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Smart Buildings SHOW

18-19 October 2023 • ExCel London


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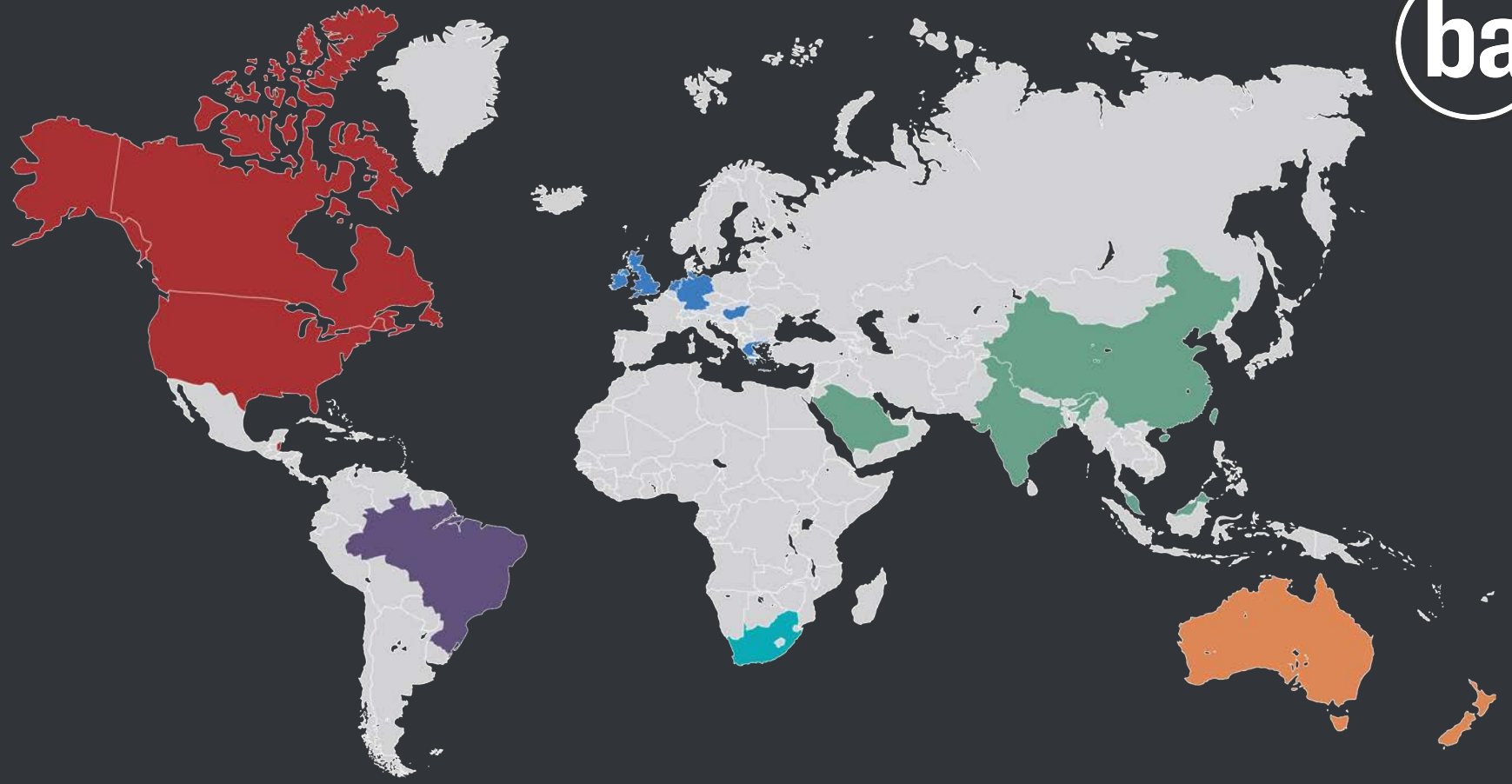
Independent. Impartial. Innovative. Information first.

Shaping the built environment's digital future.

At BIM Academy we bring a new perspective to the world of digital, enabling our clients to achieve better results.



20
countries

18
research projects

12
industries

750
projects

10,000
people trained

$10bn
value

11
awards

9
PhDs


Why?
ba

Context

Why?

Owners continue to struggle with poor quality asset information

Momentum and urgency from public and private sector to deliver reliable, easily accessible asset information as a result of Grenfell and climate emergency

Demonstrable savings based on access to good quality, reliable, digital information.

.

Context

Why?

Estates and property maintenance costs £10.9B across its hospitals.

The total cost for soft and hard FM was £1.2B across all sites.

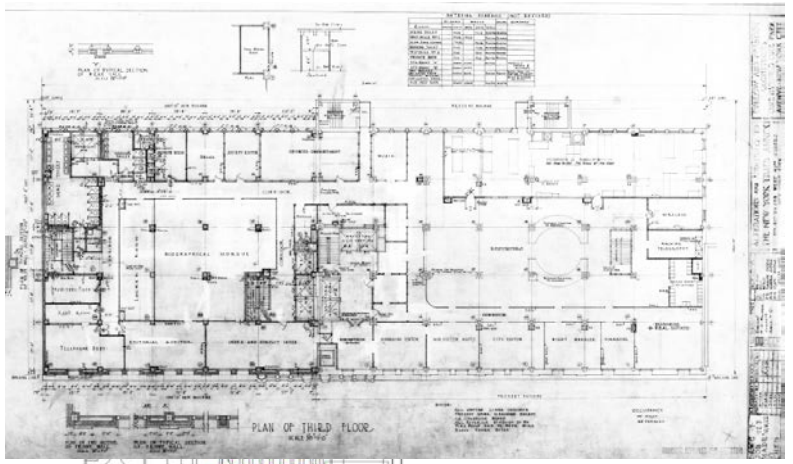
In the period 2020/21, £1.4B was invested in reducing backlog maintenance ...

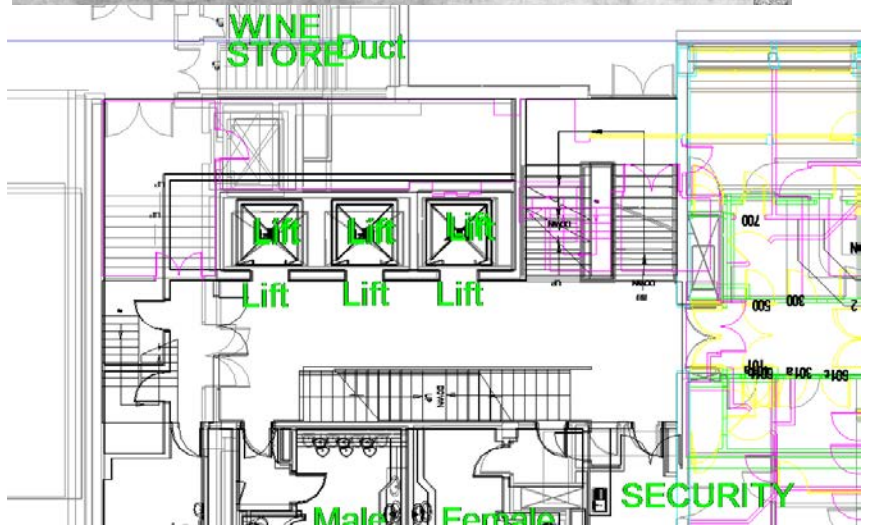
… however, an estimated an additional £10.2B investment is required

… of which £52.9M (52%) is classed as high or significant risk.

Why do we do what we do?

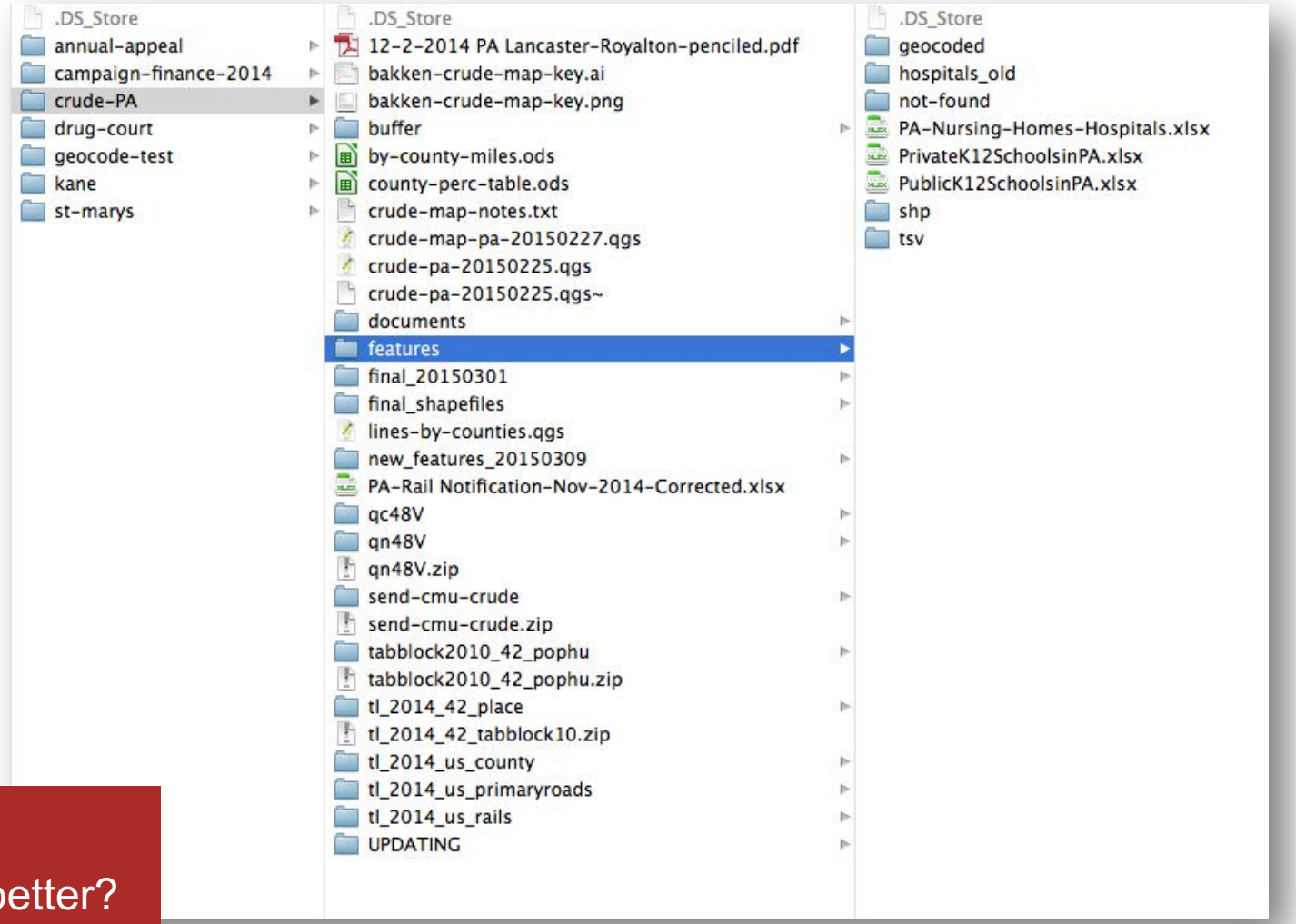
Why?





Paper versus Digital versus Electronic

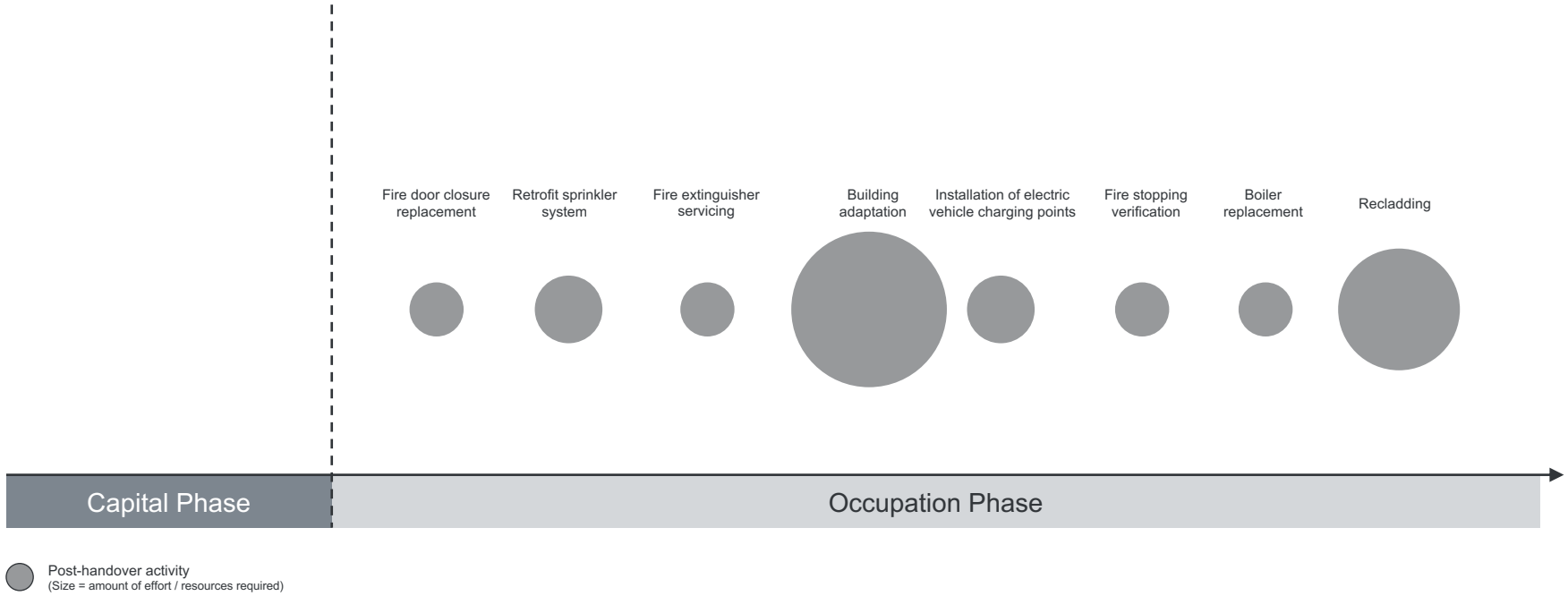
Why?



