

Designing Innovative Smart & Healthy Buildings

Bruce Duyshart

Principal

Meld Strategies

**SMART &
HEALTHY**
BUILDINGS SUMMIT

24-25 MARCH 2021

FUTURE PLACE
THE NEW REAL

meld.

agenda

What is a **Smart Building**?

Green to Smart - Haven't we been here before?

What is the process of creating an **innovative, smart and healthy building**?

what is a smart building?

smart building definition

Meld Strategies defines that a **Smart Building** is:

“A building that is safer, more comfortable and productive for occupants and more operationally efficient and resilient for owners over its *lifecycle*.”

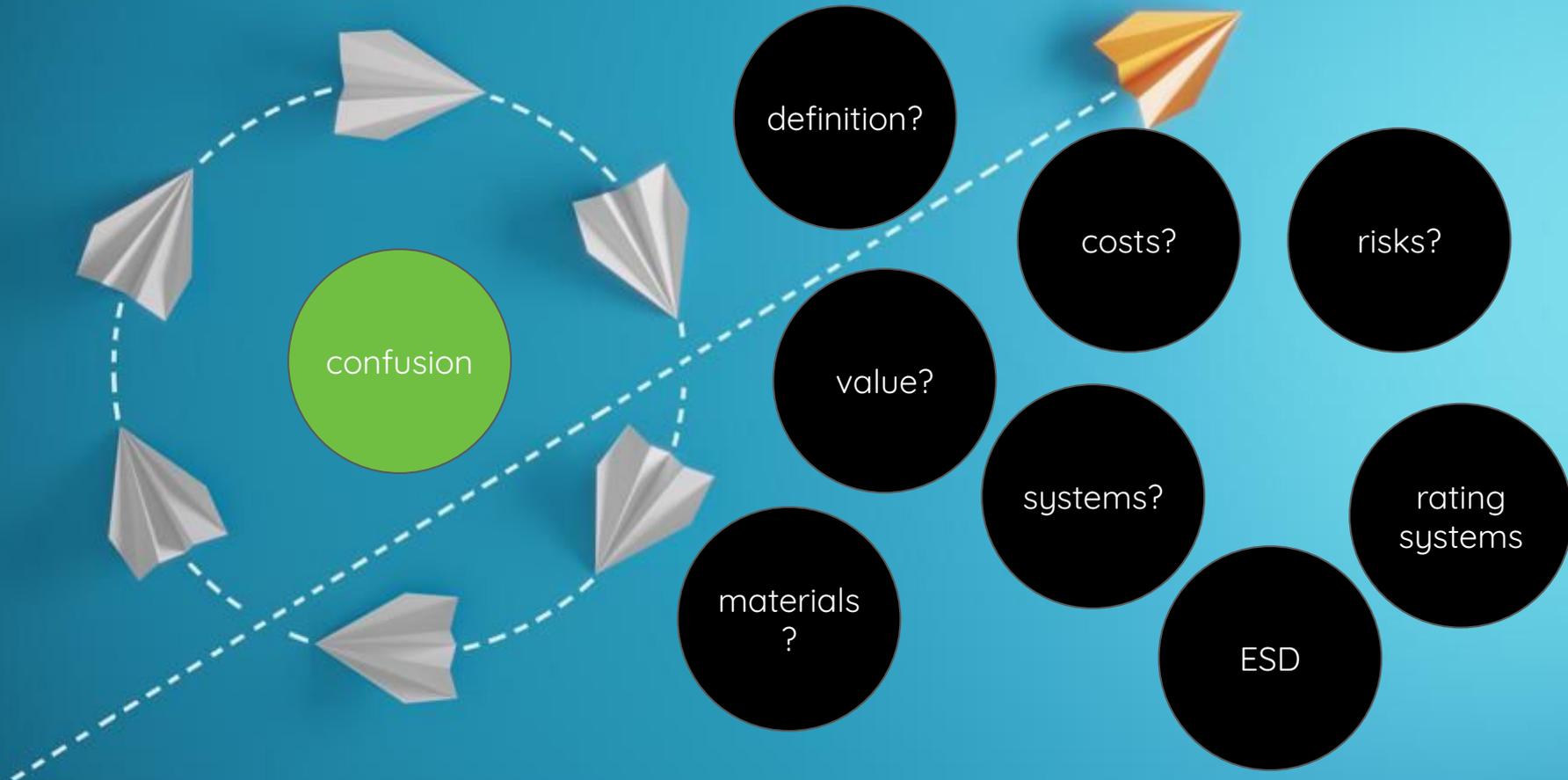
smart tenancy definition

Meld Strategies defines that a **Smart Tenancy** is:

