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The Worshipful Company of Constructors

Free Zoominar

Thursday 8th April 2021 – 19:00 to 20:00

Repair – Refurbish – Re-purpose – Diversify: The Future of London Development

TODAY'S ZOOMINAR

We will review the **current condition** of leasable space and **geospatial drivers** for development through the lens of:

- Automation
- Flexibility
- Adaptability
- Life sciences

Explore how a holistic and diverse approach to planning can support continued growth in development.

We will provide our perspective into these key drivers and the future of London

AGENDA

1. A bit about ourselves
2. London's evolution
3. Responsible development
4. Exploring shifting development
5. Conclusions

A LITTLE BIT ABOUT US

Because knowing each other is … you know … important

Tes Adamou Director

IEng MICE FCIArb (ret'd) MRICS MAPM

- Experienced Project Manager in urban development and GMP science
- Passionate for sustainability and Construction technology implementation
- Quite enjoys hiking and baseball

Elad Levin Director

ARB

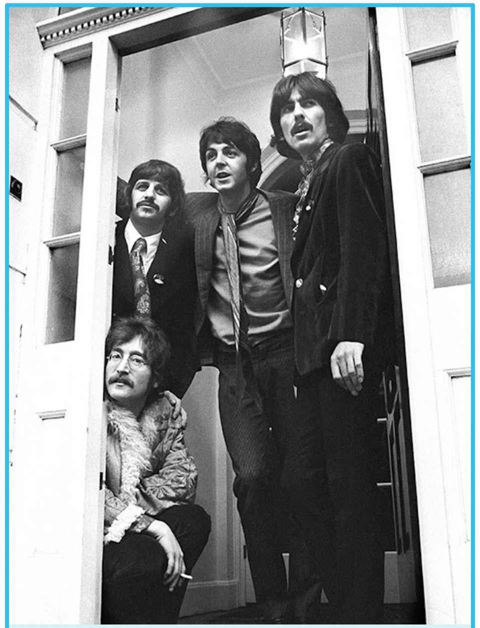
- Multi-sector design lead with particular focus on commercial, science and technology projects
- Passionate about practical design implementation and constructability of design.
- Cooking for friends when not in lockdown

2. London’s evolution

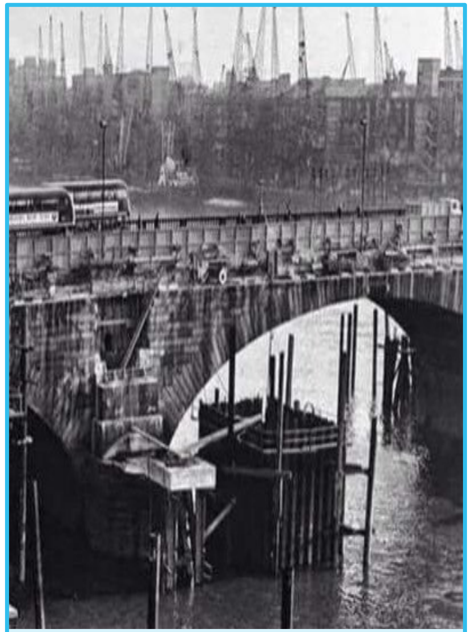
How has London changed in recent times and will it continue?

LONDON ONLY A FEW YEARS AGO

1967


The Beatles


Bankers with bowler hats


London Bridge moves to USA

- First City of London office tower was St Helen's (Aviva Tower)
- City of London employment sectors location:
  - Banking ▶ centre
  - Insurance ▶ 5 min from Lloyds
  - Legal ▶ east of Moorgate
  - Journalism ▶ fleet street