Is this any better?

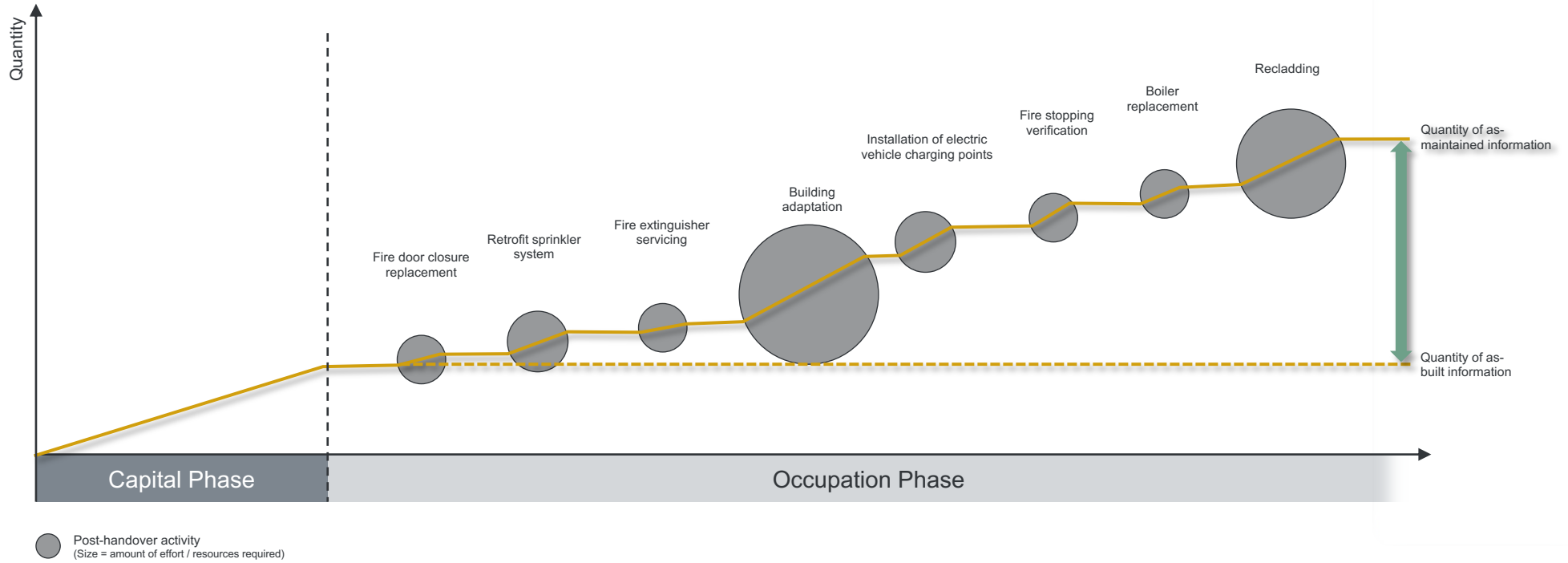
…and as-maintained?

Why?



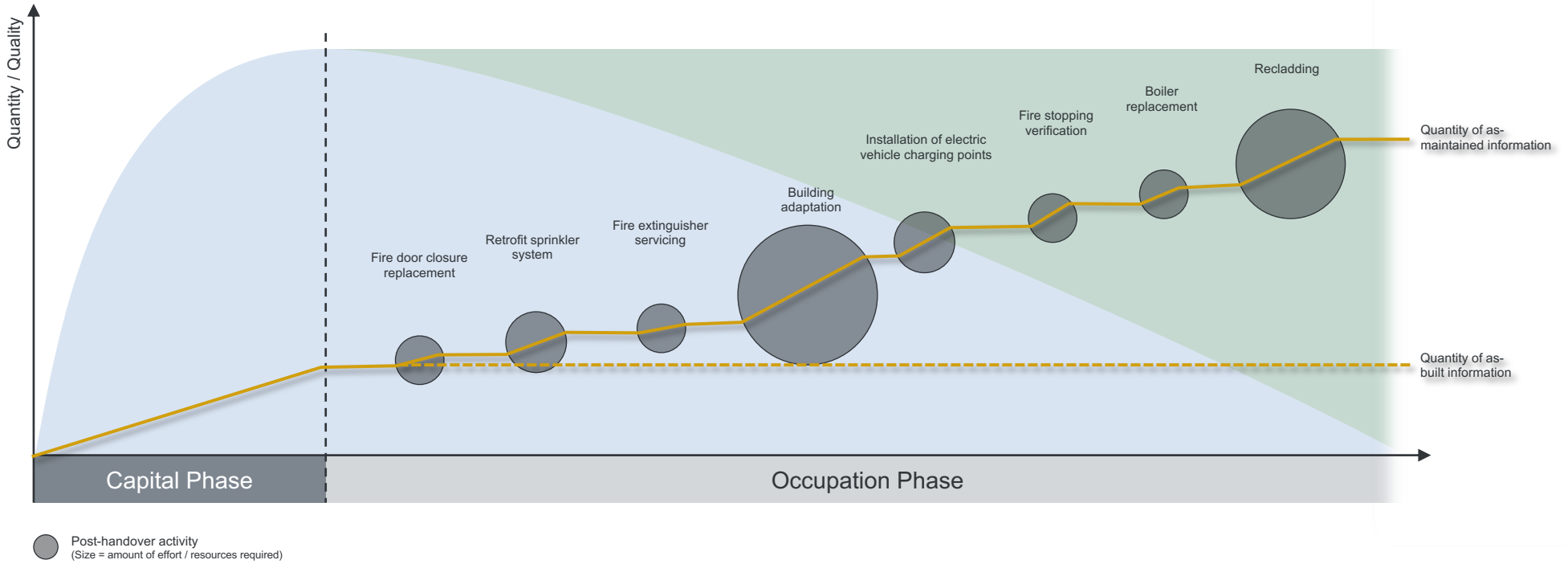
…and as-maintained?

Why?



…and as-maintained?

Why?



New buildings and estates

Why?


Smart
Buildings
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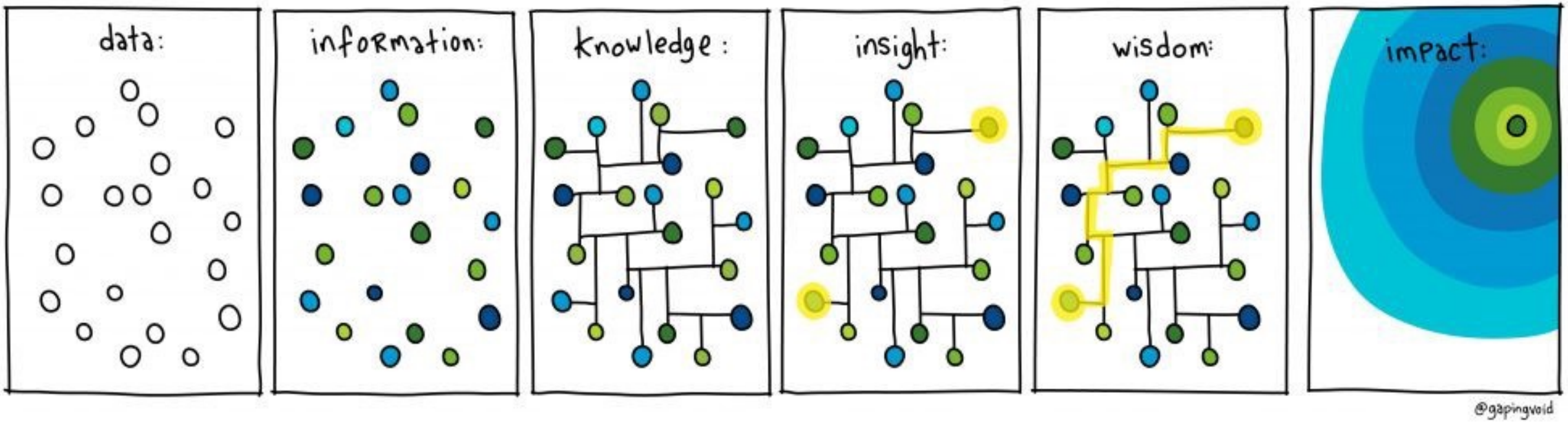
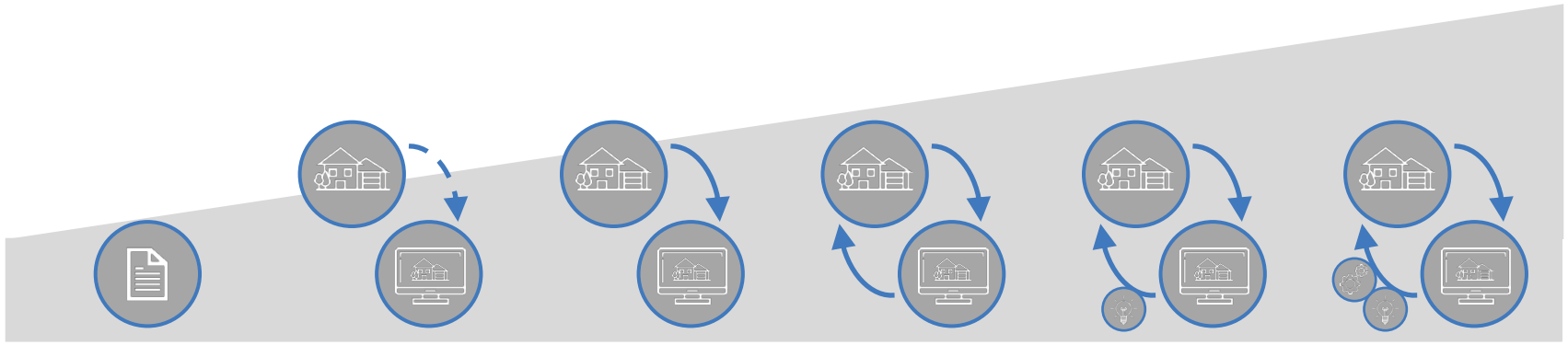
Data to impact

Smart Buildings



Stages of development

Smart Buildings



Pre-development	Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Digital Twin Purpose	Asset Definition / Documentation	Digital Model	Digital Shadow	Digital Twin - Repository	Digital Twin - Analytic	Digital Twin - Control
What do we want to solve?	“Part of”	“This was”	“This is”	“What is?”	“What if?”	“Do this”