“An office tenancy that is safer, more comfortable, energy efficient, spatially efficient and productive for occupants. It shares a *symbiotic* and *integrated* relationship with the base building in which it is located.”

green to smart - haven't we been here before?

green buildings have been disruptive

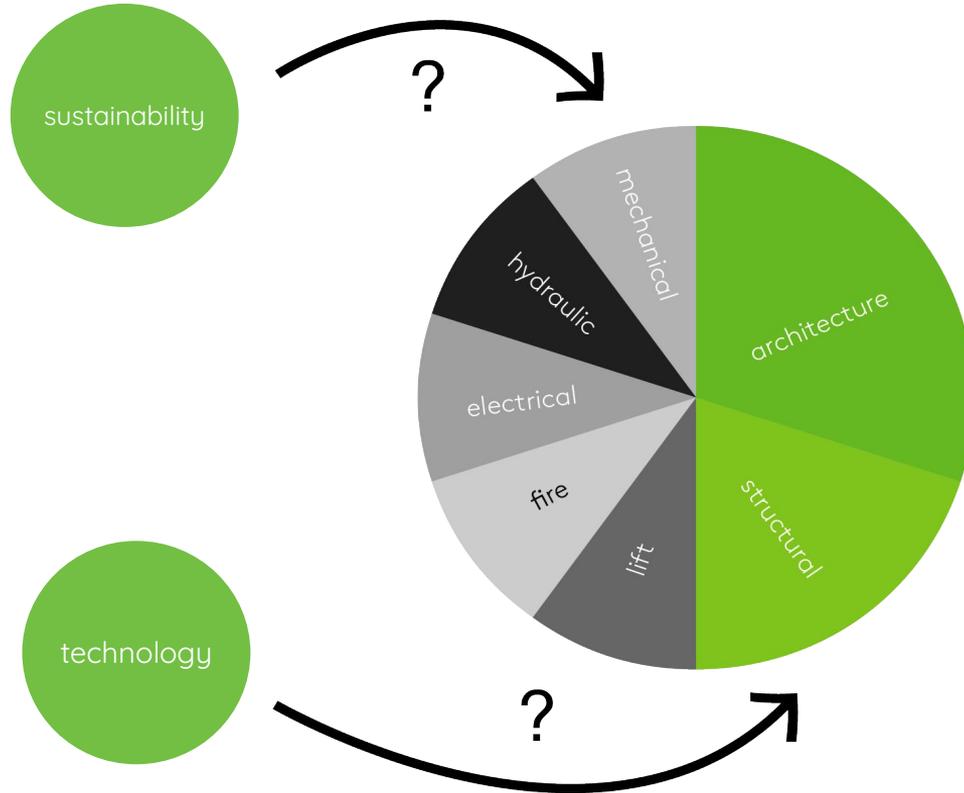


there's some (relatively) new kids on the block

sustainability

technology

how do they fit as a design discipline?