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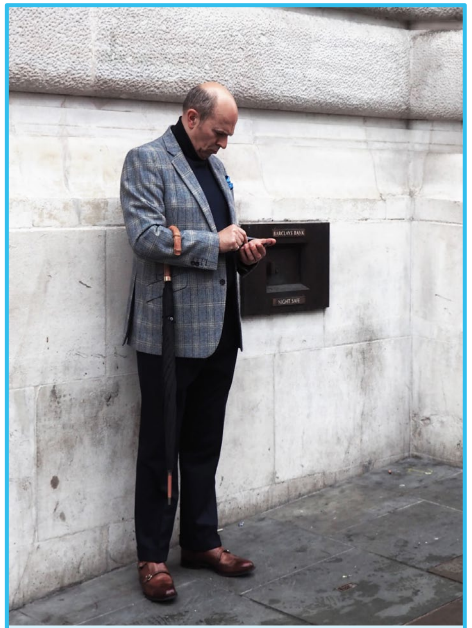
LONDON PRE-LOCKDOWN

2020

Lewis Capaldi



No tie mobile bankers

Bridge traffic concerns

- 70 Gracechurch street is the latest tower to receive planning approval
- Decentralisation of employment sectors across the City of London

LONDON IS EVOLVING

There's a continual shift in a living city

Existing centres change

- **Cultural centres** shift & expand
  e.g. Soho, Covent Garden, Camden City
- **Commercial centres** compete & expand
  e.g. City of London, West End, Canary Wharf, Old Street, Stratford, King's Cross

New sectors need new spaces

- New sectors are introduced into the mix, such as Technology, Media & Telecom (TMT), Science & Technology, FinTech, Private Health

New spaces create new focal points

- The creation of new spaces starts new centres, such as Stratford, King's Cross, London Bridge etc. that in turn create new focal points

Can the **traditional centres** (such as the City of London) **evolve** to incorporate the **new focal points**?

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3. Responsible development

How has London changed in recent times and will it continue?

LONDON IS EVOLVING … BUT SHOULD DEVELOP RESPONSIBLY

The constituent parts of a sustainable approach to development

Maintain London's unique urban fabric + Sustainable growth = Responsible development

Maintain London's unique urban fabric

- Reuse or repurpose existing stock
- New construction with forward-thinking planning

Sustainable growth

- Environmental concerns (more than just net-zero carbon)
- Social parameters
- Financial drivers

