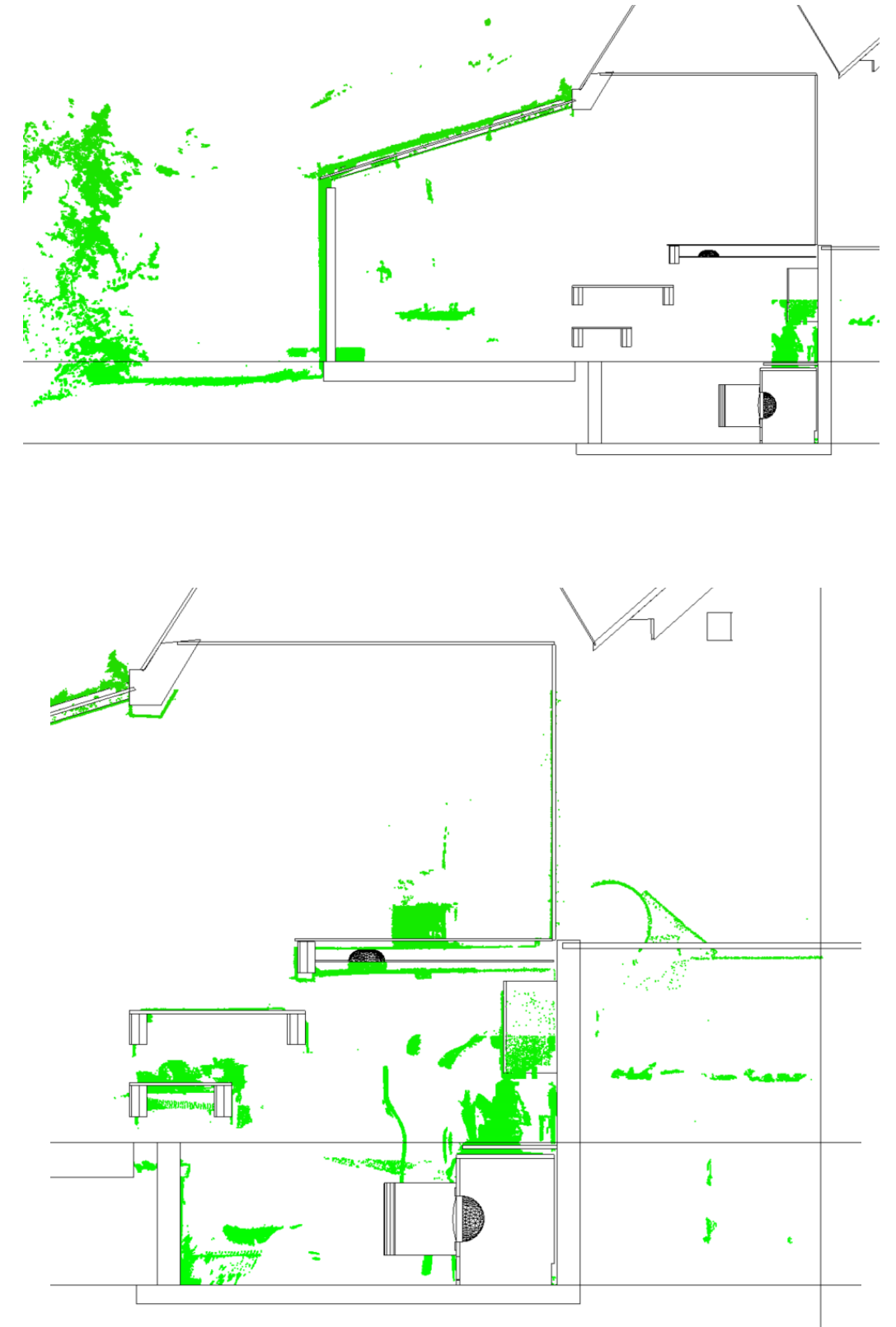