hang on. we're about to go on another ride



creating innovative, smart and healthy buildings

smart building characteristics

improves energy efficiency



supports sustainability



improves safety and security



improves resilience

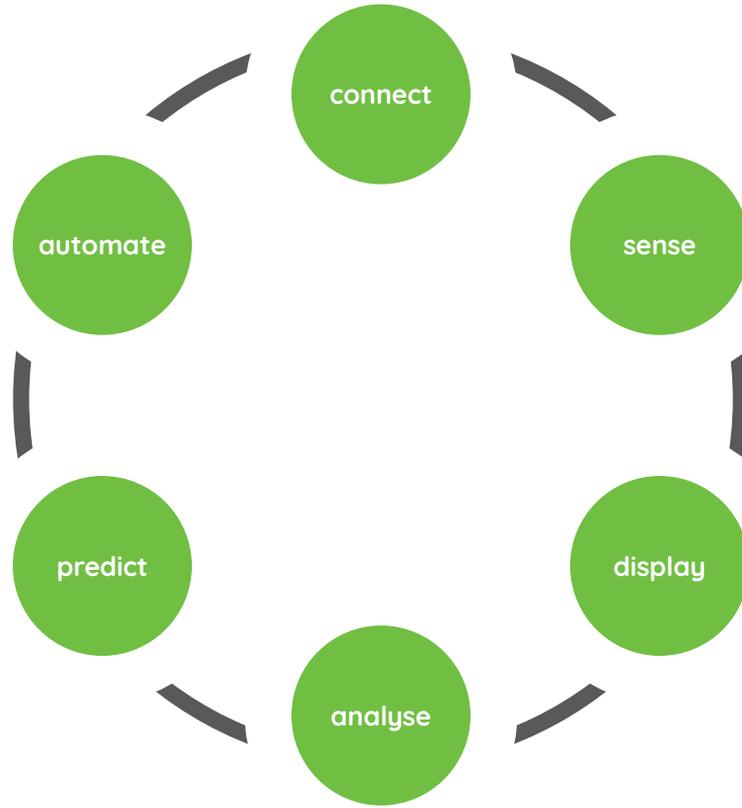


maintains healthy environments

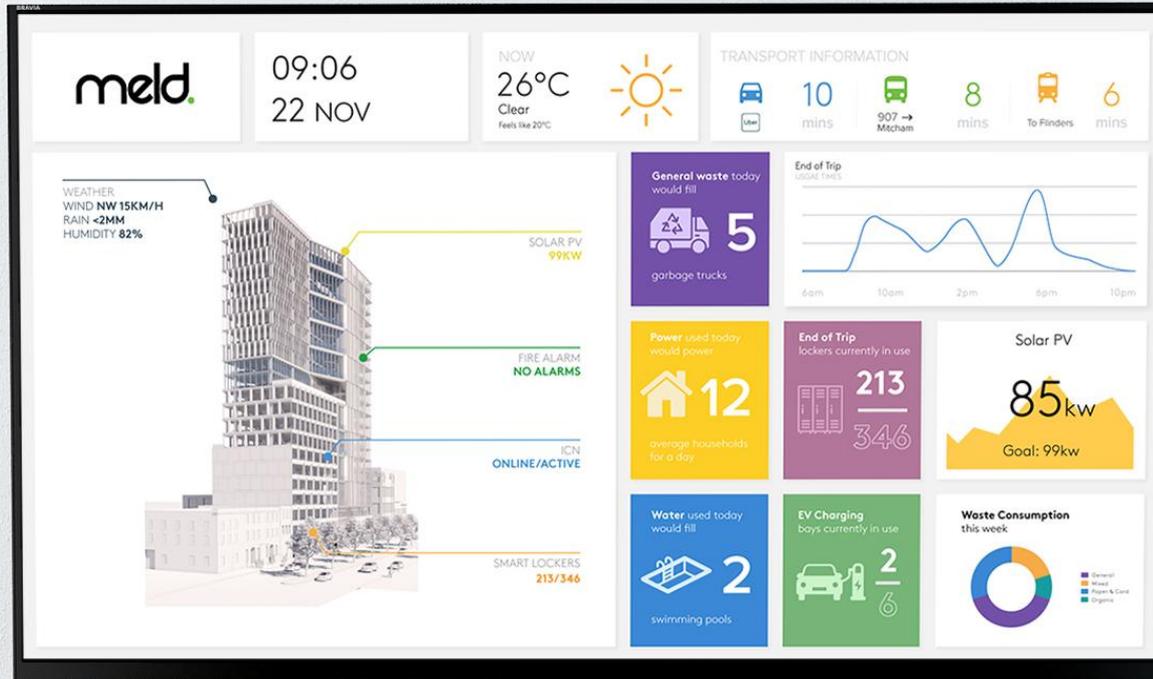


37.8°C Baseline 1.1°C	3821 Manager	Jason Staff 12 times
		Javier Delivery 7 times
		Jimmy VIP 4 times

