



CLARION
HOUSING GROUP

Bringing About Systemic Change In Building Safety

December 2021

Brent O'Halloran, Building Safety Advisor

Brent.ohalloran@clarionhg.com

Clarion's Building Safety System Team



‘One other thing we don’t see enough of in this sector, is good practice sharing and a willingness to learn from others...’*

****Dame Judith Hackitt, Homes UK – 1 December 2020***

Clarion have created a safety case team and a building safety manager team

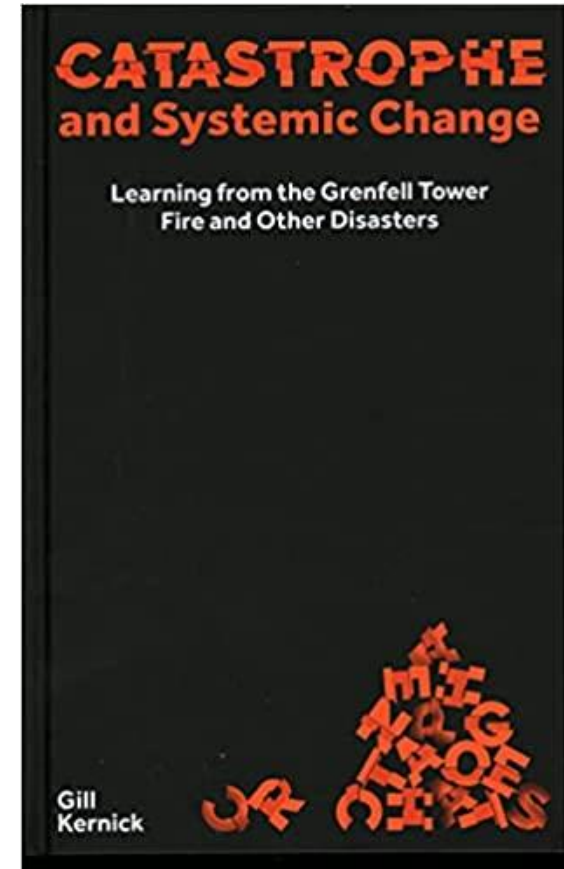


Systemic change – Why now?

‘Disasters don’t just happen, we create them’ (Gill Kernick)

The way we manage buildings is flawed;

- We are too often reactive; we need a proactive safety regime in place
- The compliance approach is passive; it proves you’re compliant, it doesn’t prove your building is safe
- We must think of our buildings as integrated complex systems; so we can understand the impact of our actions
- We need to be curious about our buildings; search out the vulnerabilities in our safety management system
- Adopt the state of; ‘chronic unease’



Compliance v Building safety

Compliance

Why?; Statutory requirement

What?; Tends to focus on the big six

How?; Functional management

Measure?: Performance management by discipline

Monitored?; Fragmented (linear) monitoring

Insight?; Uses numerical analysis

Mantra; Does the building comply?