Responsible development

Catalysts & inhibitors

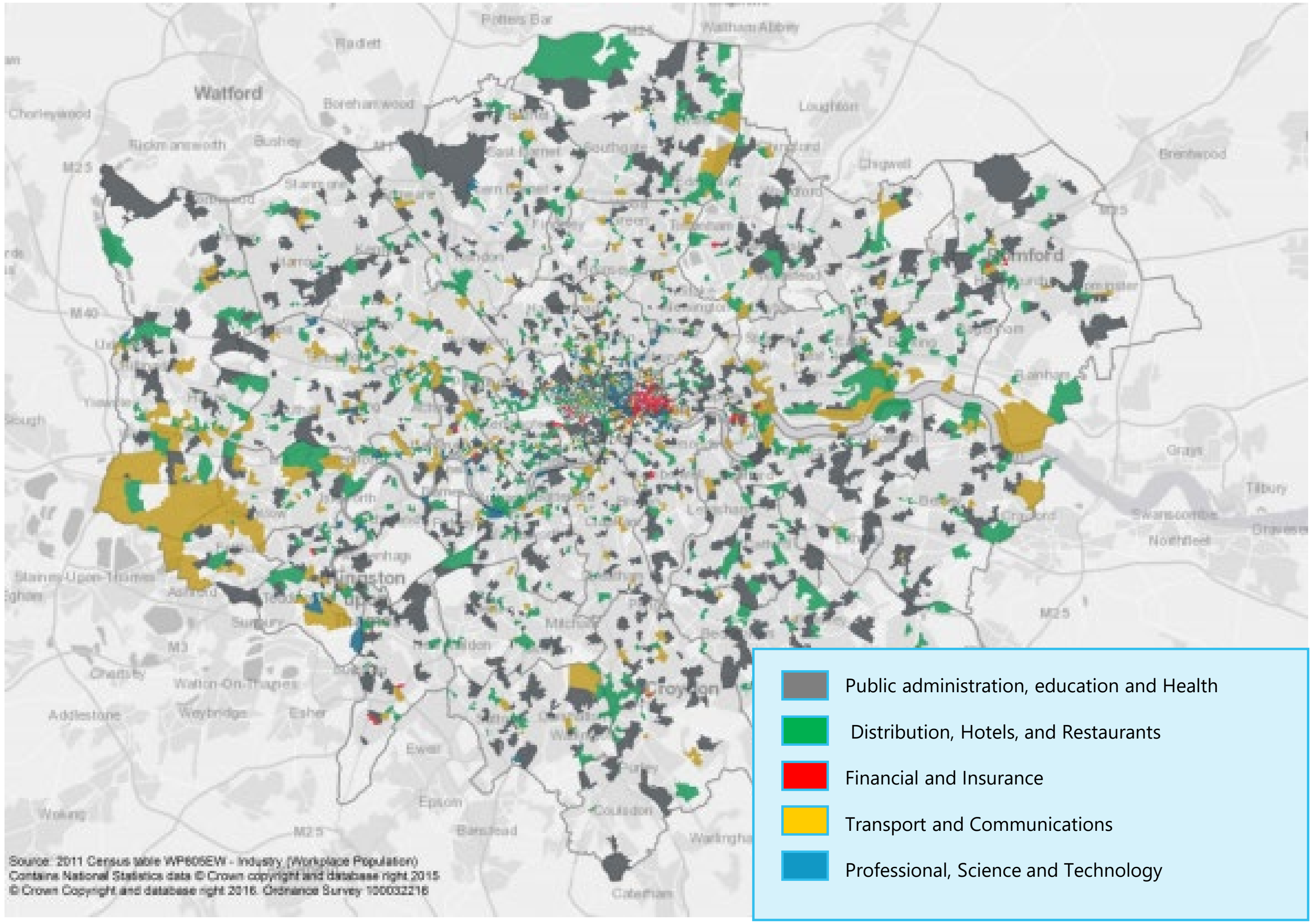
- Planning laws
- Infrastructure investment
- Insurance risk appetite

LONDON’S UNIQUE URBAN FABRIC

Dominant employment clusters in London

Maintain London’s unique urban fabric + Sustainable growth = Responsible development

- Employment clusters are driven by historical, geospatial and market forces
  - e.g. insurance Custer surrounding Lloyds
- New centres need new ecosystems to enable them to thrive
  - Infrastructure
  - Transportation
  - Coffee shops