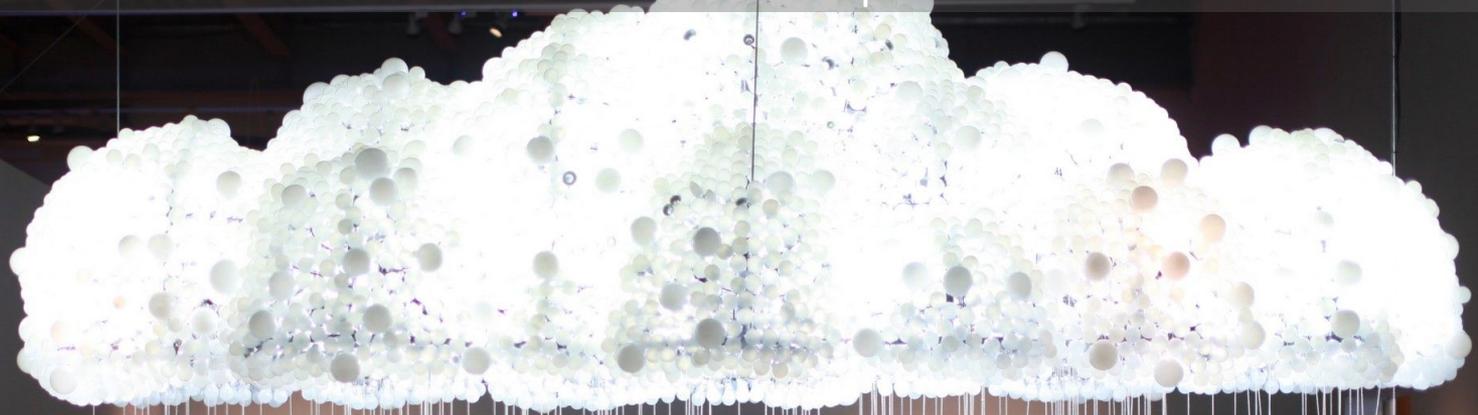
adopts a data centric approach



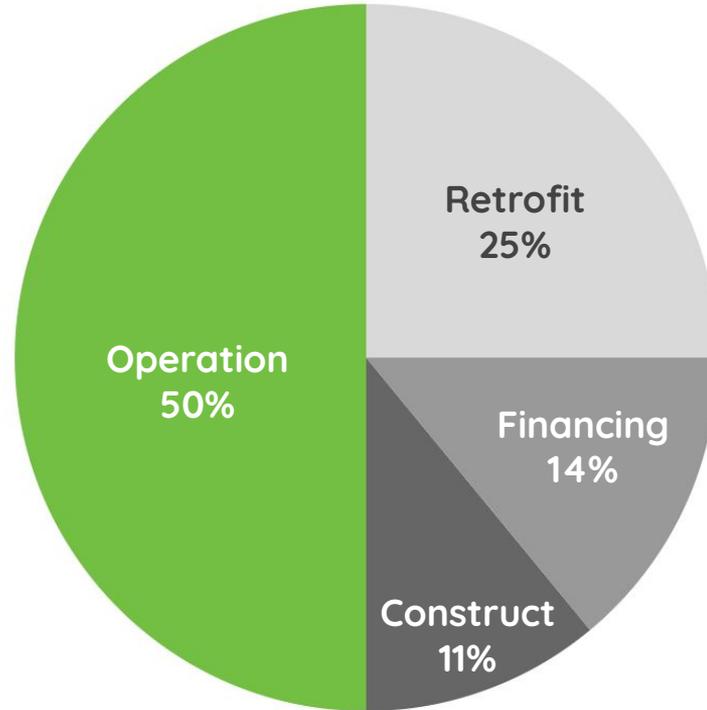
provides better data transparency



creates better user experiences

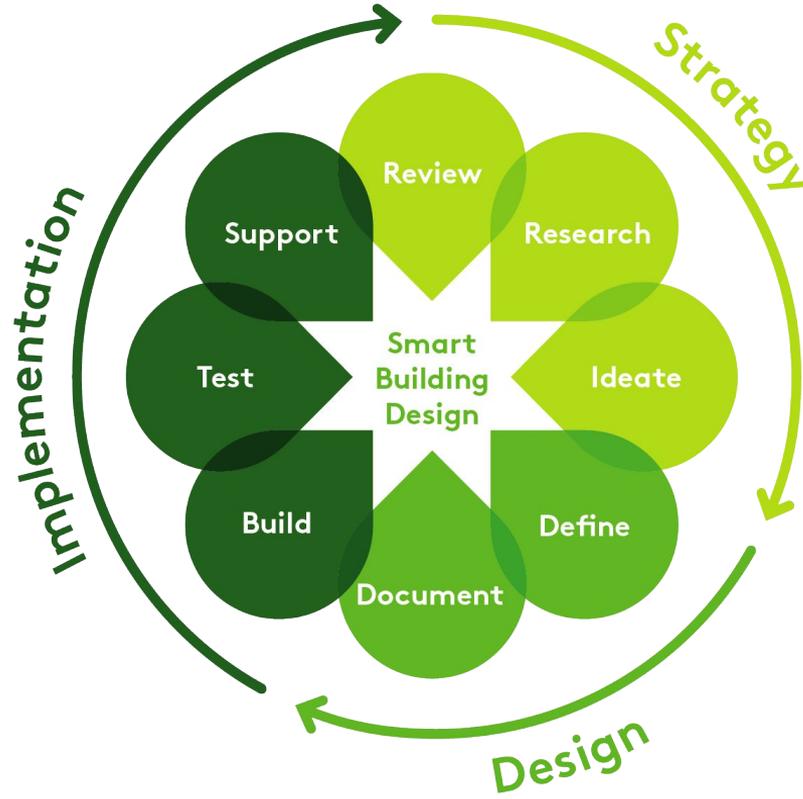


consider whole of life cycle cost

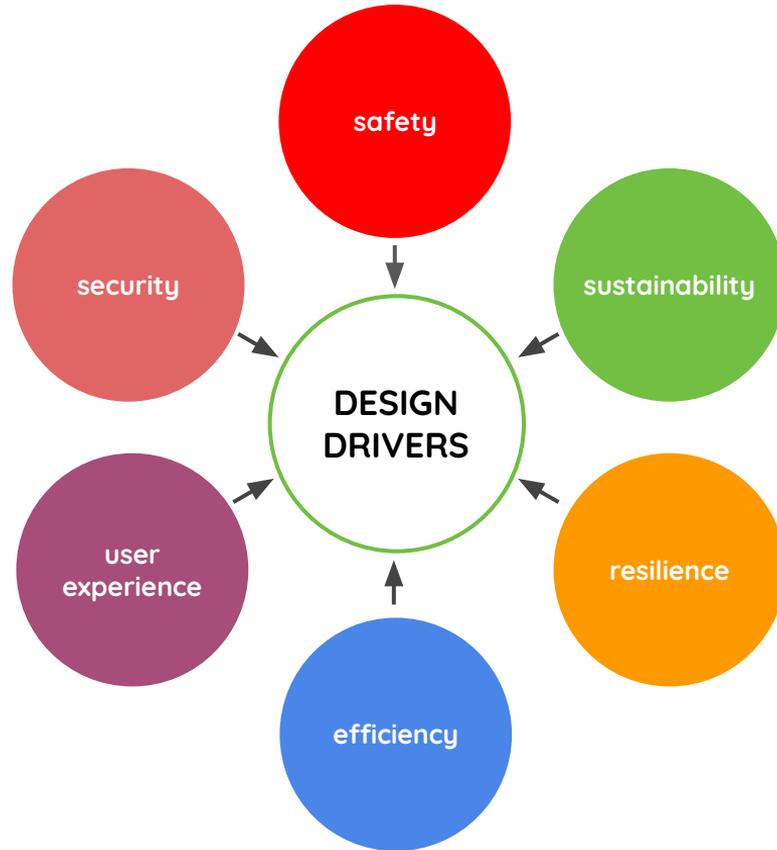