Building safety

Duty of care

Considers the whole building

Integrated management

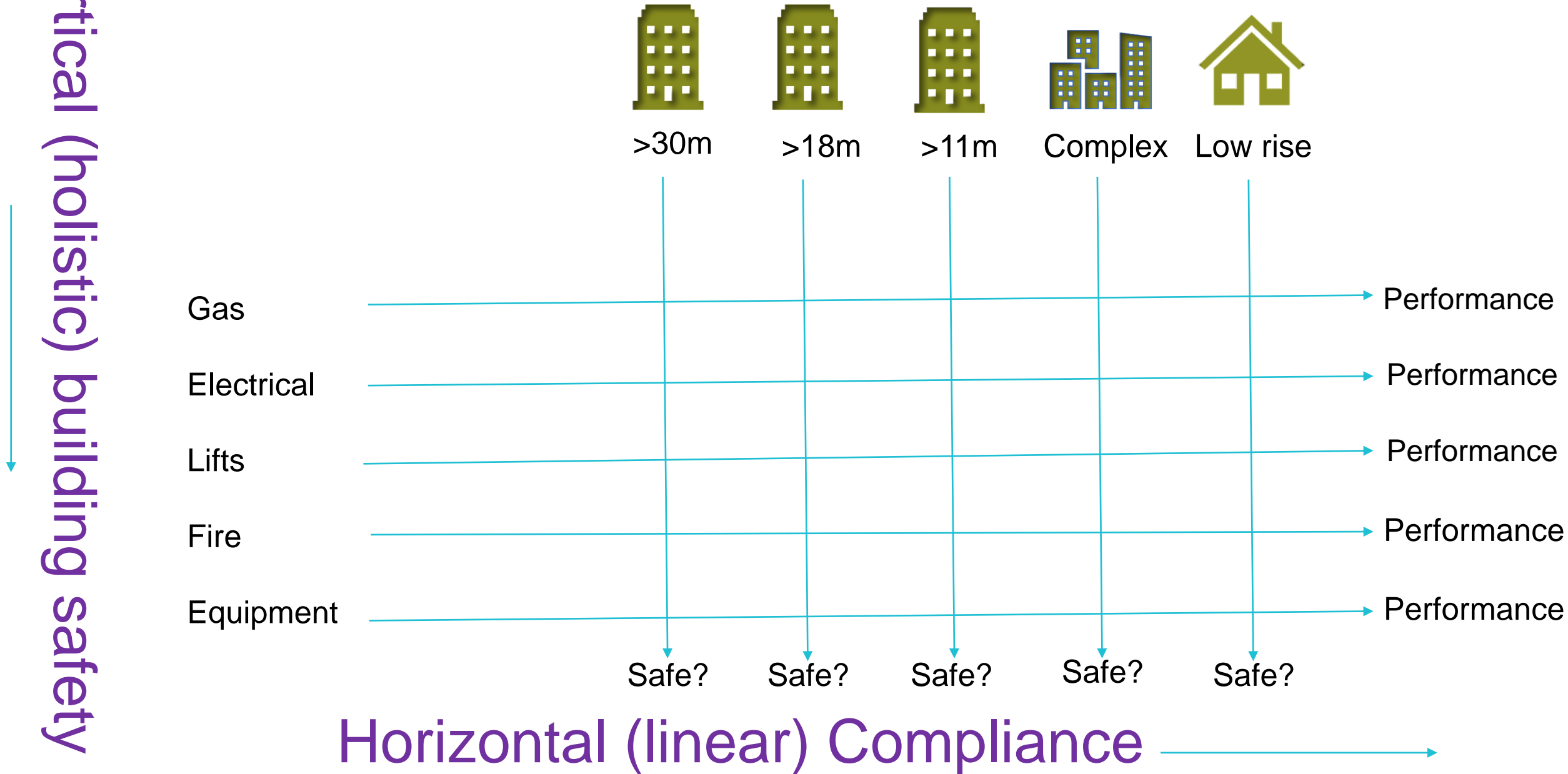
Building-centric performance management

Holistic monitoring

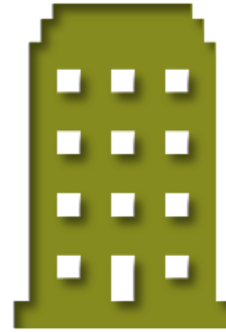
Applies narrative insight supported by evidence

Is the building safe?