Prototype

Monitor

Simulate

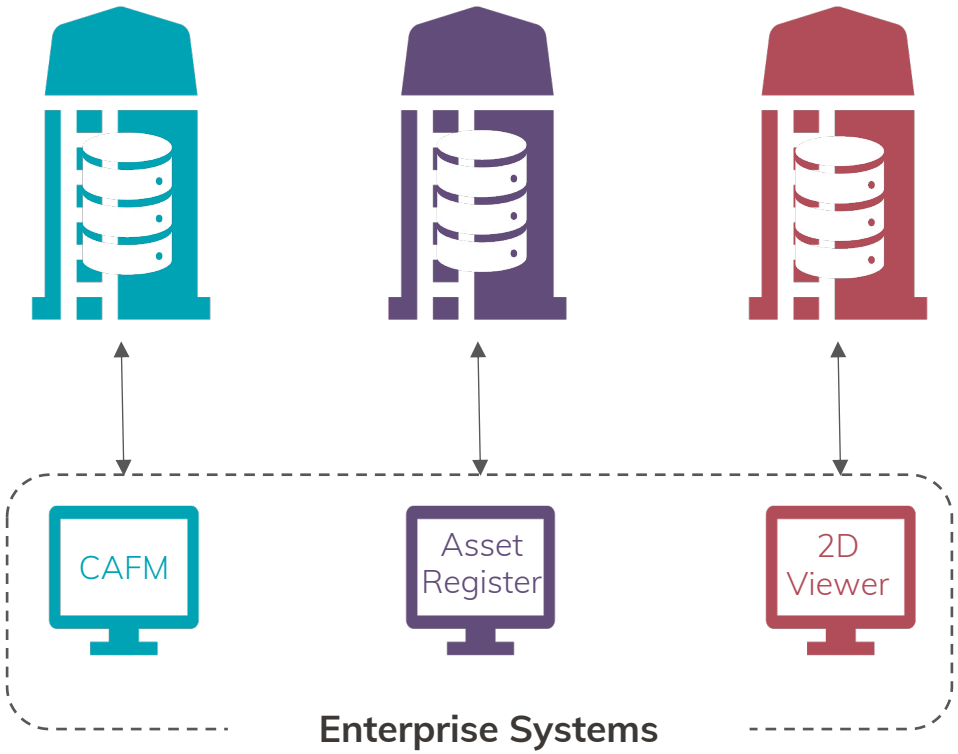
Diagnose

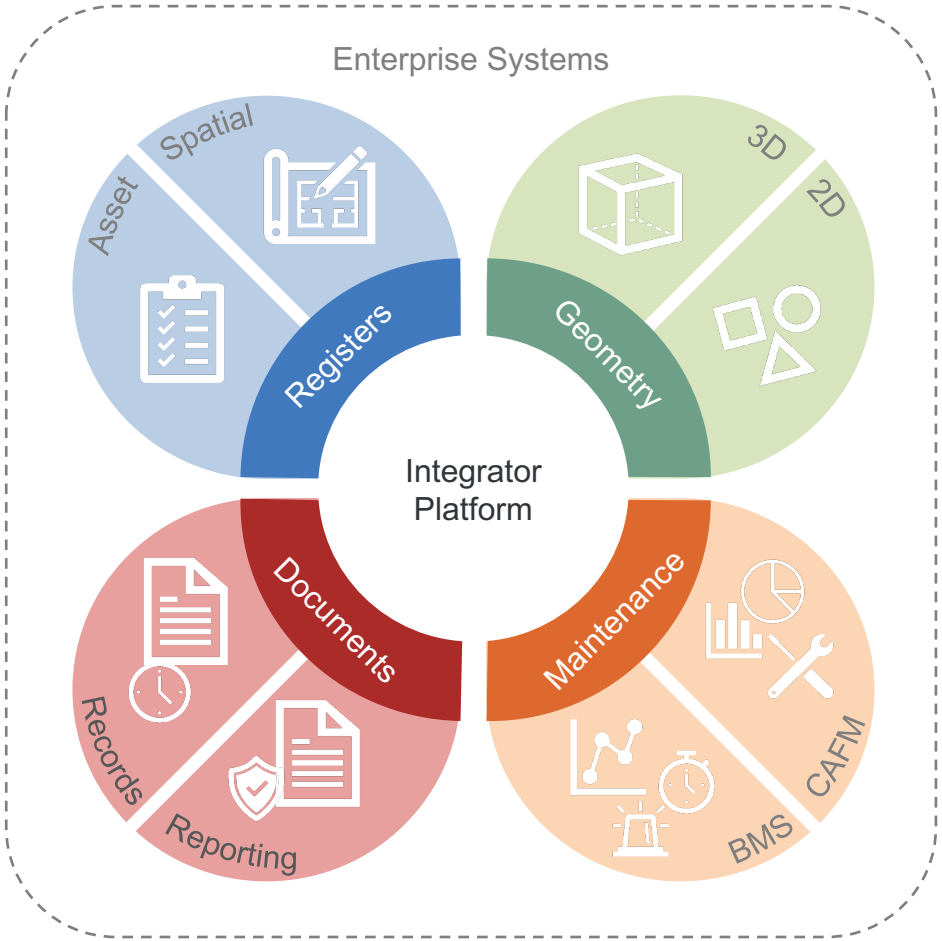
Predict

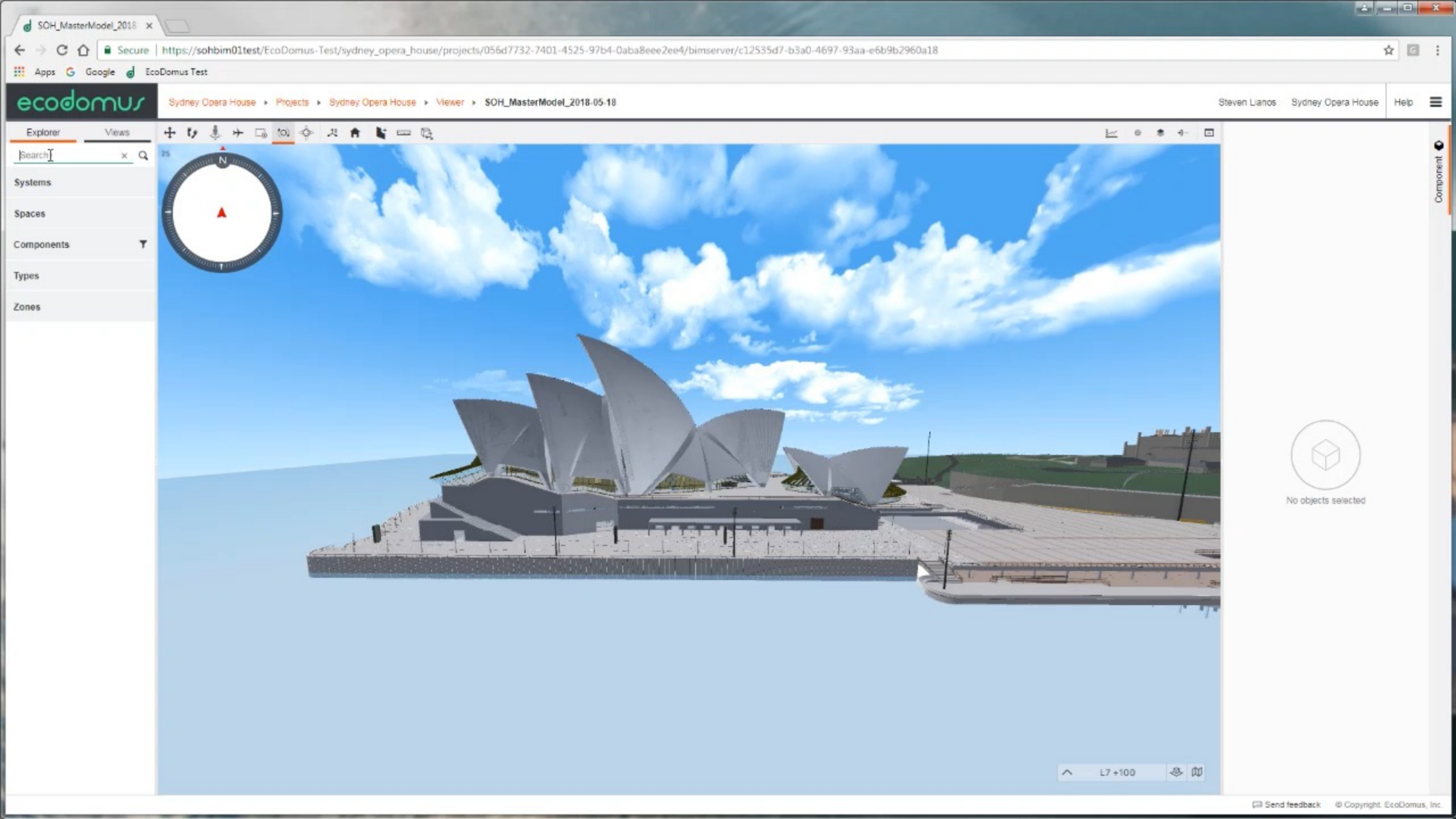
Control

Creating an ecosystem

Smart Buildings






SOH_MasterModel_2018
Secure
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Apps
Google
EcoDomus Test
ecodomus
Sydney Opera House ▸ Projects ▸ Sydney Opera House ▸ Viewer ▸ SOH_MasterModel_2018-05-18
Steven Lianos
Sydney Opera House
Help
Explorer
Views
Search
Systems
Spaces
Components
Types
Zones
N
L7 +100
Component
No objects selected
Send feedback
© Copyright EcoDomus, Inc.