process

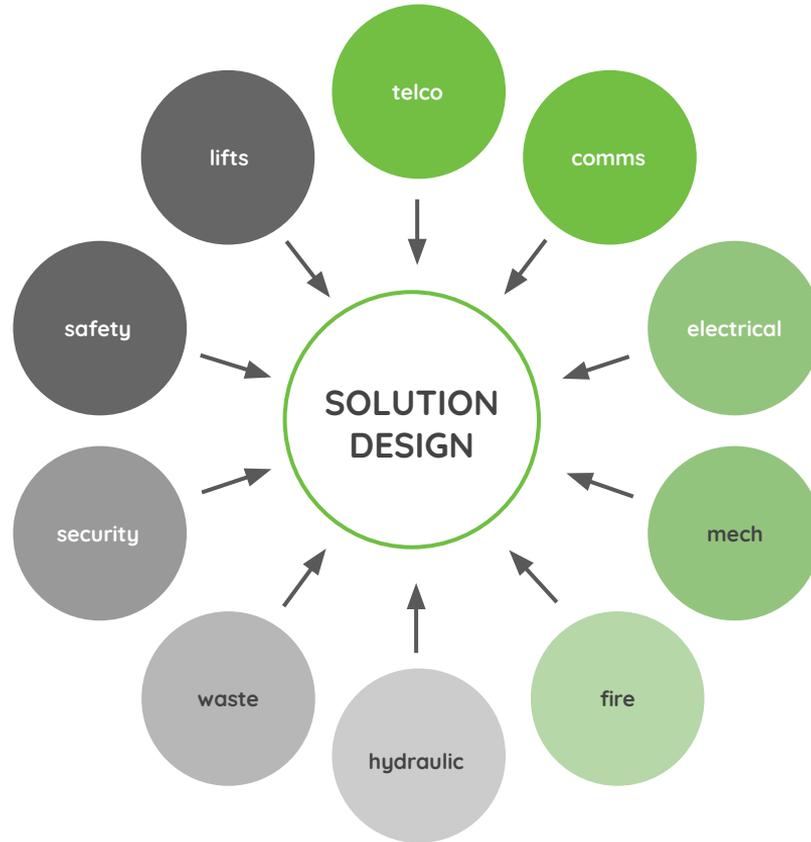
the process



considers a range of drivers



requires a holistic design approach



considers all stakeholders needs



prioritise occupant vs operational technologies



Occupant Facing



Access control



Smart lockers



Visitor mgmt



Smart bathrooms



Digital signage



Mobile apps

etc.



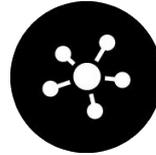
Operational Technologies



Security



Car park mgmt



Network comms



Energy mgmt



Fire



Hydraulic



Lifts



Lighting



Waste



Mechanical



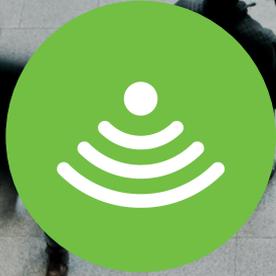
Telecomms



Building Dashboard

etc.

