

# Client briefs and specifications as a barrier or opportunity

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# A definition of building performance

$$\text{Building Performance} = \frac{\text{Outcomes}}{\text{Inputs}}$$

- =
- **Function** productivity, comfort etc
  - **Financial** company & asset value, rental income

- =
- **Energy**
  - **CO<sub>2</sub>**
  - **Facilities Management**
  - **Space**
  - **Insurance**
  - **Other..**

# Affecting change

## **Behaviour**

=

## **Incentive**

+

## **Ability**

- Client
- Designer
- Contractor
- Facilities Manager
- Occupant

- Financial success
- Contracts
- Reputation
- Job satisfaction

- Tools
- Knowledge
- Ease of use

# A 'golden thread' through Vision, Delivery & Outcome

**Client vision:**

**Commercial performance:**

Productive staff / tenants

Building asset value & income (rent ↑ / op cost ↓)

Investor ESG expectations

**Supply chain delivery: Mis-aligned:**

**New build** procurement on cost not performance

**FM** contracted on cost not performance

**Tenancy legals** confound performance

**Operational outcome: Sub-optimal and a risk:**

Productivity

Energy & CO<sub>2</sub>

Rental income

Operational costs

Asset value

Share price

**Increasing operational transparency = Increasing client risk**

# Aligning new build energy use



**DESIGN for  
PERFORMANCE**

**Incentive:** Verifiable Operational Energy Performance

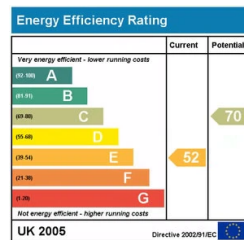
**Ability:** Independent Design Review  
Advanced energy simulation, inc HVAC systems & Control  
Credible energy use estimates  
Intensive commissioning  
Fine tuning  
Monitoring & targeting