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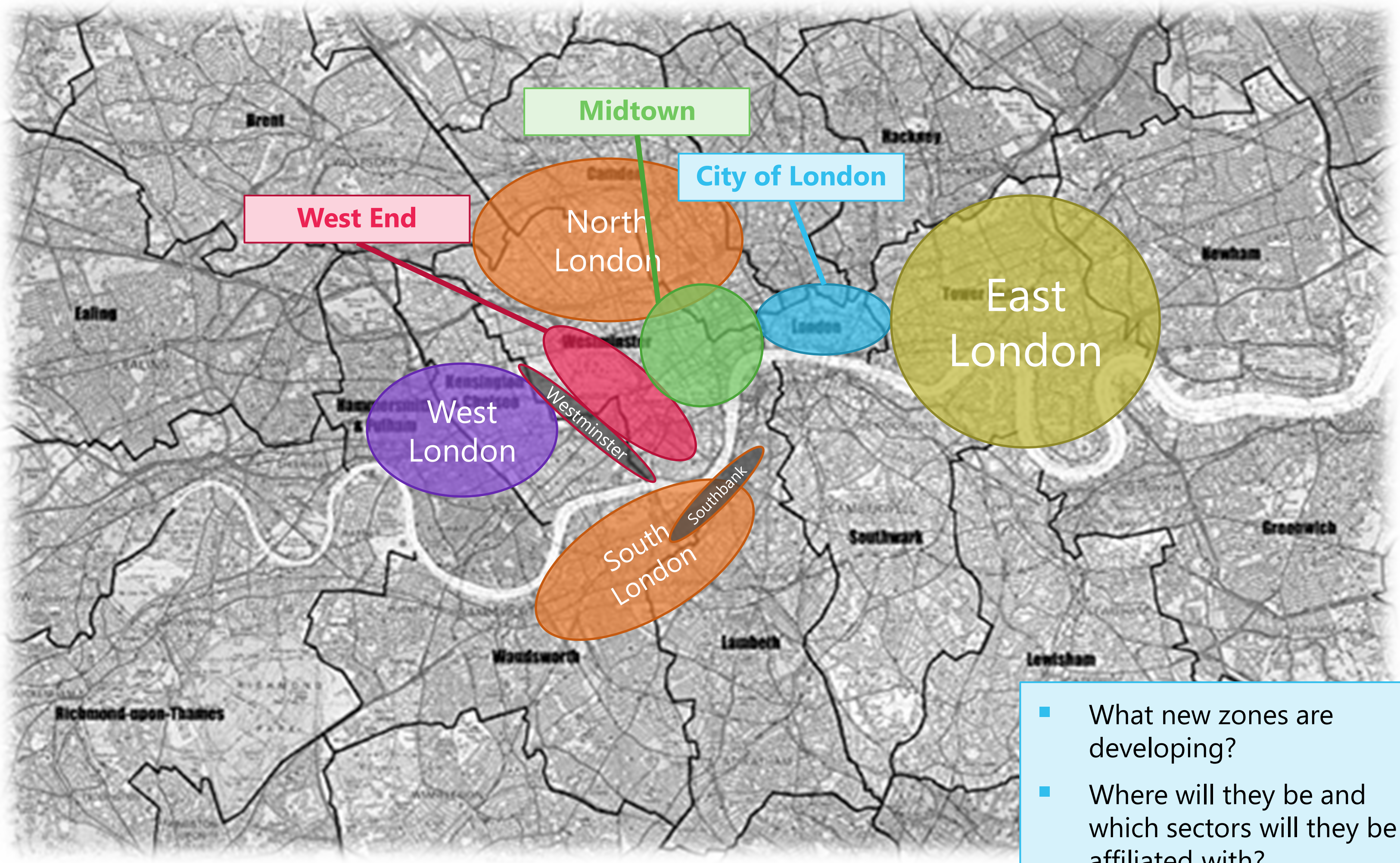
LONDON KEY BUSINESS DISTRICTS

Nine major business districts



- What new zones are developing?
- Where will they be and which sectors will they be affiliated with?