utilise technology to create frictionless, touchless solutions



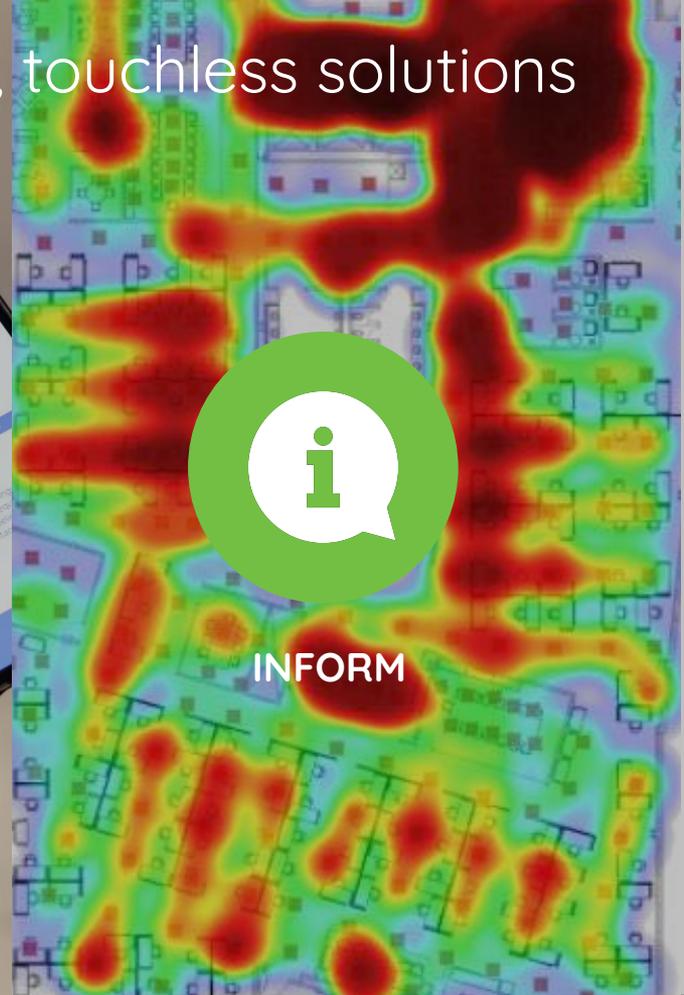
SENSORS



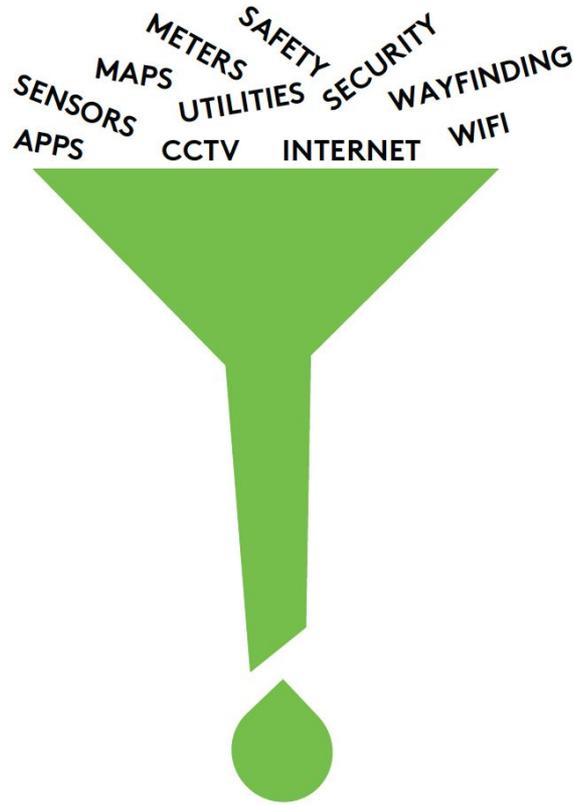
TOUCHLESS



INFORM



define an optimal mix of technologies



includes a range of foundation technologies & approaches



Open Standards

Use of open industry standard, non-proprietary building engineering components;



Integrated Communications Network (ICN)

Use of a common IP network backbone for all building automation services network communications;



Open Data Integration Platform

Use of open standards and an integration platform to assist metering, monitoring & integration of building systems;



Utility Monitoring

Monitor both base building and tenancy services per floor;



Sensors

Use of building sensors to continuously monitor building performance, services and spatial utilisation;



Building Information Dashboard

Use of a building dashboard platform to convey real time and historical building performance to tenants and building managers;



Building Analytics and Reporting Tools

Drive continuous improvements in building performance and reduced energy use.



Better User Experiences

Consideration of user experience.