37 % Humidity
Skouries, Greece
Last updated, July 14th 2022 14:07

Please Select An Asset

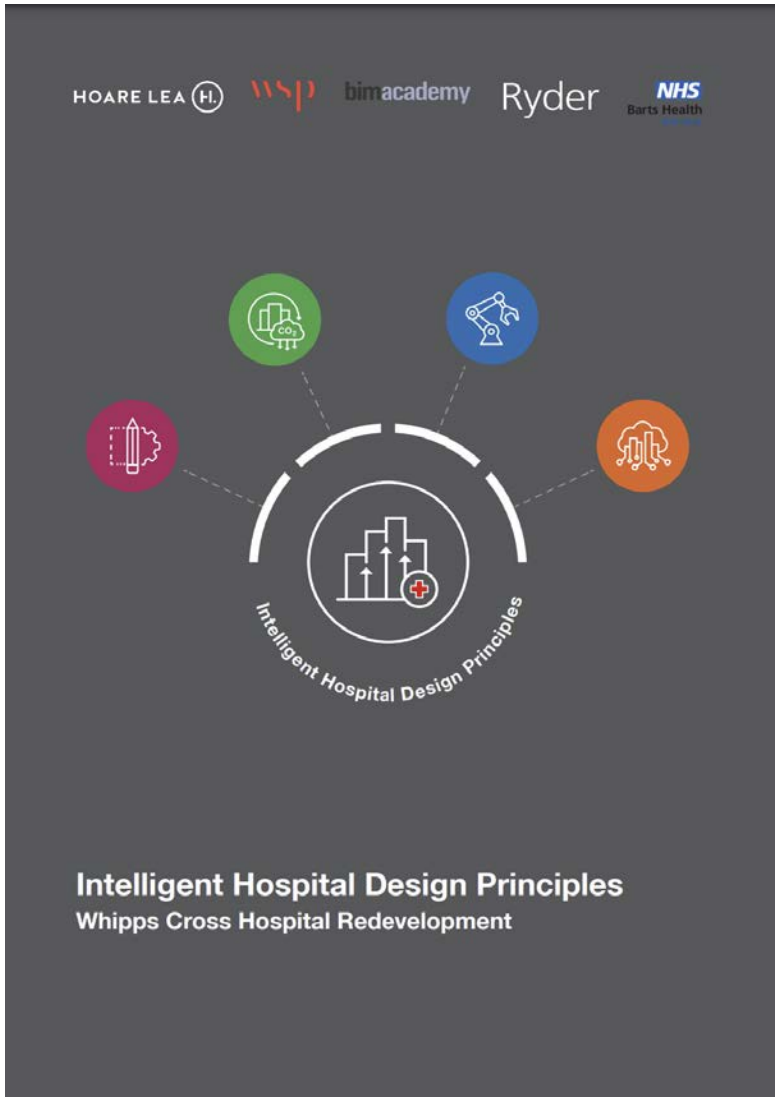
Case Study 1: Whipps Cross

Introduction

Case Study 1: Whipps Cross Hospital

Intelligent design principles

Case Study 1: Whipps Cross Hospital

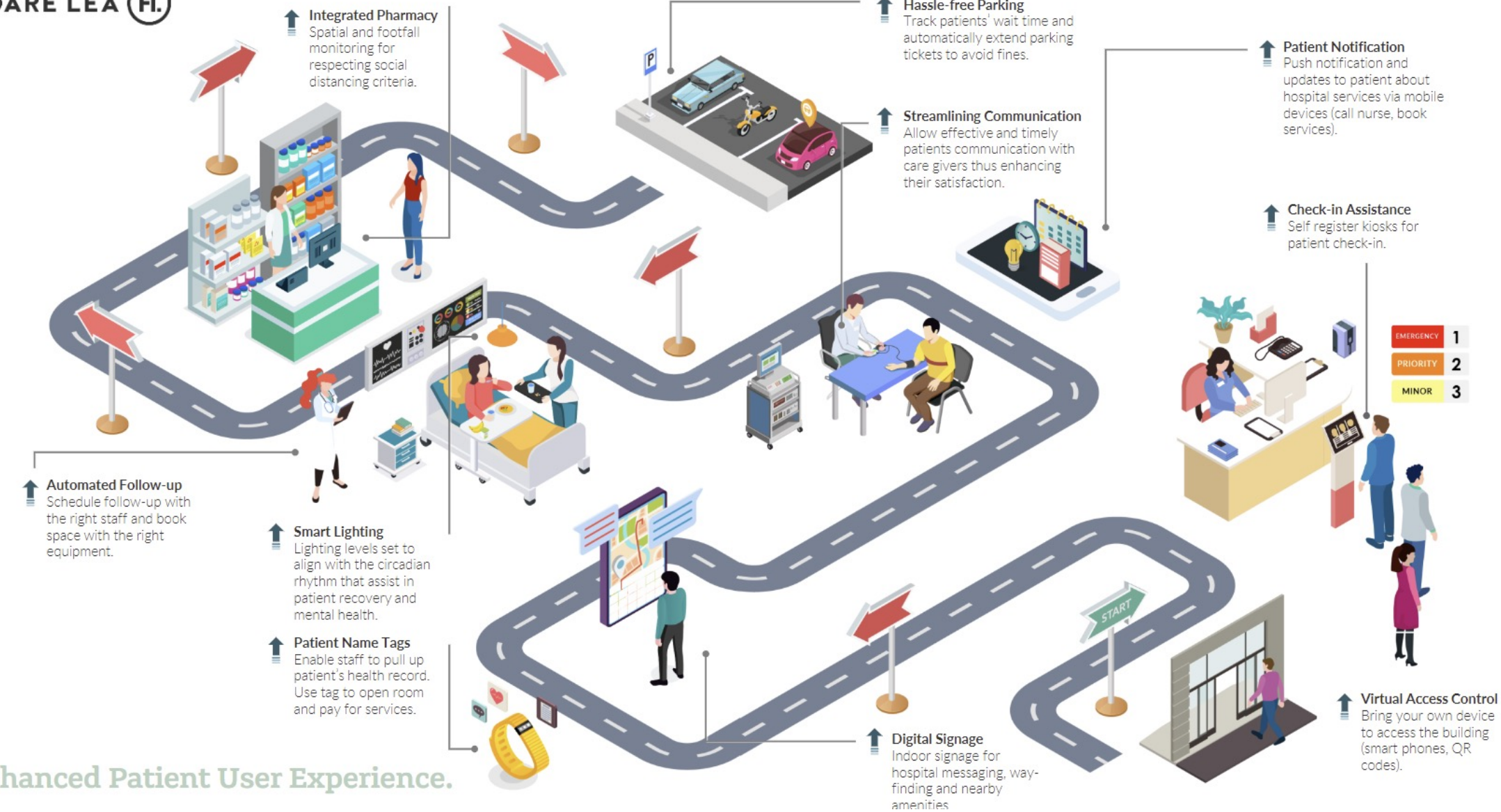


Digital technologies will help the hospital move from episodic to collaborative and longitudinal care.
To realise optimal value an intelligent hospital must consider from the outset how data and digital technologies can bring value to the design, construction and operation of the new facility

The user journey

Case Study 1: Whipps Cross Hospital

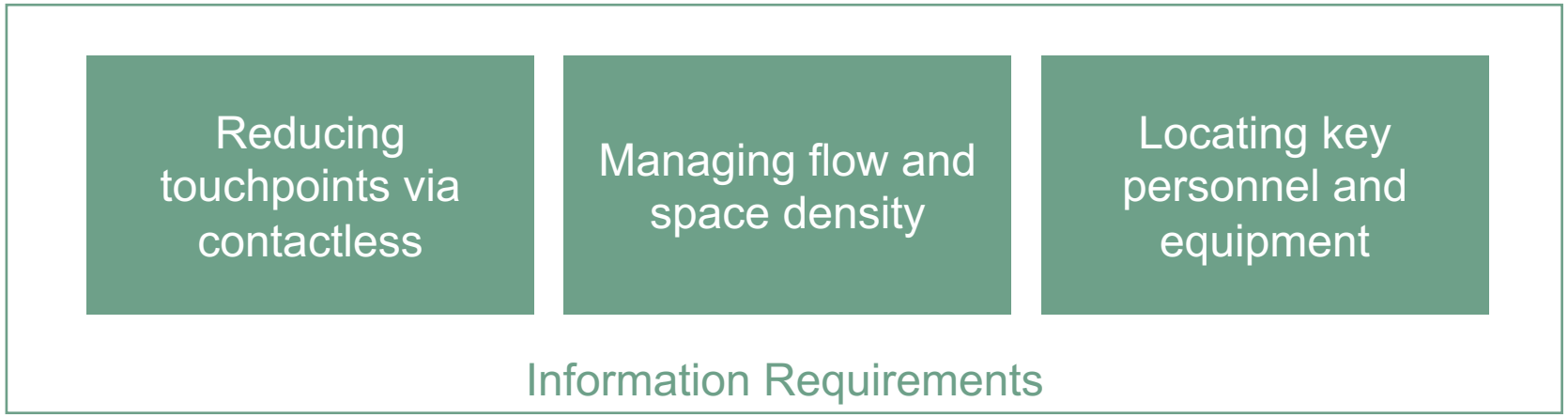
HOARE LEA



Enhanced Patient User Experience.