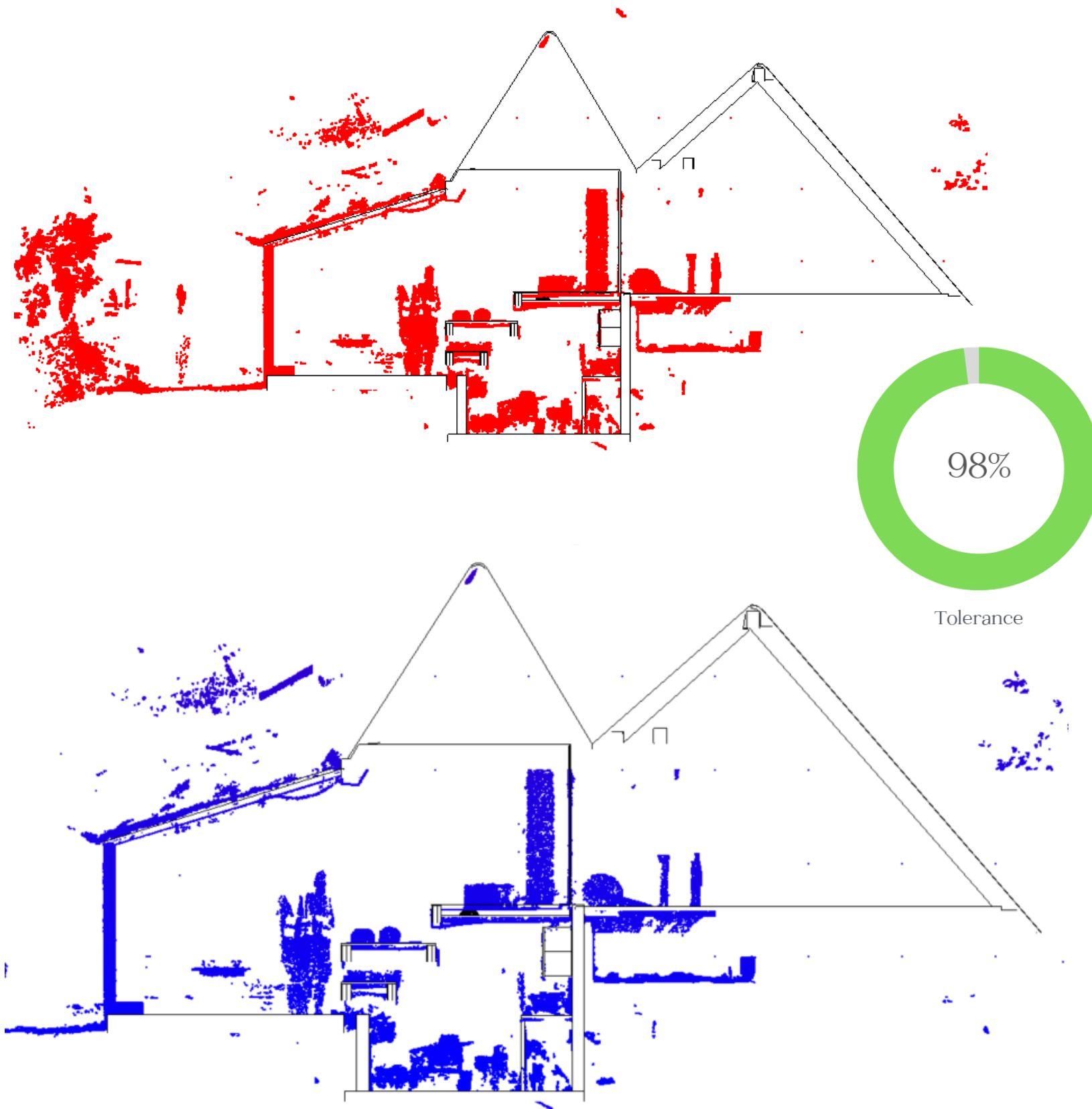
Click here for the free viewer