next steps



closing comments

smart, green buildings are the future

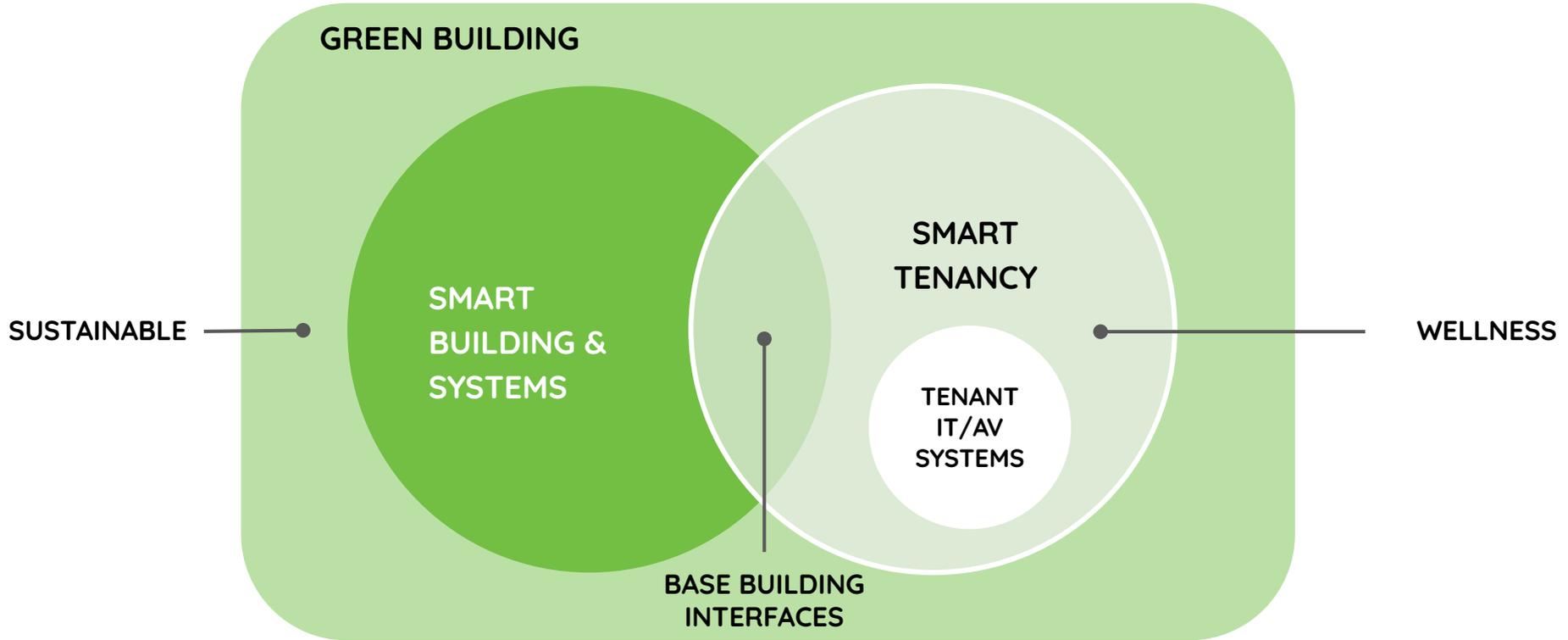
smart

green

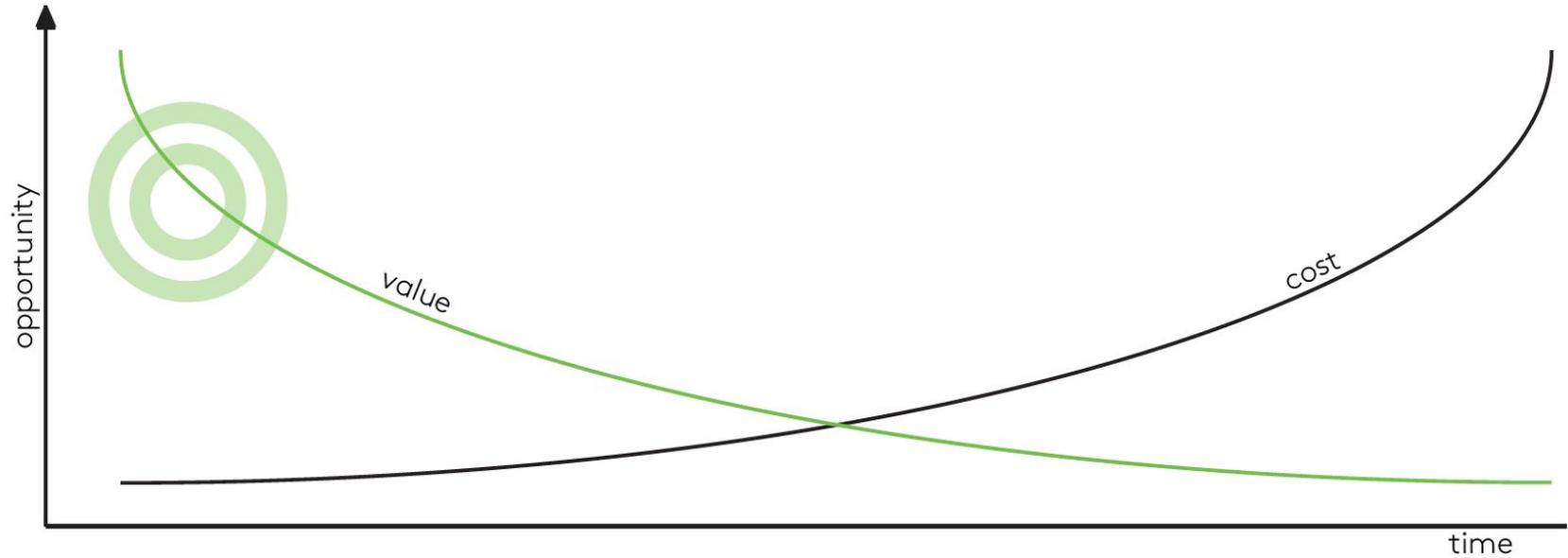
healthy

smart
green
healthy

the future is best practice design



innovation requires early engagement



behavioural change is our biggest challenge

20%

technology

80%

people

Thankyou