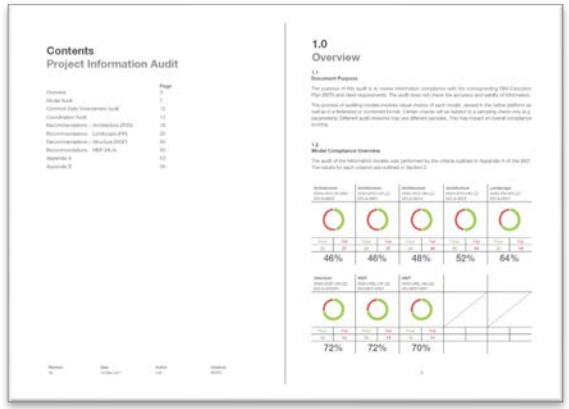
Benefits

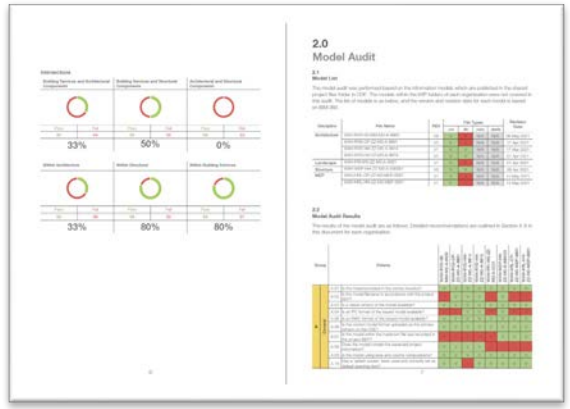
Case Study 1: Whipps Cross Hospital

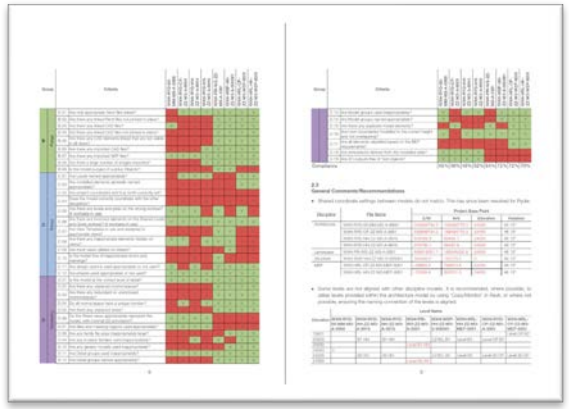


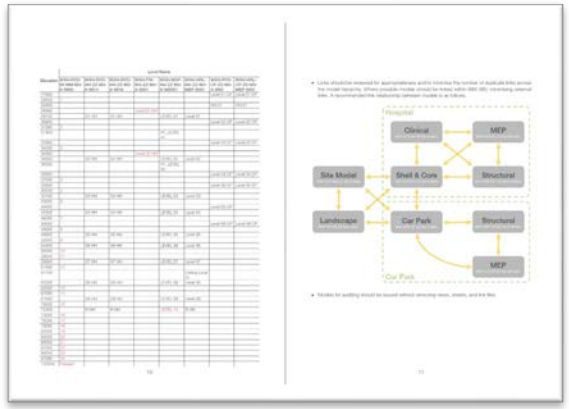
Auditing the information

Case Study 1: Whipps Cross Hospital



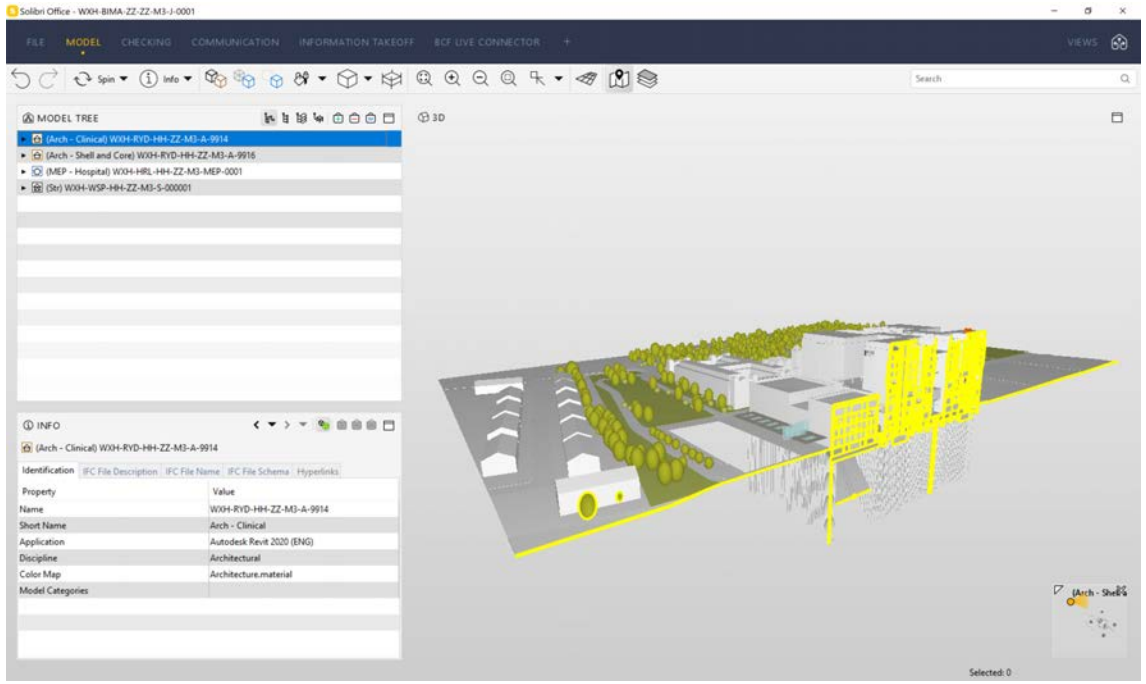


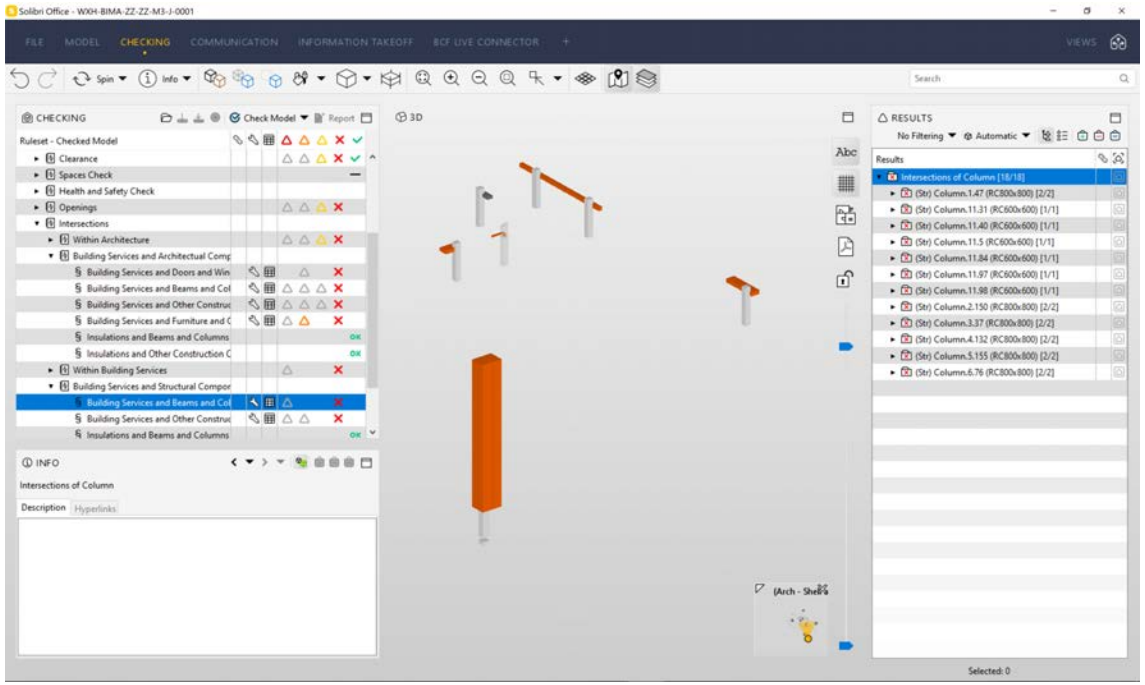


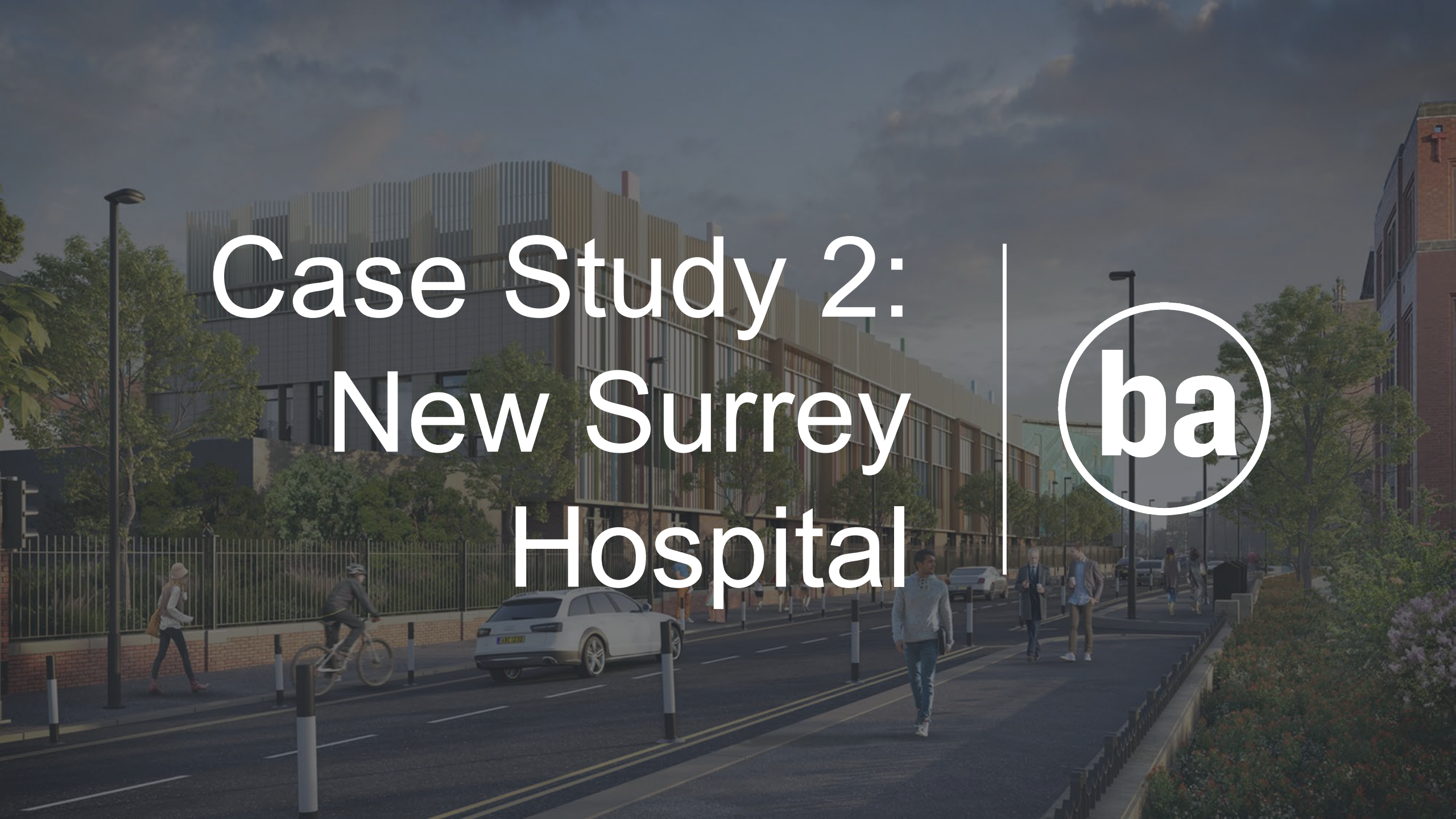


Coordinating the information

Case Study 1: Whipps Cross Hospital







Case Study 2: New Surrey Hospital

Introduction

Case Study 1: New Surrey Hospital

To utilize a BIM process to derive consistent digital data that can be used to drive downstream uses throughout the entire life cycle of the facility, from the Design Team, through the Construction Team and on into Facilities Maintenance and Operations.

Previous BIM projects

Case Study 2: New Surrey Hospital

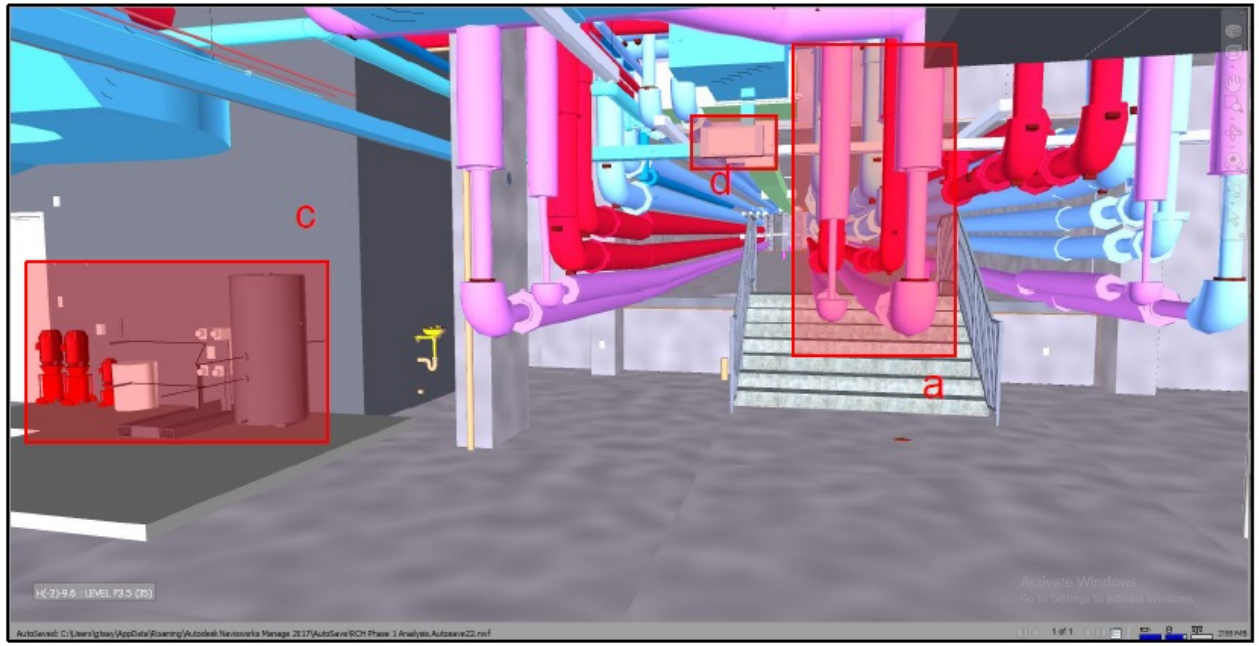