# Quality Assurance Navisworks Verity

2

Concept Design

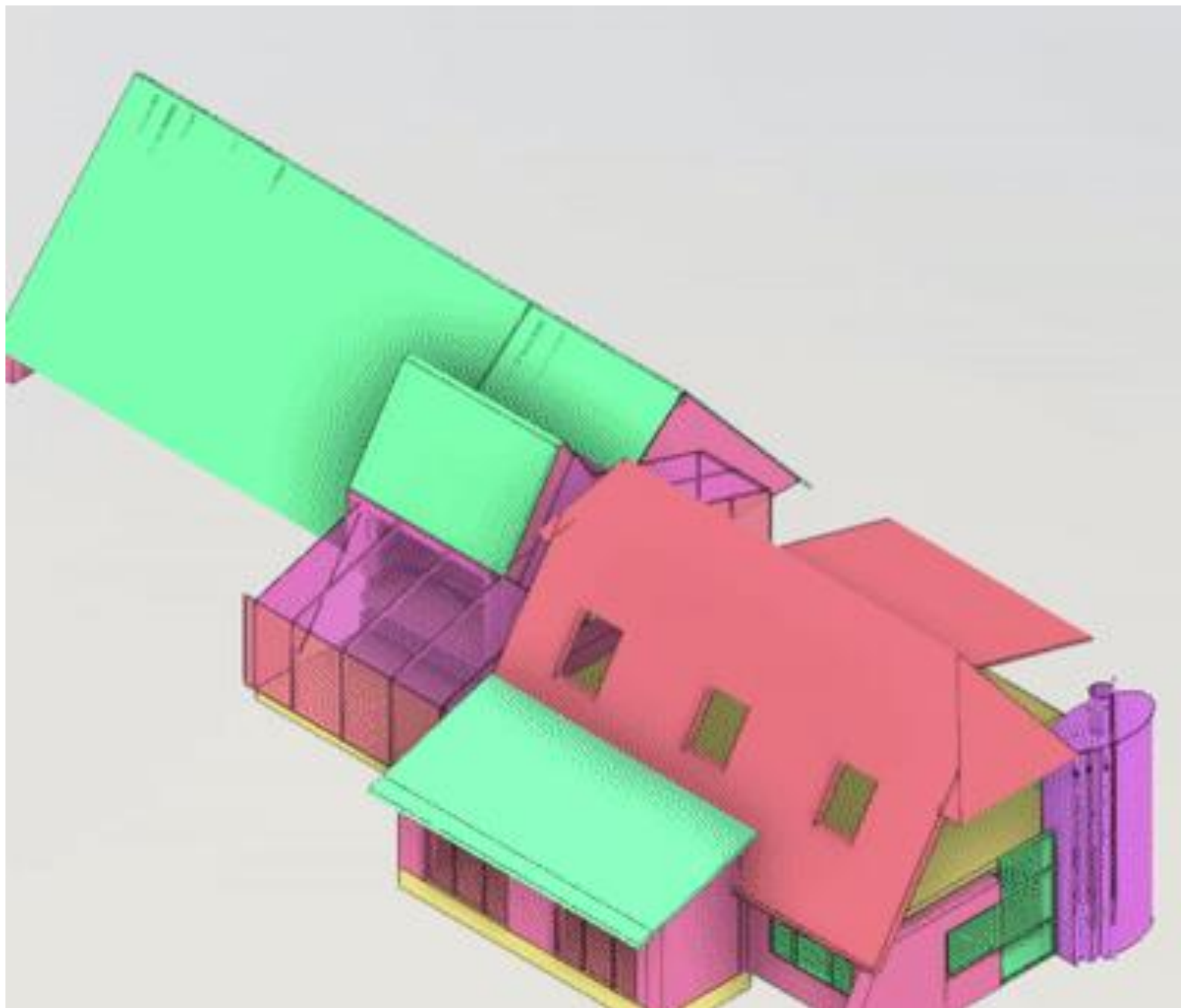






## 2

### Concept Design



	Plumbing Down Waterfall gips from as low 17cm down to 0cm							Dining room (room 1)	total glass all over floor	Could move shipboard underneath if allowed		
Flooring	Insulation											
Flooring	Mineral wool collapsed through chicken wire									Needs further assessment		
Glassed internal door	2 glass panels on inner system		2 panes					Working	Demolish yet	Pre-deconstruction	Reuse the glass	
Window	Acrylic laminating in gas seals. Gases are fixed double glazed panels		2 panes					Still working	Demolish yet	Pre-deconstruction	Reuse	
Flooring	Grey slate tiles on floor											
Walls	Painted MCF chip-egg									Pre-deconstruction		
Walls	Oval mirror in wood frame and		4 panes					Dining room (room 1)	ok	Cut to fit	Pre-deconstruction	Save - integrate into new design
Kitchen	Sliding glass door on metal runner		1 pane					Hitchenbourge Room 1)	Good	Financing very well	Pre-deconstruction	Reuse
Closets	Formica over composite particle board 1.5cm							Hitchenbourge Room 1)	ok			
Walls	Painted MCF flap cladding with pivot handles		1 sheet					(room 2 room 1)	Good	Two draining units, with external drains, with general pipe connections (downstairs sewerage off)	Pre-deconstruction	Reuse



## Next Steps

### Sharing Lessons Learnt

Having trialled this process on a live projects, we are going to share our learnings in a Deconstruction by Design Case Study pamphlet showing how technology could enable better reuse of materials.

- Methodology Introduction
- When to use this guidance
- What best practice we have built upon

#### Process

- Digital Survey
- Laser scan survey Recap Point Cloud
- Scan2BIM
- Quality Assurance
- Materials Library







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Thank you