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MIGRATION OF FIRMS BY EMPLOYMENT SIZE IN CITY OF LONDON

Historical migrations in recent years: 2012 - 2014

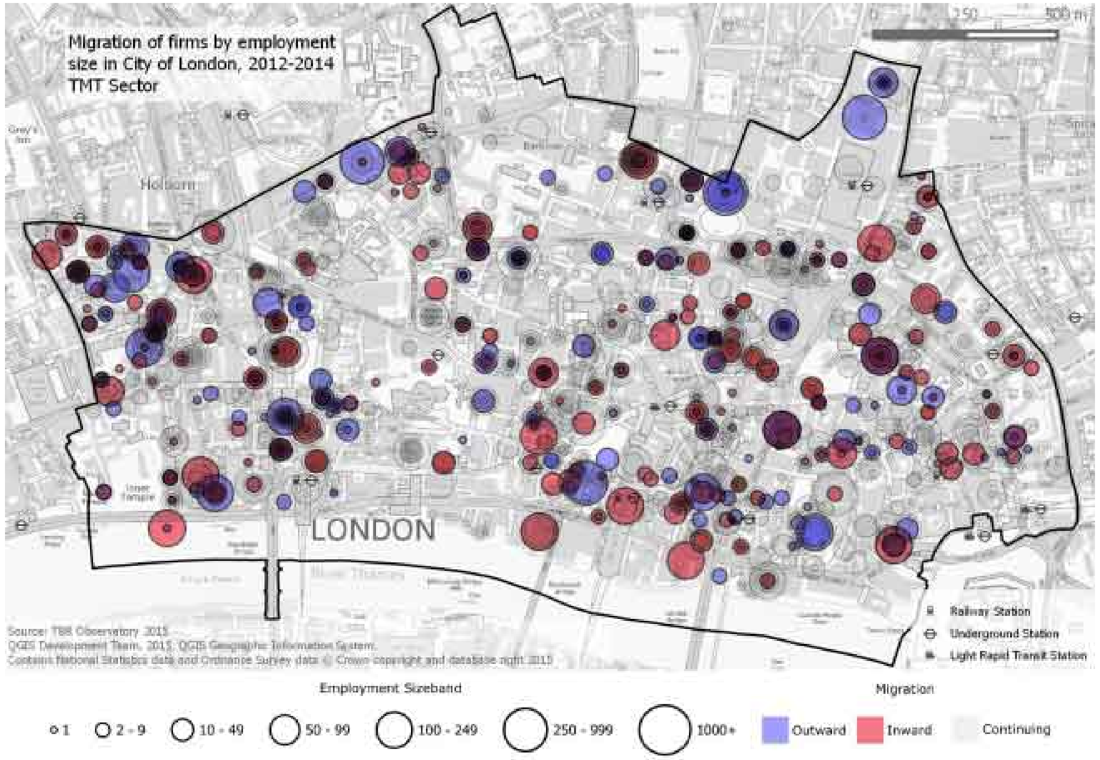
Maintain London's unique urban fabric + Sustainable growth = Responsible development

Insurance Sector

- Will the insurance companies reduce move non client facing staff outside of zone 01

TMT Sector

- Where will the new more agile firms go ?



CATALYSTS: 1. POTENCY OF THE REAL ESTATE SECTOR

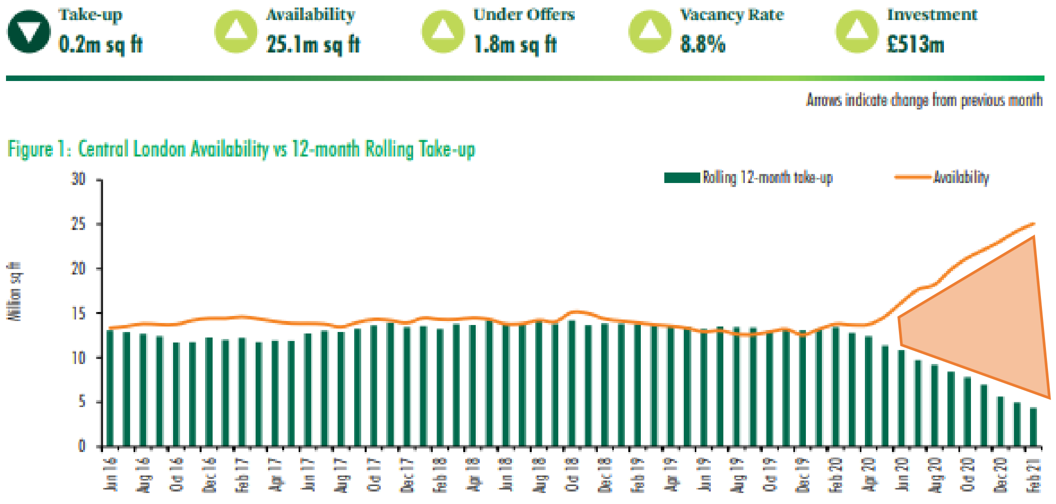
Commercial real estate sector is struggling

Maintain London's unique urban fabric + Sustainable growth = Responsible development

- Current retail models are collapsing (well, apart from supermarkets)