Design Models

Pictures taken on-site

As-designed versus as-built

Case Study 2: New Surrey Hospital

Design Models

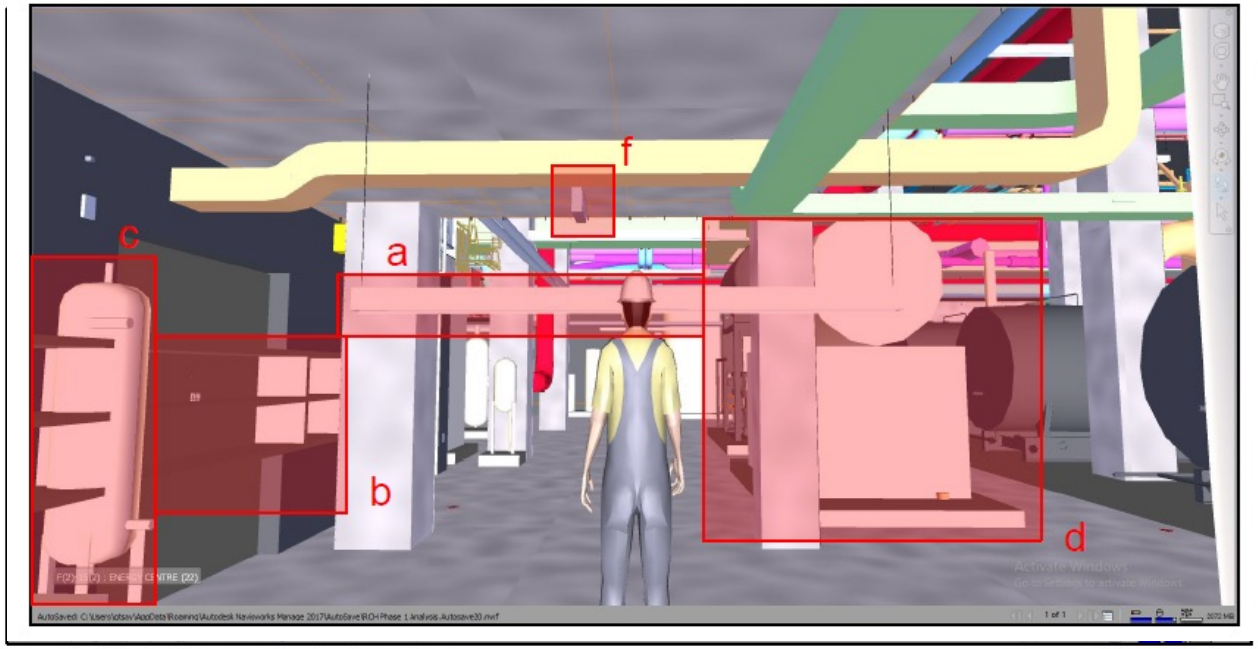


As-built

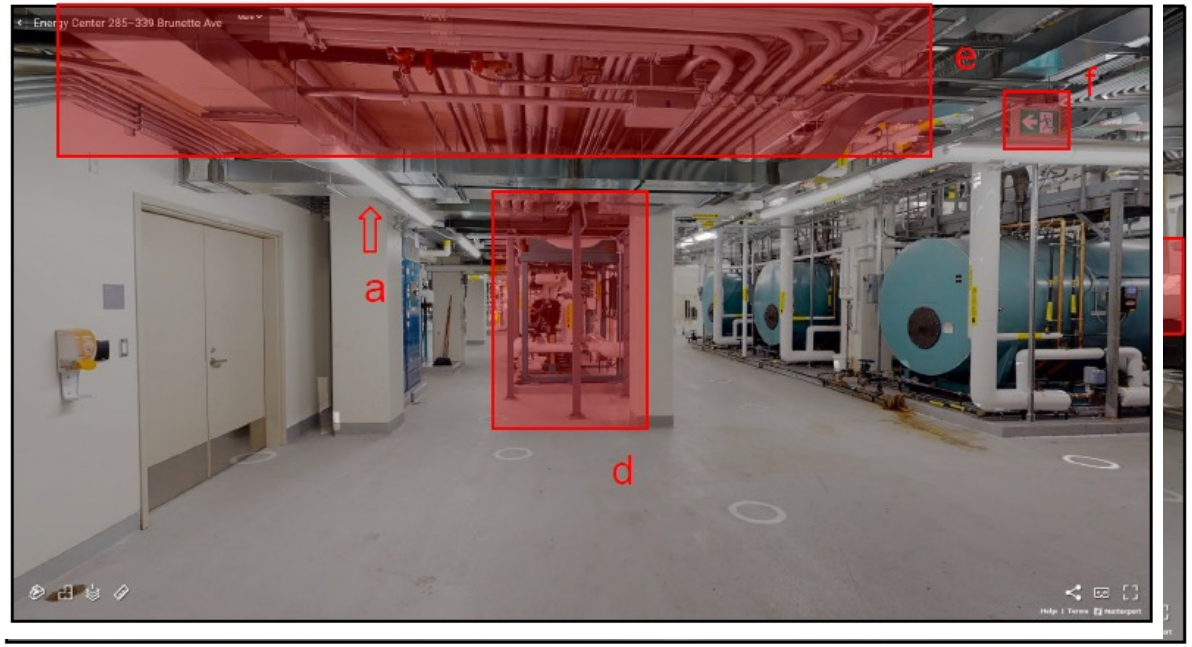
As-designed versus as-built

Case Study 2: New Surrey Hospital

Design Models



As-built



Ineffective data flow

Case Study 2: New Surrey Hospital

Proprietary software

IBM maximo

Design

Construction

Handover

Applying ISO19650

Case Study 2: New Surrey Hospital

ISO 19650-2: 2018

Canadian Annex

NA.1 General

The role of a national annex is to clarify the implementation within the country but should not preclude international cooperation and agreement.

A national annex should clarify any regional, language or country specific usage. For international collaborative projects an international or other country specific national annex may be selected.