Holistic building safety versus Compliance



Holistic building safety versus Compliance



Building performance

Gas

Performance

Electrical

Performance

Lifts

Performance

Fire

Performance

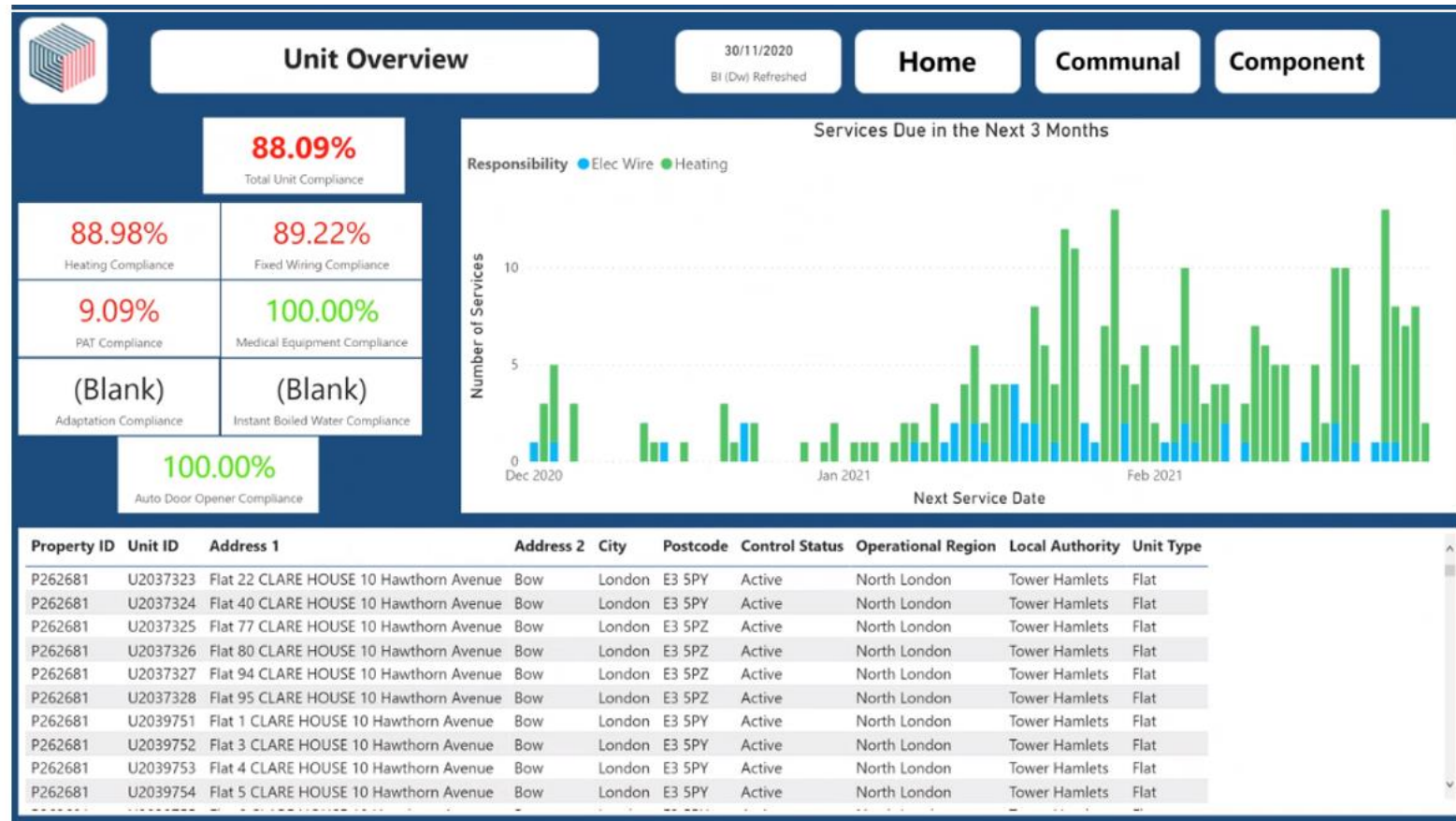
Equipment

Performance

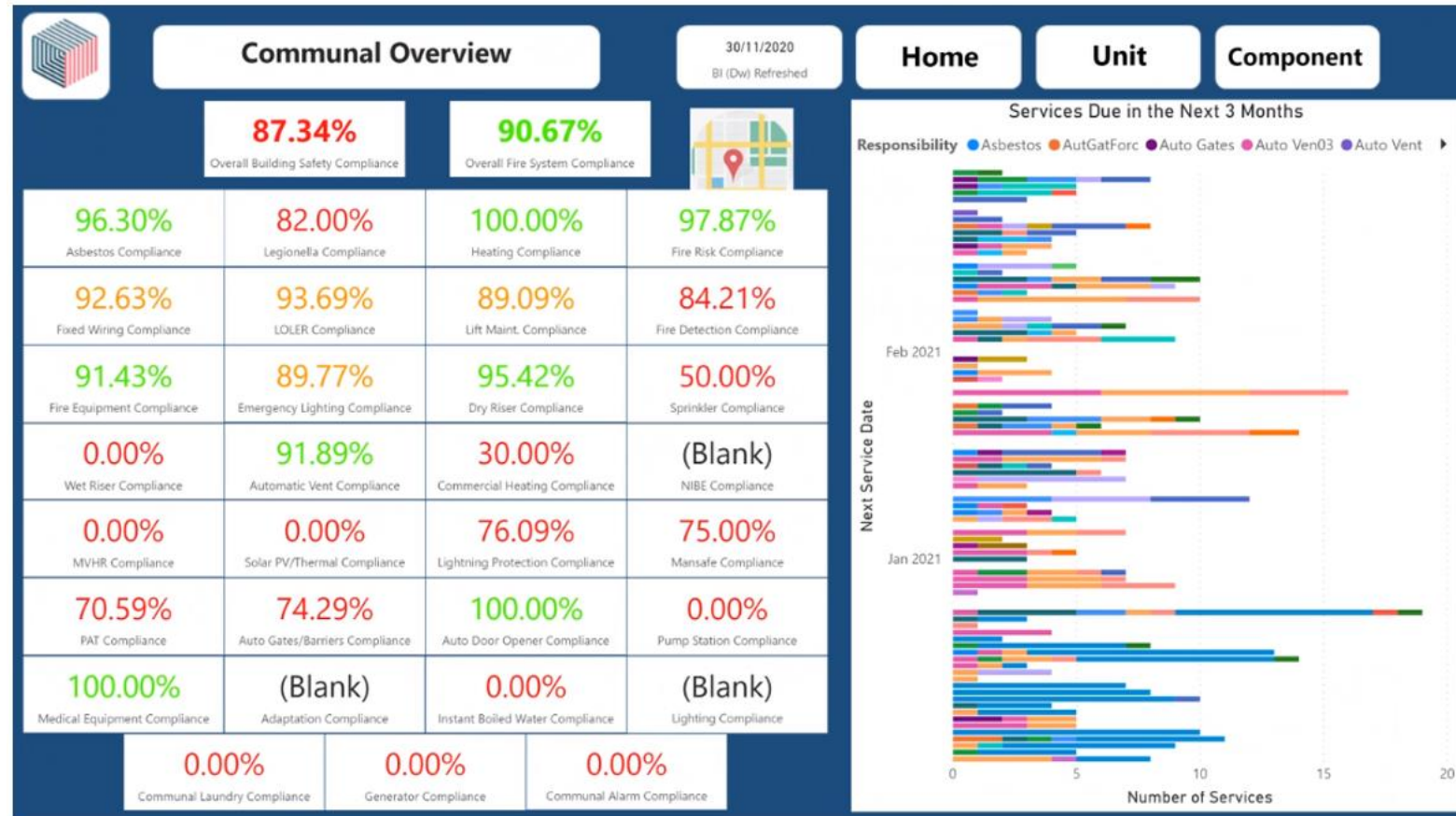
Horizontal (linear) Compliance

Vertical (holistic) building safety

Building Performance Reporting Building Dashboard...



Building Performance Reporting



Building Performance Reporting



Making the case for safety

Definition

The **safety case** is an **evidence-based** approach in which the duty-holder identifies the **hazards and risks**, describes how risks are controlled, and describes the **safety management system** in place, including emergency procedures in the event of an incident.

This applies to existing buildings as well as new builds



CLARION
HOUSING GROUP

Why build a safety case?

The legal imperative

A requirement on the duty-holder to present a **safety case** to the **Building Safety Regulator** at regular intervals to check that building safety risks are being managed so far as is reasonably practicable.

This requirement is now written into the draft **Building safety bill** (section 74) which is set to become law in the next Parliamentary sitting.

The moral imperative

As a sector the way we currently manage higher-risk buildings needs to improve;

Too much is being left to chance!

The Safety Case

Piper Alpha

- Operator kept pumping oil even after fire was discovered
- 167 fatalities



Safety case

Used in the following *Life Critical* sectors...

Oil and Gas	- PiperAlpha 1988
Petrochemical	- Buncefield 2005
Nuclear	- Sellafield 2005
Defense	- Afghanistan 2006
Aerospace	- Lockerbie 1988
Medical	- Northwick Park 2006
Rail	- Clapham 1988
Housing	— Grenfell

Other industries e.g. aviation, finance, oil and gas, have undergone major culture change, often in the wake of very serious incidents and loss of life.