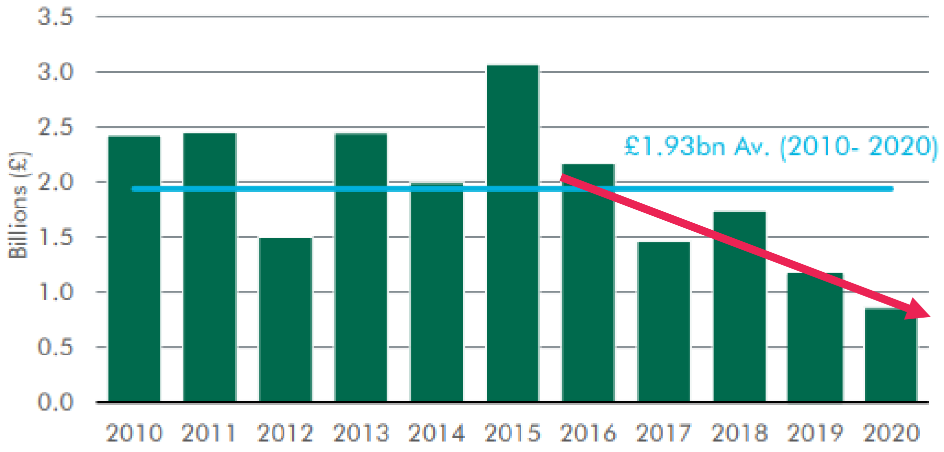
- Noticeable decline in office requirement is not simply a Covid-Brexit effect
- Evolving technologies accelerate the decline.

Central London Availability vs 12-month Rolling Take-up



Source: CBRE Research, February 2021

Central London Transactional Volumes – Retail



Source: CBRE Research Q4 2020

CATALYSTS: 2. NEW EMERGING SECTORS AND MODELS

New players in the game and refreshed approaches

Maintain London's unique urban fabric + Sustainable growth = Responsible development

- Technology, Media & Telecom (TMT)
- Technology & Media R&D
- New Financial services models
  - FinTech driving new business model
  - Sharing economy embedded in the financial system
  - Digital finance (even crypto) becomes mainstream
  - Advances in robotics and AI will start a wave of 're-shoring' and localisation
  - Cloud becomes the dominant infrastructure model
  - Cyber-security remains as a top risk
  - All these mean restructuring of the current market leaders and the introduction of many more narrow-focused SMEs
- Healthcare
- Life sciences

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CATALYSTS: 3. ACCELERATED OFFICE TRENDS

Things are changing – but how?

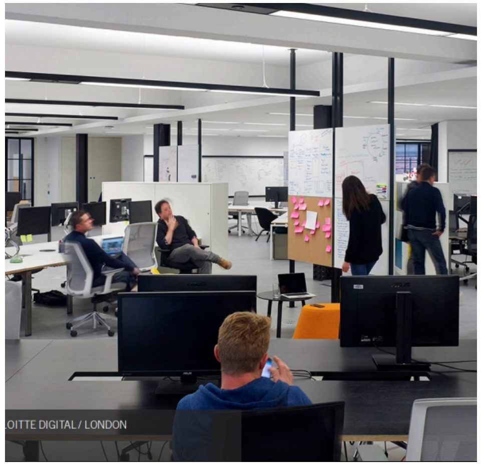
Maintain London's unique urban fabric + Sustainable growth = Responsible development

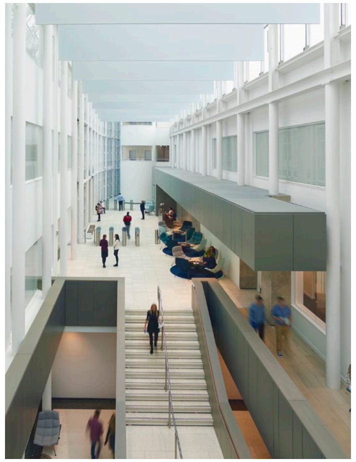
Covid/Brexit have accelerated the office trends we have been seeing.