This national annex will assist the user in understanding the Canadian implementation of this standard by translating the key terms and expanding on its requirements. Recommendations contained within this Annex accommodate the potential use of English or French terms as well as language-agnostic coding based on published classification systems.

The recommended fields for the information container and meta-data are standardized, but flexibility has been extended to allow project-specific coding methods to be used on individual projects. Coding methods should identify data on projects for effective storage and retrieval as well as exchange, regardless whether the data is file-based or data-based.

Users of file-based data should be wary of overly long coding which might surpass file length limits of software. Where code length may be an issue, consider removing delimiter characters or using a shorter (higher level) classification code.

Refer to NA.6.2 for a list of decisions required at the inception of a project before any information exchanges occur. These decisions are intended to aid in development of the Asset Information Requirements (AIR) and Project Information Requirements (PIR), and should be used throughout a project.

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BIM strategy

Case Study 2: New Surrey Hospital

- What assets are managed?
- What assets matter?
- What level of information do you need?
- How do you find it later?
- Do you have information currently stored?
- Who manages the model and ongoing data?
- Where does the model and ongoing data live?
- Who owns the model and data?

Defining an asset optimisation strategy

Case Study 2: New Surrey Hospital

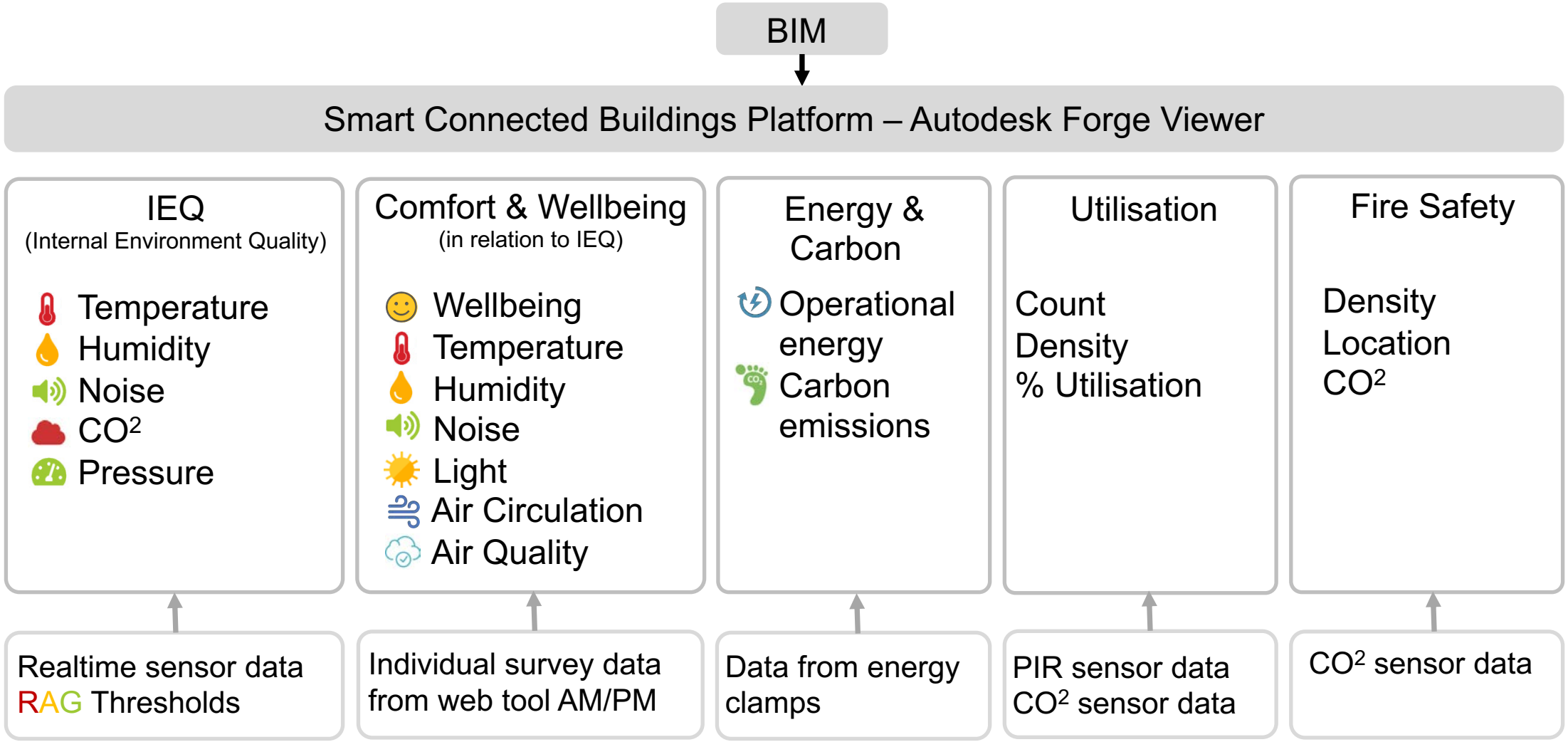
Case Study 3: Cooper's Studios

Introduction

Case Study 3: Cooper’s Studios

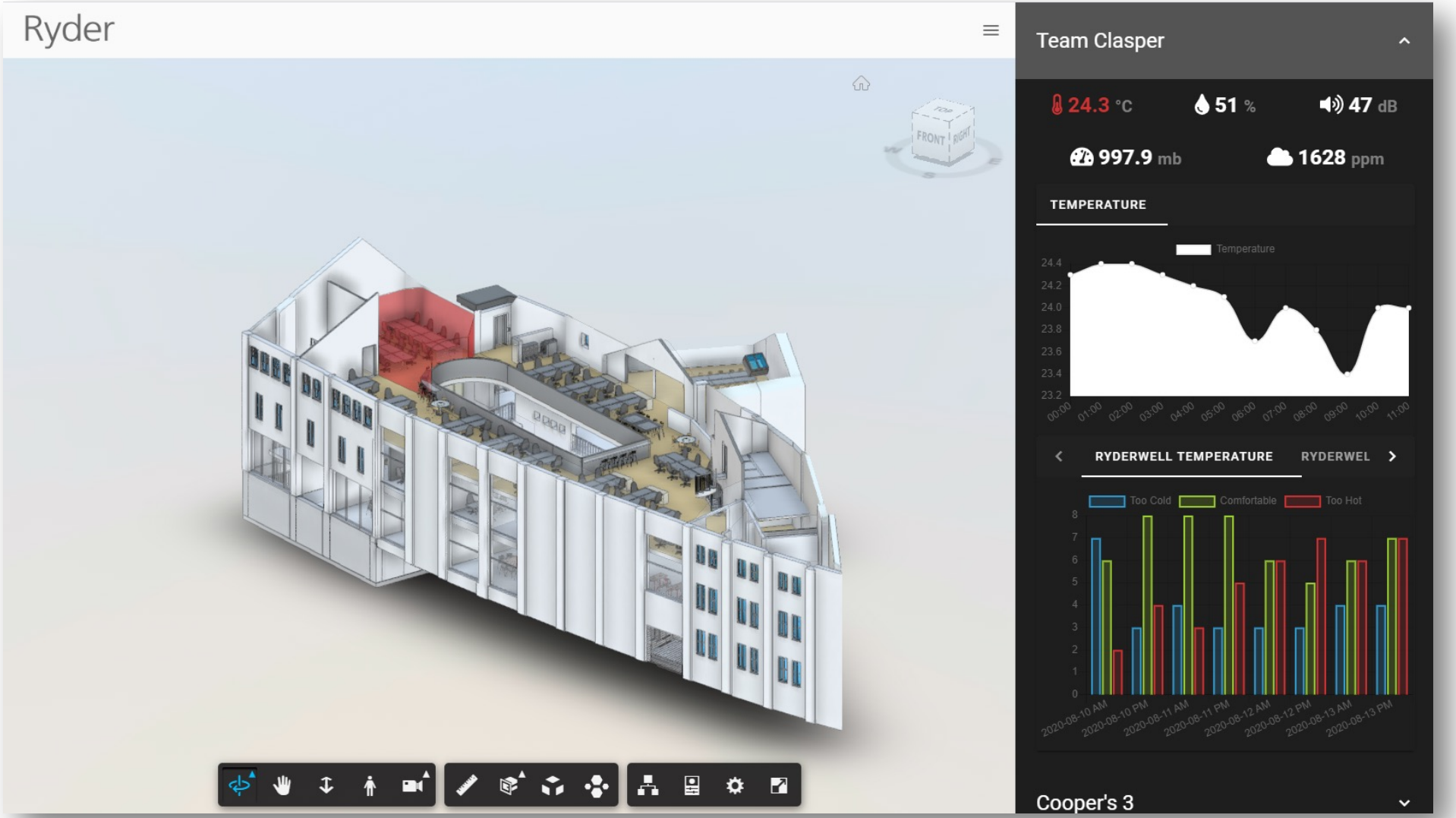
Exploiting data

Case Study 3: Cooper's Studios



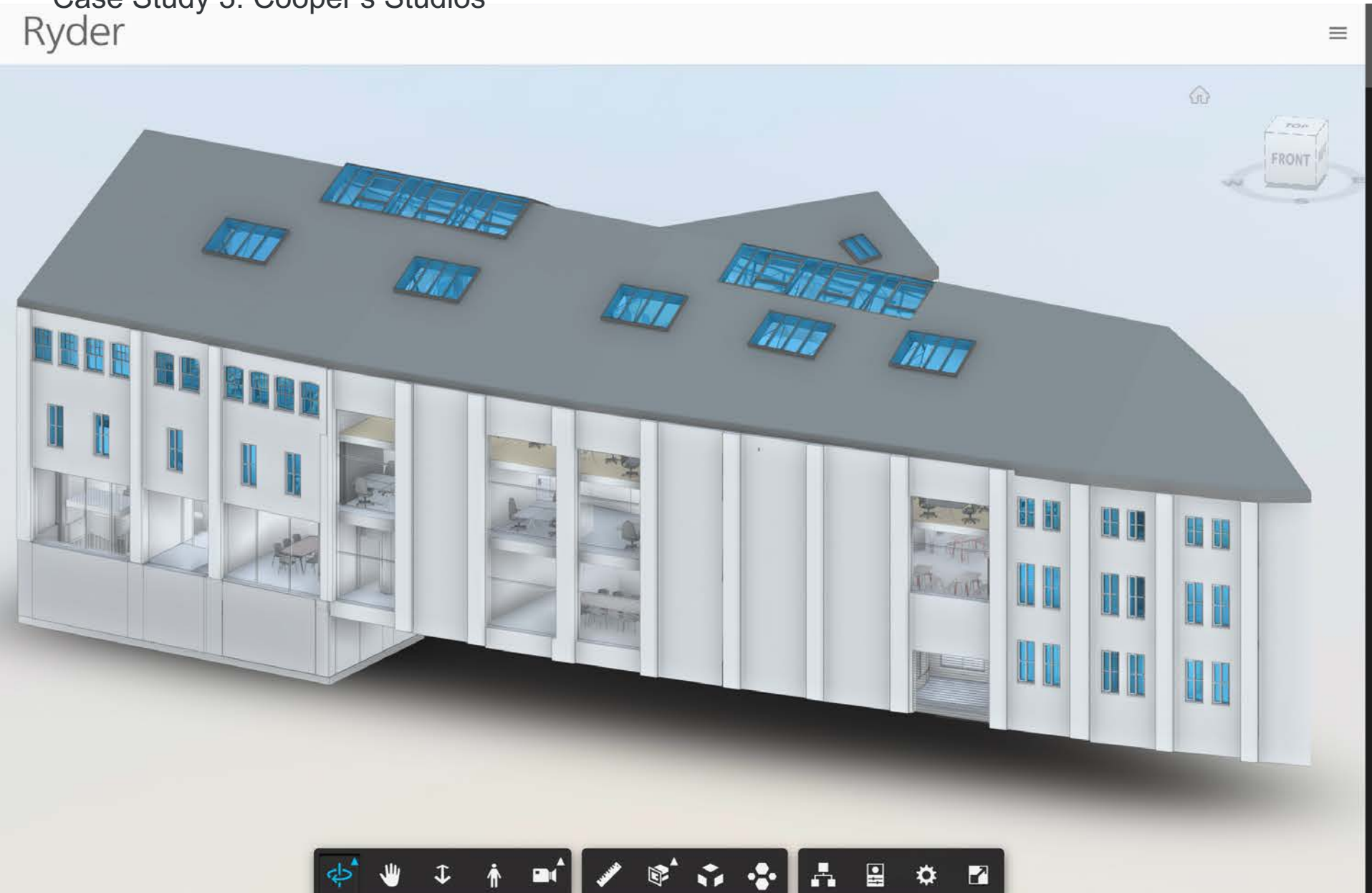
Exploiting data

Case Study 3: Cooper's Studios



Carbon and energy modelling

Case Study 3: Cooper's Studios



Cooper's

OPERATIONAL ENERGY

1400.5 kwph

+ 14% WEEK

- 3% MONTH

- 6% YEAR

CARBON EMISSIONS

37.6 kg TODAY 6985 kg THIS YEAR

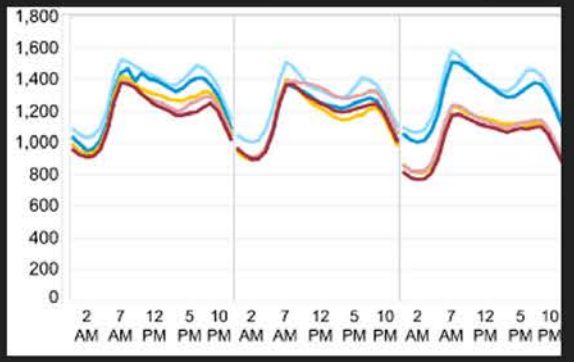
+ 8% WEEK

- 2% MONTH

- 6% YEAR

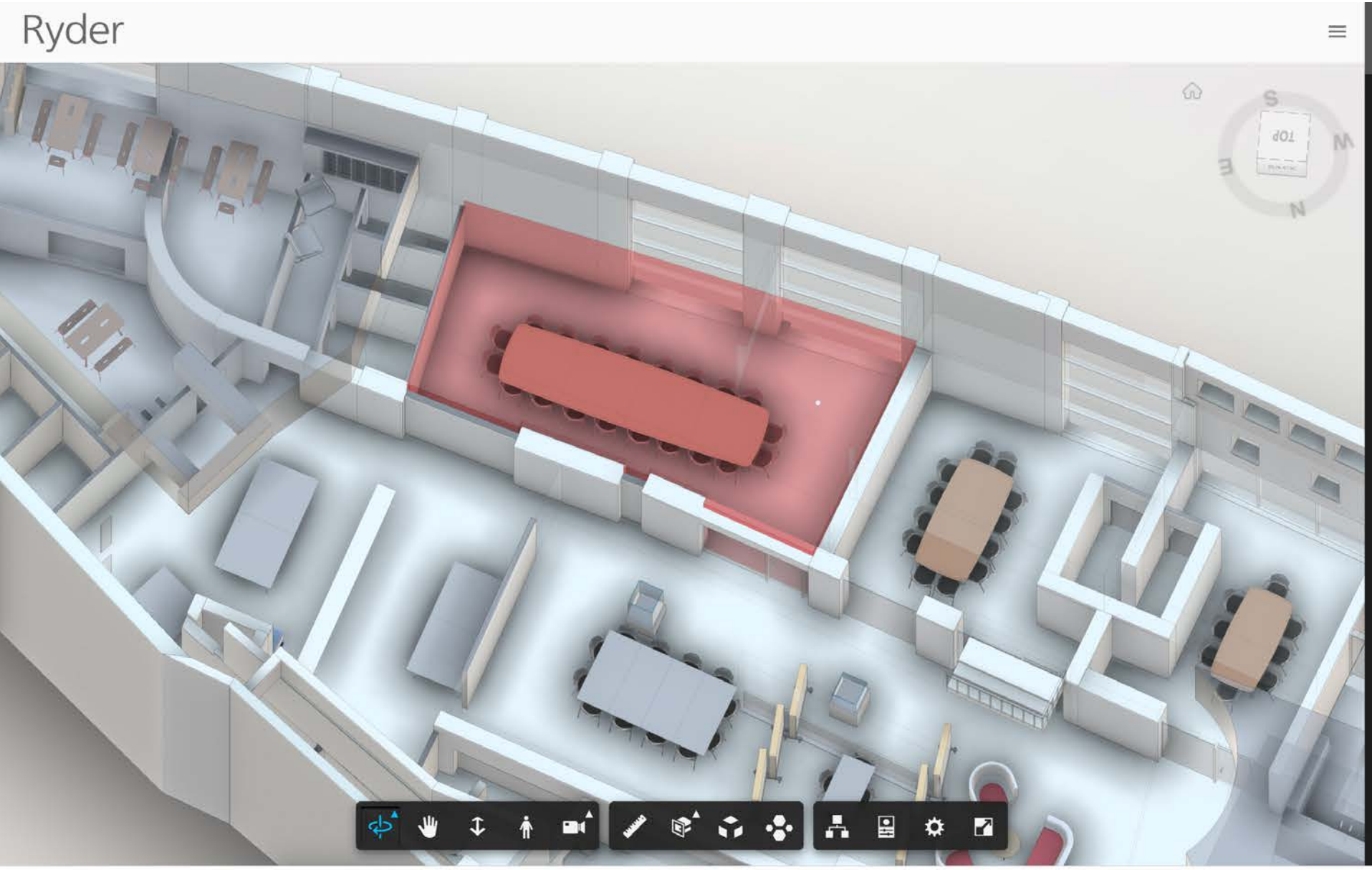
ENERGY CONSUMPTION

16 JUNE 2020 17 JUNE 2020



Predicted versus actual space utilisation

Case Study 3: Cooper’s Studios



Cooper's 3

ROLLING CAPACITY TODAY

120

EXPECTED TODAY

76 PEOPLE

PLANNED UTILISATION

63.3%

ACTUAL TODAY

58 PEOPLE

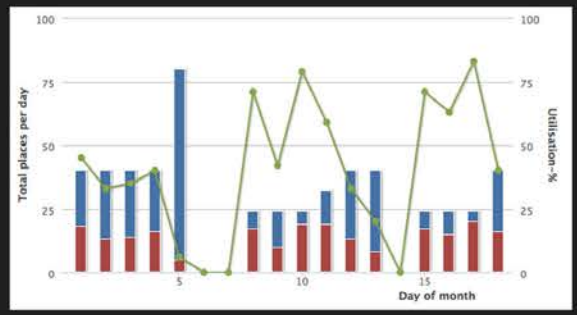
ACTUAL UTILISATION

48.3%

SPACE UTILISATION (YEAR)

71%

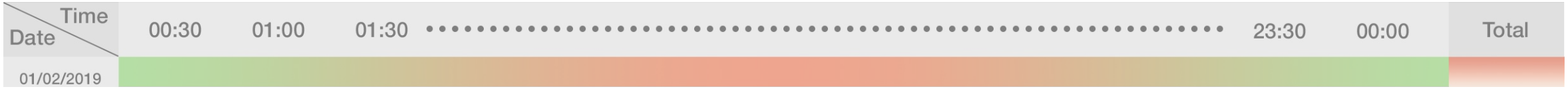
SPACE UTILISATION (MONTH)