Bekesbourne Tower



CLARION
HOUSING GROUP



A safety case methodology



ADELARD



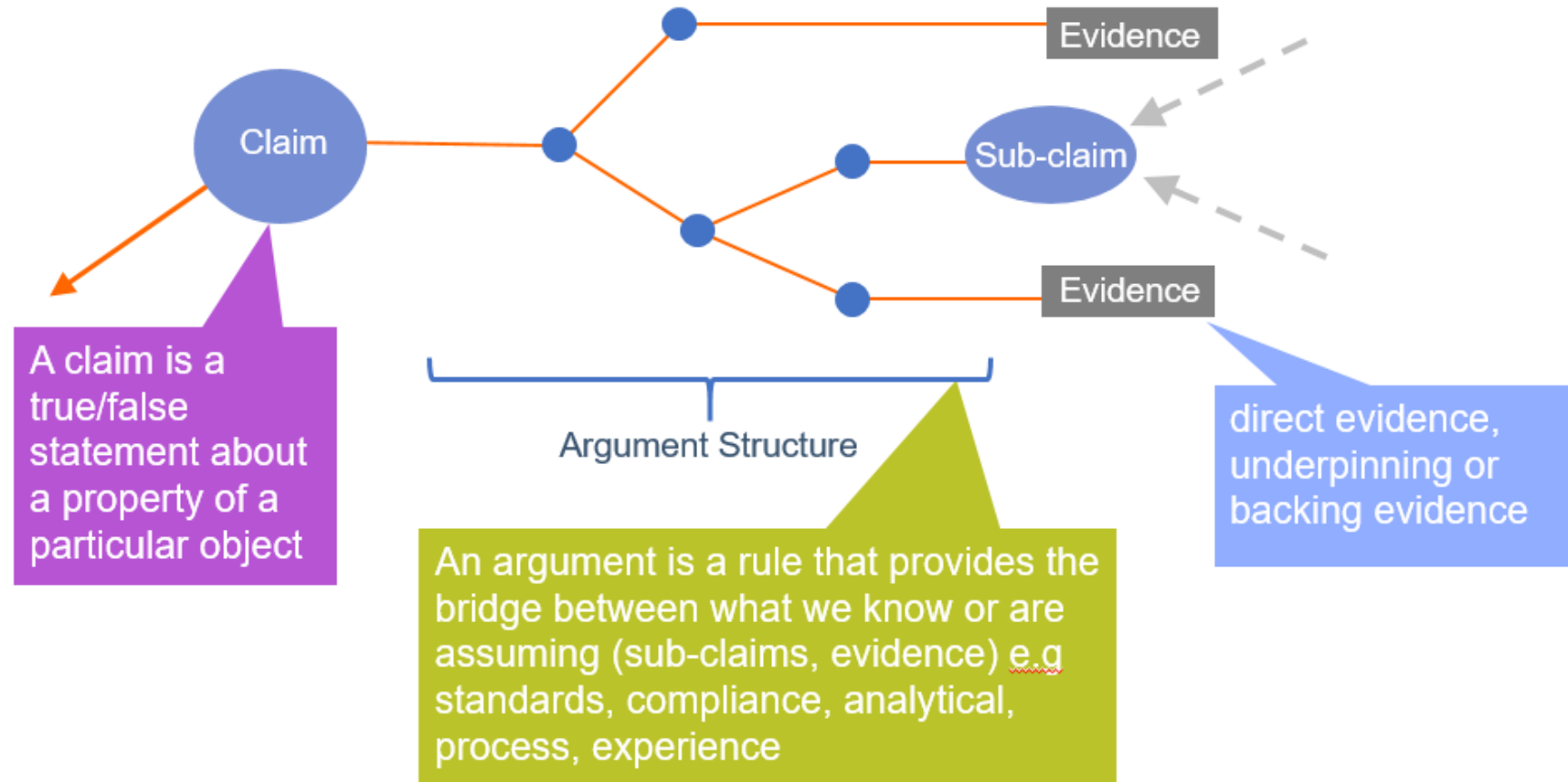
CLARION
HOUSING GROUP

We partnered with Safety Case experts; Adelard

Adopting a methodology to construct the safety case is important because it provides a sound logical base to build upon, and for us, **Claim-Argument-Evidence** works well in this respect.