- **WFH** will keep being a large part of it.
- **Physical human interaction** is paramount – creativity and collective thinking require it.

So what?

- Office space will be geared towards enabling creativity with a touch0down space
- People will still want to come into work to do the tasks they cannot do from home, but only if the trip if worth it.
- Work digitalisation will accelerate in the same way that product digitalisation has.
- Reconfiguration of client-facing spaces.
- Hub creation: regional, small team, training



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THE RESULT ON SPATIAL AND URBAN PLANNING

Looking at the likely implications

Maintain London's unique urban fabric + Sustainable growth = Responsible development

Class A spaces
Highest-quality spaces – newly constructed and outfitted with good quality fixtures & amenities.

We expect demand to be retained on these spaces

Class B spaces
Decent quality spaces – not fitted out with the highest quality fixtures, details or lobbies but fully functional.

Availability of Class B spaces will increase

Class C spaces
Poorest quality on the market, usually in need of repairs and renovation.

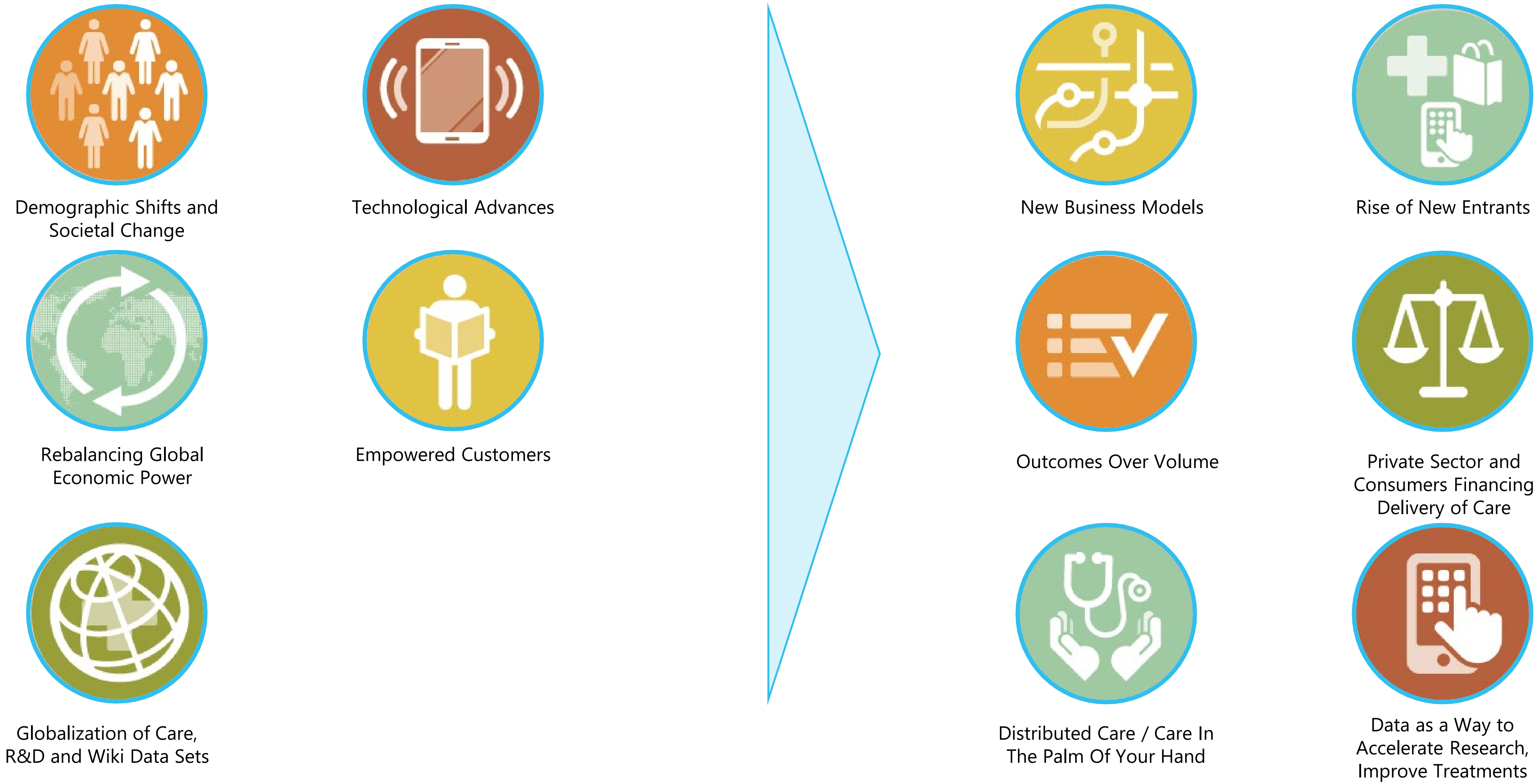
Availability of Class C spaces will increase and these will form the best candidates for repurposing.