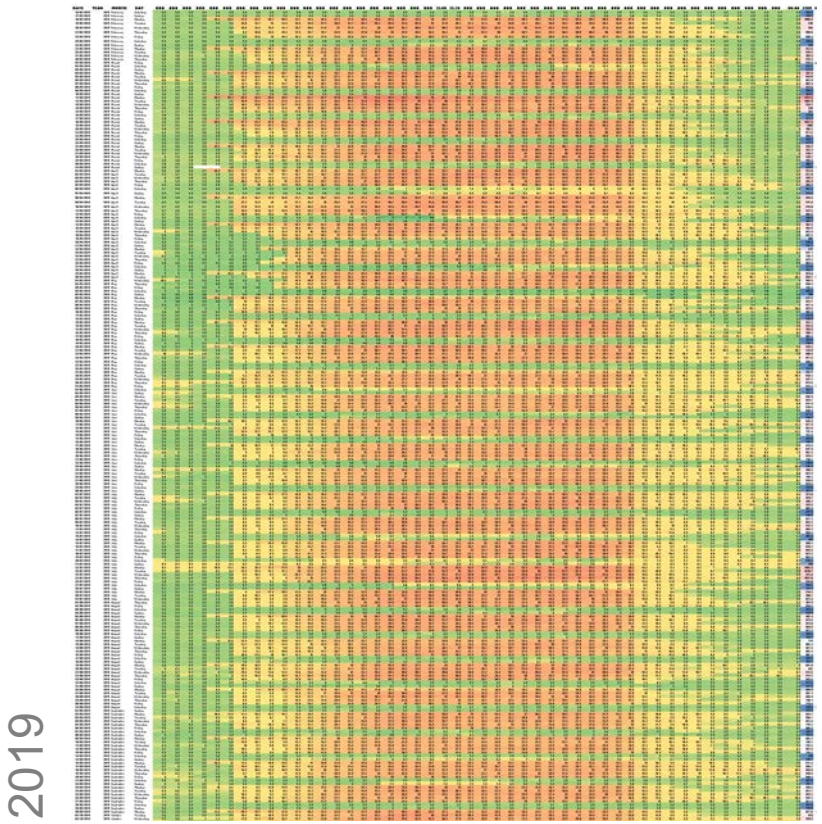


Cooper's Bar

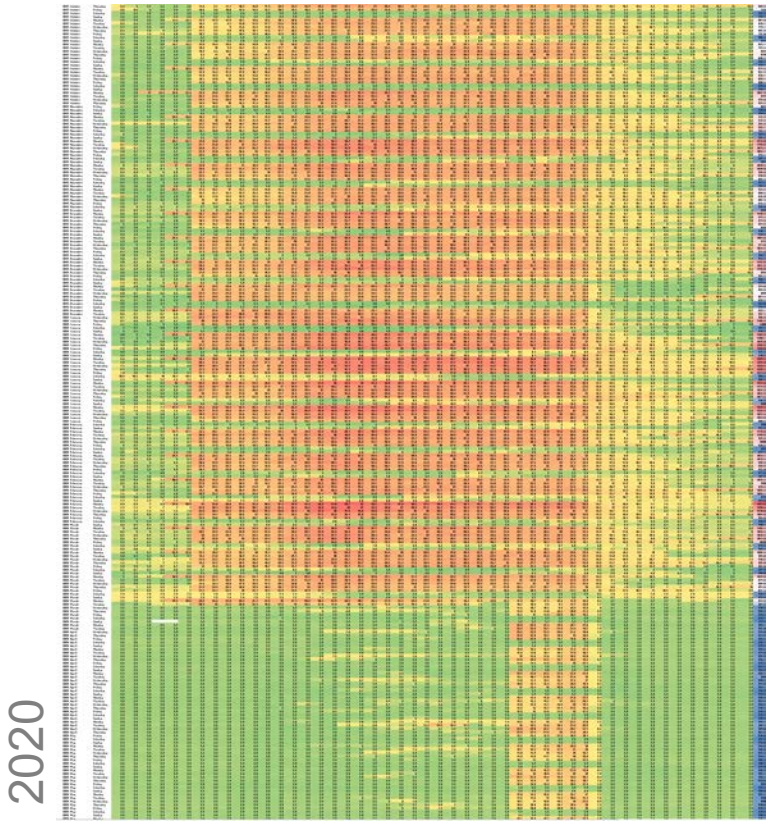
Generating valuable insights

Case Study 3: Cooper's Studios

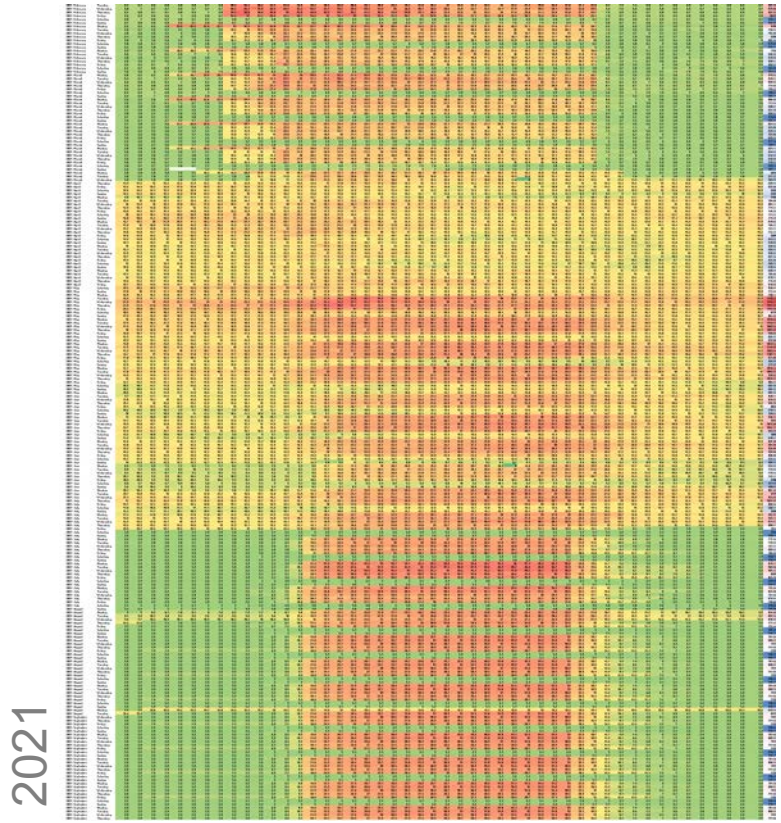




Business as usual



Covid pandemic

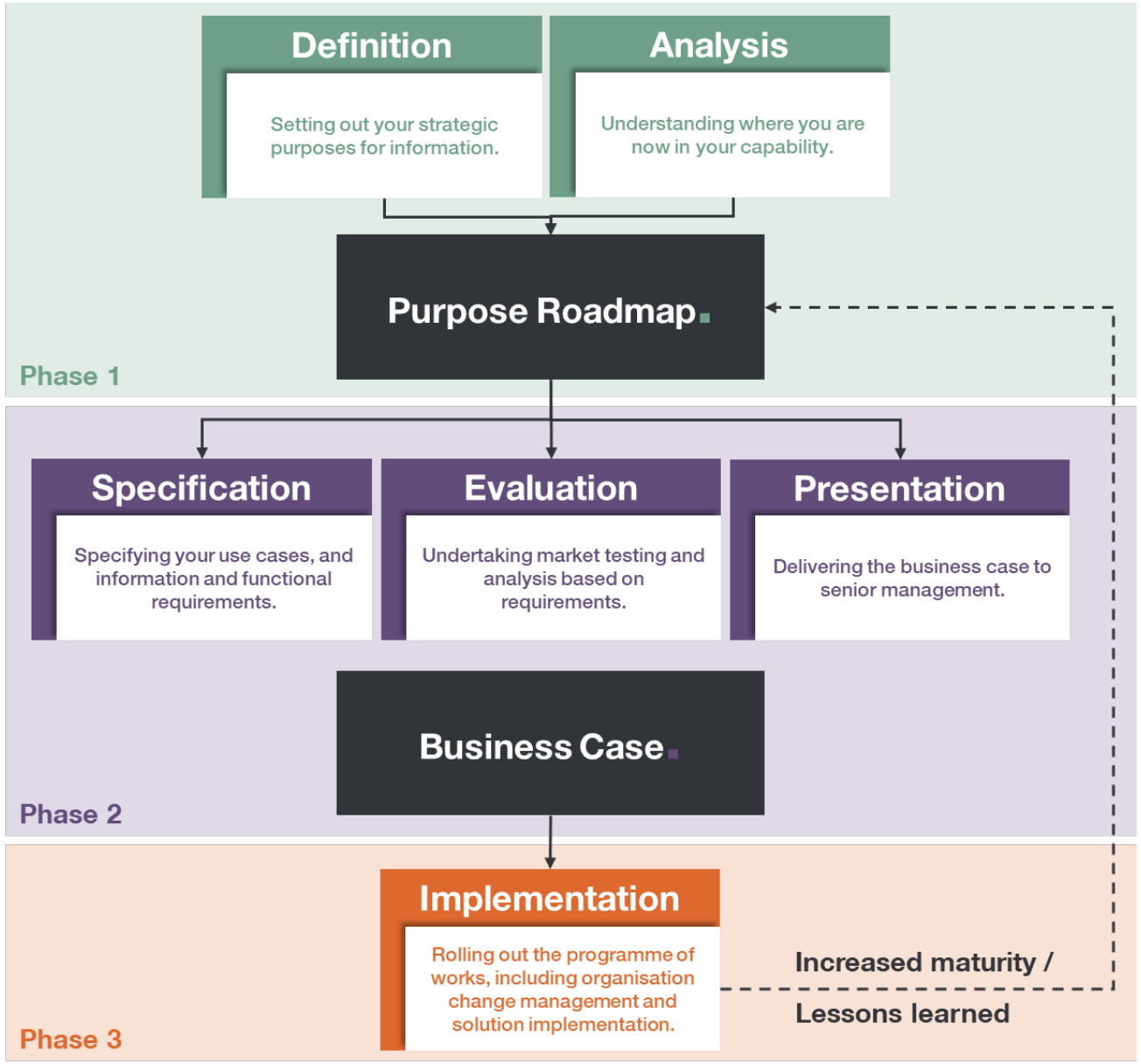


Building Management System failure and fix


Next Steps
ba

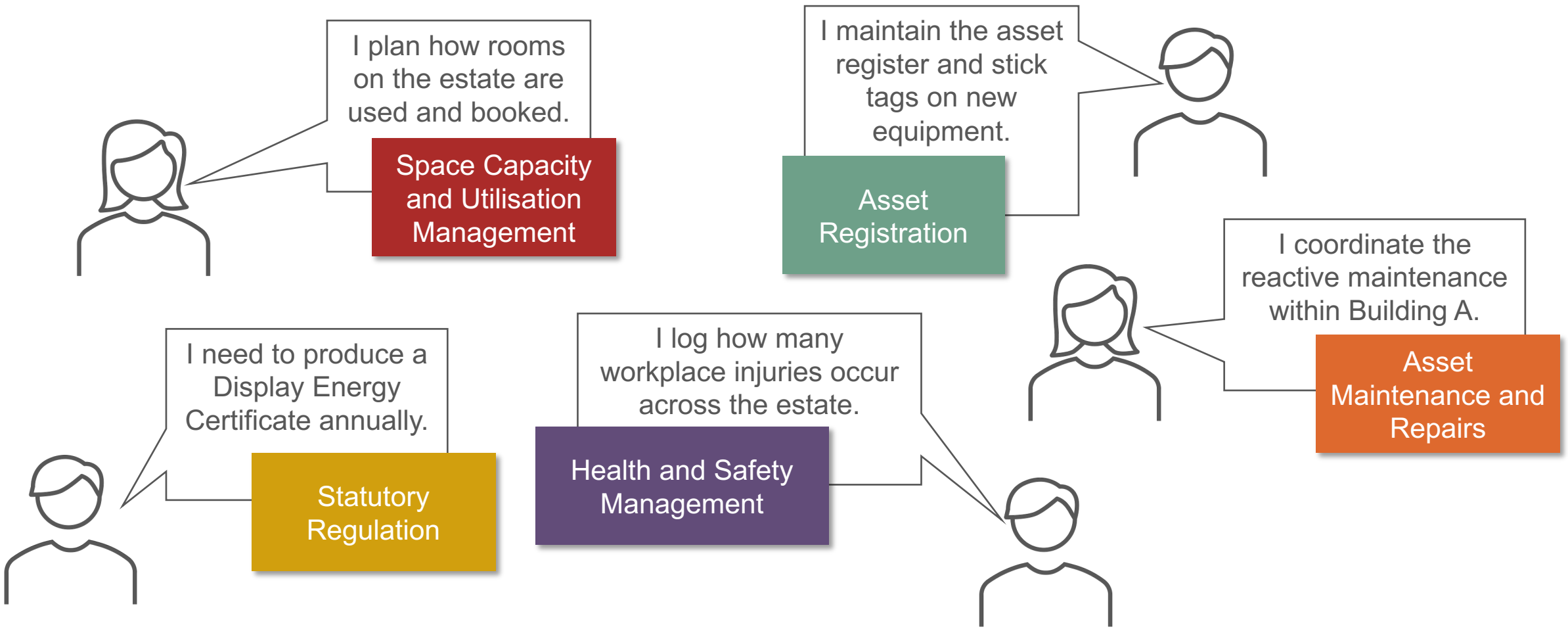
Build a strategy!

Next Steps



Break it down first

Next Steps



Why do you need information?

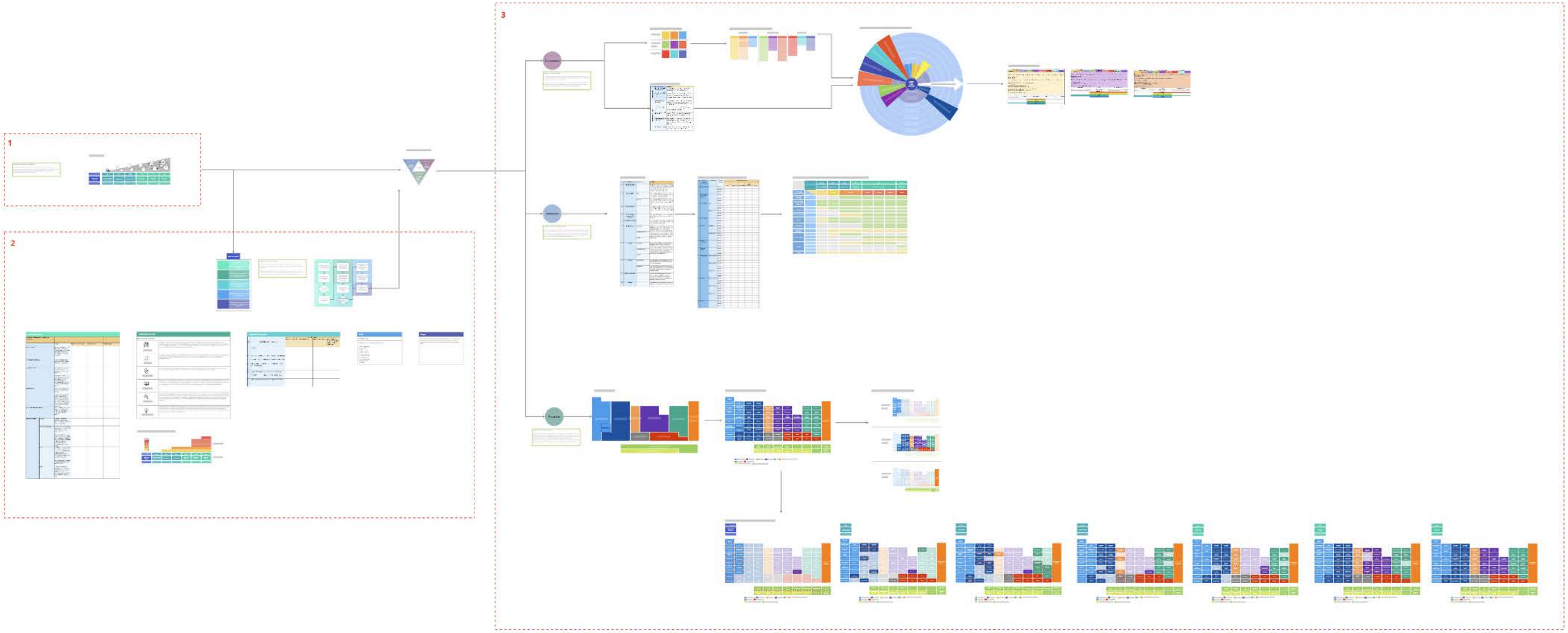
Next Steps

Asset Registration	Business Case	Statutory Regulation & Compliance	Health & Safety Management
Impacts & Environmental Management	Capital Investment & Lifecycle Costing	Asset Maintenance & Repairs	Asset Modifications & Replacements
Asset Decommissioning	Financial Management	Asset Operations	Capacity & Utilization Management

Note: These have been compiled from ISO 19650-3, BS 1192-4, and ISO 55001. It is not exhaustive!

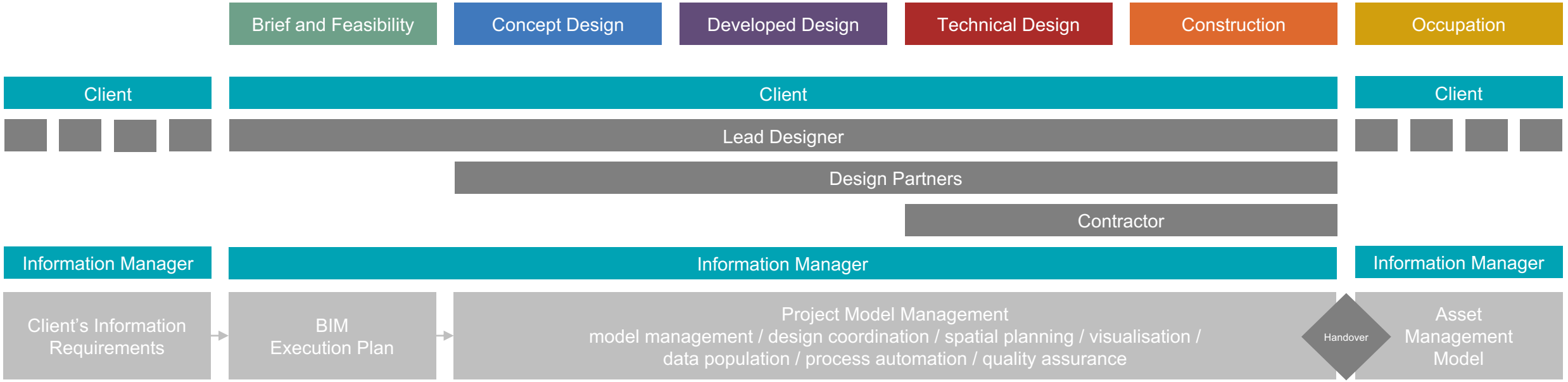
There’s a lot to think about!

Next Steps



…and then ask for it!

Next Steps



Thank you!

Melanie.Robinson@bimacademy.global

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We look forward to seeing you in 2024