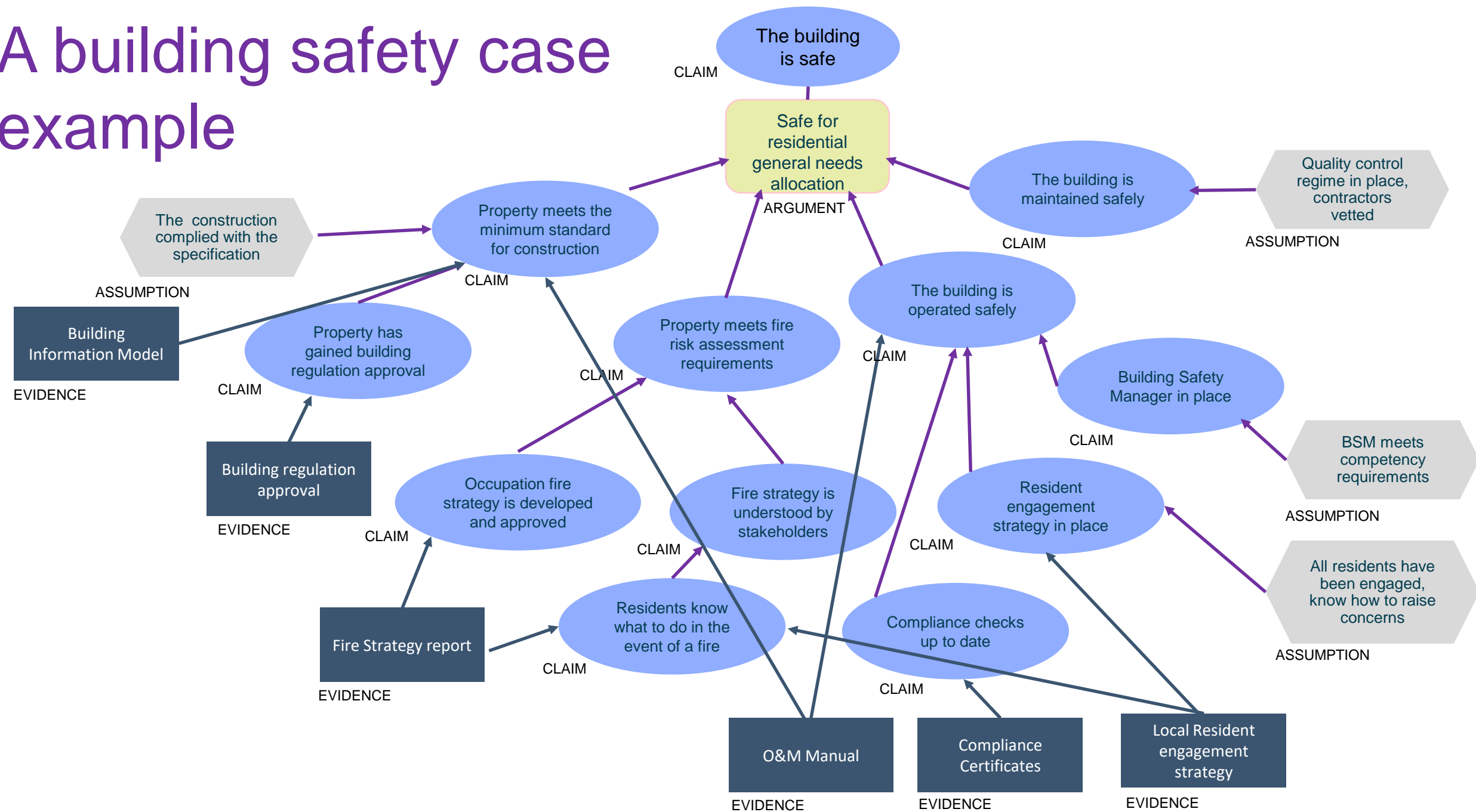
As a building is a complex system, with lots of interdependencies and interactions, it's helpful to have a framework tool to aid with constructing, navigating, and explaining the safety case. We used Adelard's **ASCE** tool