**Behaviour:** **Operational Energy Performance Achieved**

# How can we expand the approach *by issue*?

## Design / point in time validation

Energy



## Ongoing operational validation



Sustainability

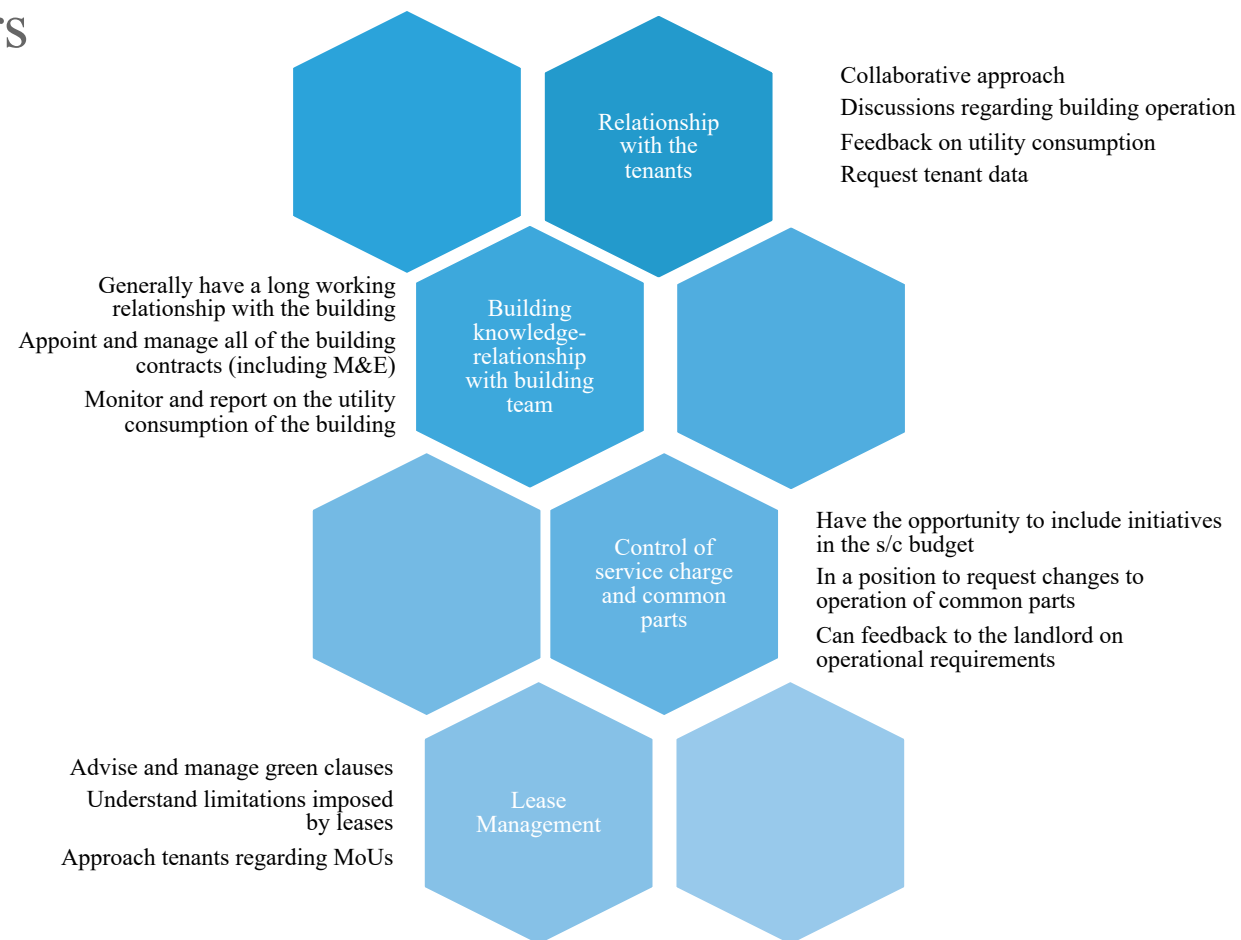
# BREEAM®

Health & Wellbeing



# How can we expand the approach *in operation*?

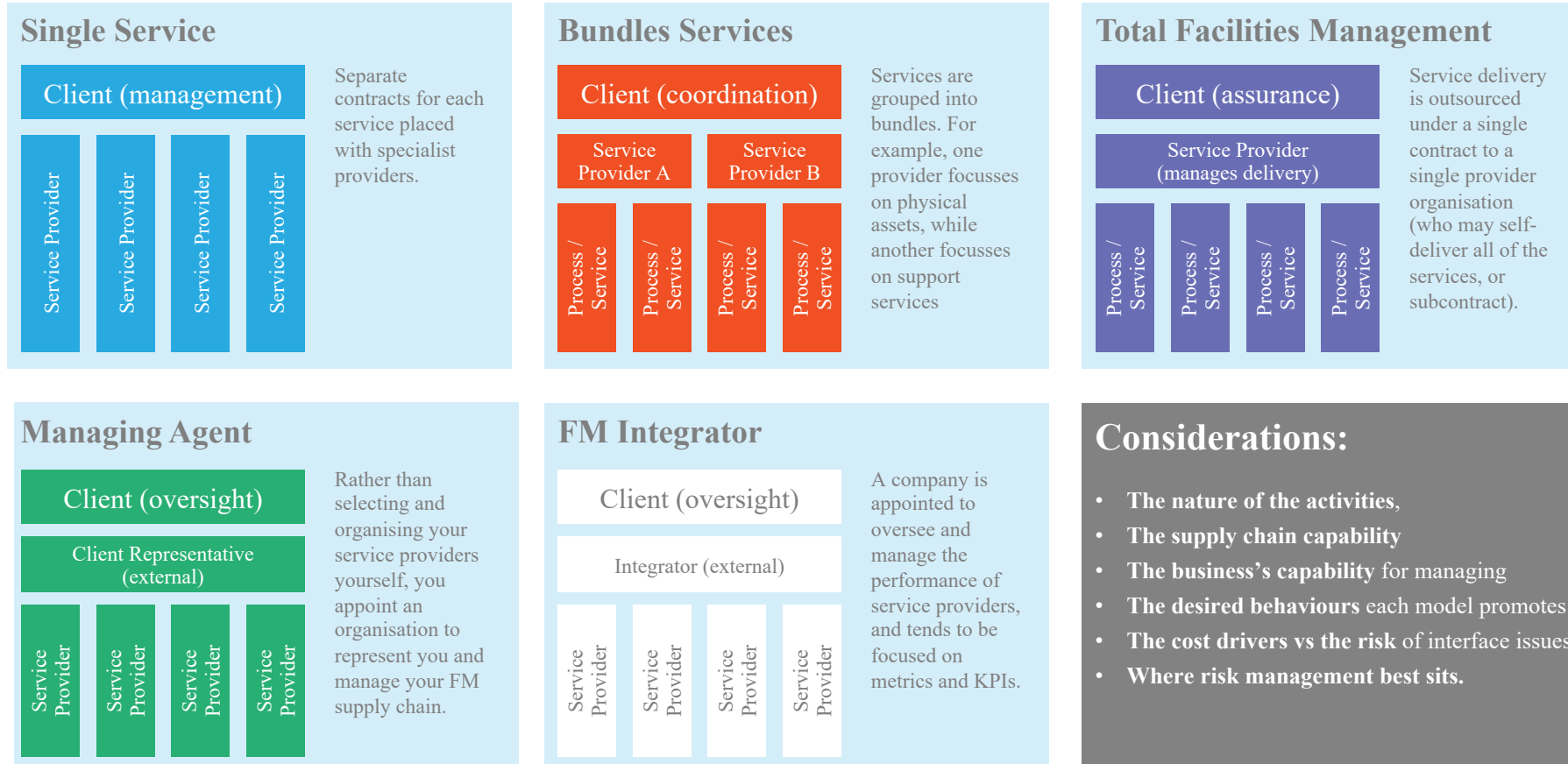
E.g. Property Managers



© Frankie Bryon, LSH

# How can we expand the approach *in operation*?

## FM Contract Influence



© Daniel O'Mahony, Conor Cooney. Arup



# How can we expand the approach *in operation*?

## Tenant Influence on Landlord Energy Use:

Activity	Example risk if tenant responsible	Example consequence	Example mitigation
<b>Floor reconfiguration</b>	Wall built between temperature sensor and terminal unit controlled	Terminal unit requests excessive heating or cooling	Require plans are checked by landlord FM
<b>Equipment installation</b>	Terminal unit installation mistakes BMS installation mistakes	Erroneous requests for heating and cooling Interference with landlord BMS	Require physical checks by landlord FM Require checks by landlord BMS contractor
<b>Equipment maintenance</b>	Poor maintenance	Erroneous requests for heating and cooling	Robust requirements or insist maintenance undertaken by landlord FM
<b>Equipment control</b>	Poor control	Excessive requests for heating and cooling	Clear guidance & requirements or insist that control is via the landlord FM

**Solutions?:**

- Remove responsibility
- Require
- Encourage

# Summary Delivering operational performance?:

- **Behaviour:**
  - **Outcome:** Explicit. Verifiable.
- **Incentive:**
  - **Value:** Identify. Quantify.
  - **Embed:** Contracts. Culture.
- **Ability:**
  - **Tools:** Fabric, Services, Smart, Lighting, Modelling
  - **Usability:** User Centred Design
  - **(Knowledge: Training)**