Safety Case based on a structured argument

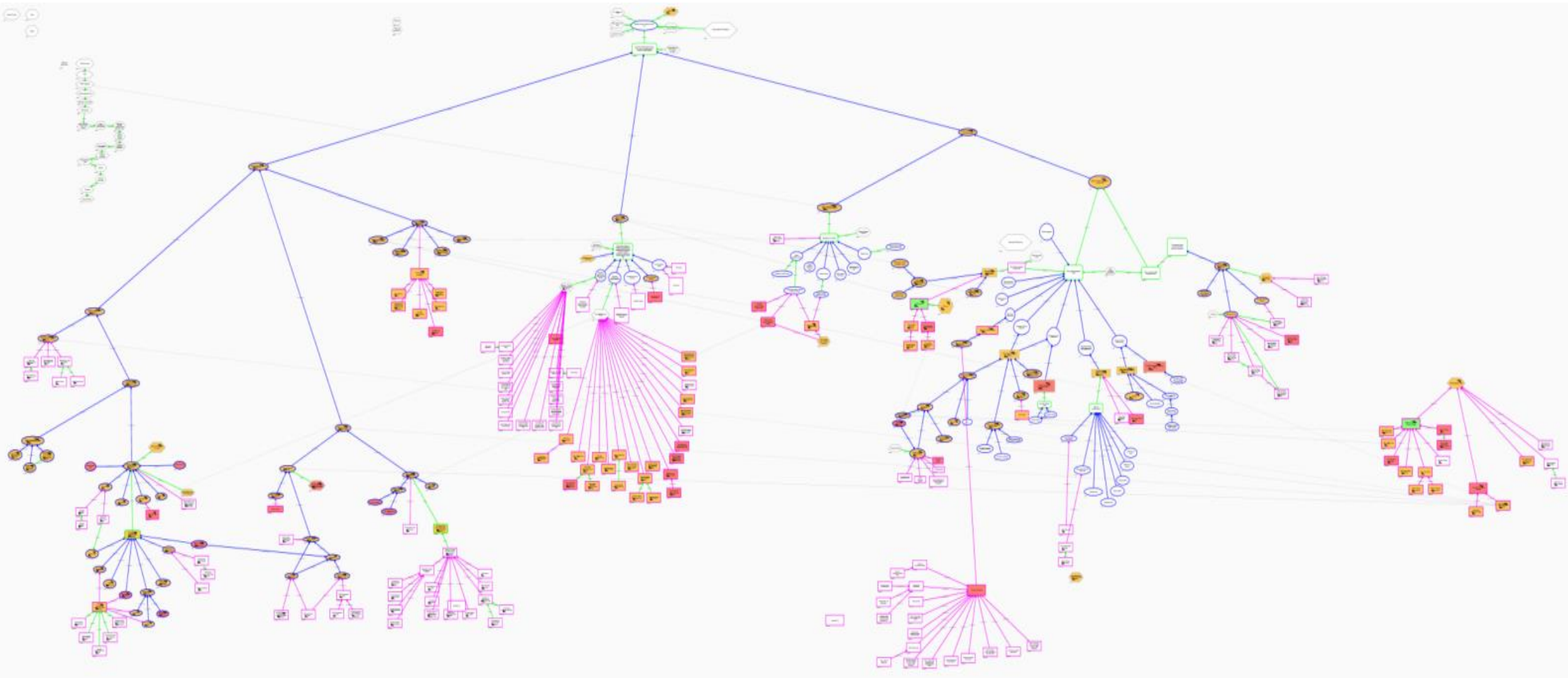


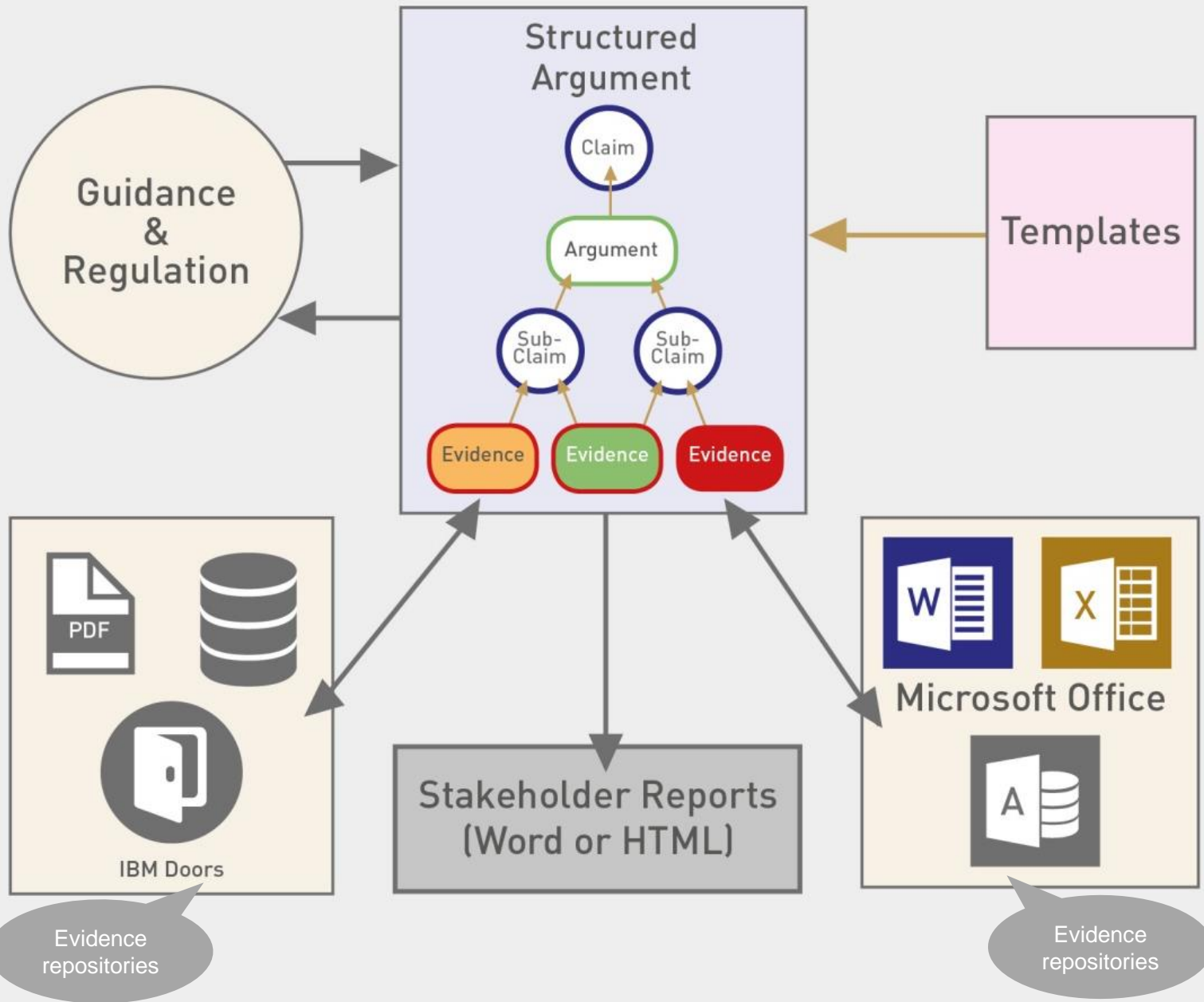
Claim – Argument - Evidence

A building safety case example



Clarion's Safety Case using Claim-Argument-Evident methodology set out in ASCE





Safety case overview



CLARION
HOUSING GROUP

What should be in a building safety case?

- System Description
- The safety argument
- Safety management system
- Hazard identification and risk analysis
- Bow-tie analysis for fire and structural integrity
- Golden thread proving the provenance of the building
- Current compliance and performance information
- Resident engagement strategy
- Fire and emergency file
- Action plan



What is safe?

We have committed to achieving a **Comprehensive Building Safety Regime** for each of our HRBs

With the following five conditions;

1. A Building safety manager in place



2. A localised resident engagement strategy

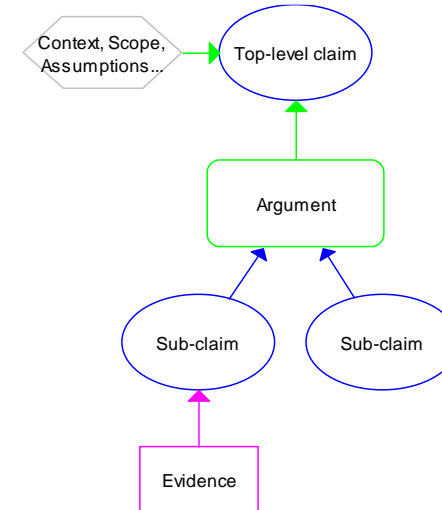


3. A golden thread



4. A structured safety case

5. A safety management system



Learning points

The existing compliance approach is not enough
Building safety requires a system thinking approach
You need to be able to demonstrate the case for safety for each HRB
A methodical approach to building your case is required;
Claim-Argument-Evidence provide useful building blocks
Build your argument that your building is safe to occupy
Think about the system vulnerabilities;
What can go wrong? How could it go wrong? How bad could it be?



CLARION
HOUSING GROUP

What controls do you have in place?

At this very moment for each of your HRBs...

Do you know who lives in your building? Who's vulnerable?

Do your residents know how to raise concerns? What to do in the event of a fire?

Have you identified all of the major hazards?

Have you mitigated all of the risks to at least a tolerable level?

Do you know who's managing and working in your building? Are they competent?

Do you have someone responsible for the safety of your building?

Can you articulate your safety management system?

Does your case for safety stack up?

Two quotes to leave you with...

‘This culture change is needed now, it cannot and must not wait for the regulation to drive it. There’s a moral imperative for that change to happen now.’*

‘...And the fact that some have already done this, and stepped up, is proof that there are things which can and should be being done now to make buildings safer. If they can do it why do others feel the need to wait until someone tells them?’*

* Dame Judith Hackitt, 1 December 2020



CLARION
HOUSING GROUP

Bringing About Systemic Change In Building Safety

December 2021

Brent O'Halloran, Building Safety Advisor

Brent.ohalloran@clarionhg.com