- Retail
  - Permanent declassification of retail space to multi-use
  - Secondary retail areas that will not regain retail tenancies
  - Use of undervalued ground and lower ground spaces
  - Any utilised space is better than a boarded-up shop
- Location
  - Increase in opportunities outside simply zone 1
  - Increase in opportunities in satellite town centres to create new hubs
  - New hubs create new sectors and new typologies
- Property development
  - Adaptability: Building and floor plate adaptability is a key requirement. An exploration of which structures can be repurposed for what will be paramount
  - Lease structures will become more flexible

4. Exploring shifting development

A deeper dive into Science & Technology development criteria

DISRUPTIVE TRENDS REVOLUTIONISING HEALTHCARE, SCIENCE & TECHNOLOGY



EXPLORING LIFE SCIENCES

Is it really the next big thing in speculative development?

- The reference to "life sciences" sector, covers a wide range of SciTech disciplines

1. Highly-specialised, regulated facilities
2. Standard low service requirement, open lab

- What spaces do these activities need?
- There is a misconception that all science spaces are complicated
- In fact, most office buildings can be adjusted.
- There is a High, Medium, or Low-tech typology.
- Non-specialist developers concentrate on the medium & low tech.

Typical open lab space

Example GMP space

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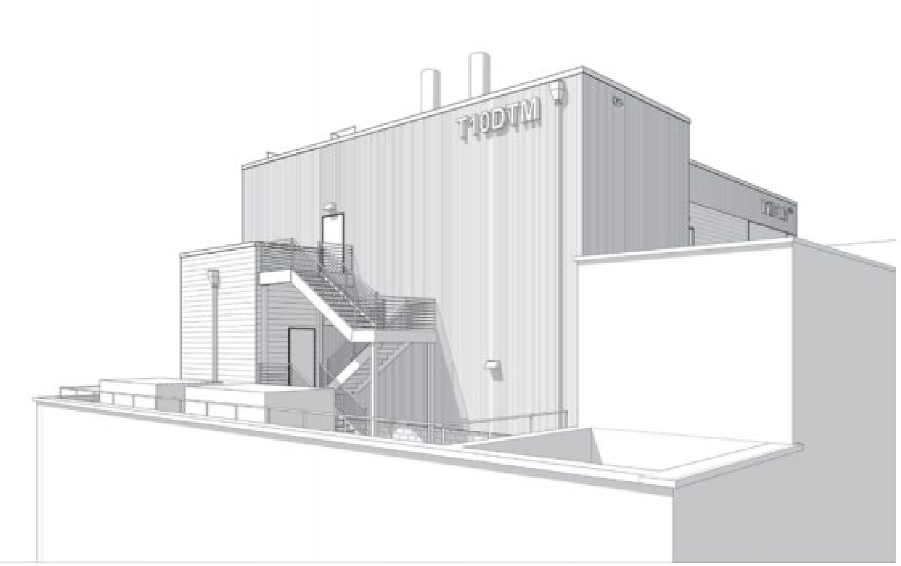
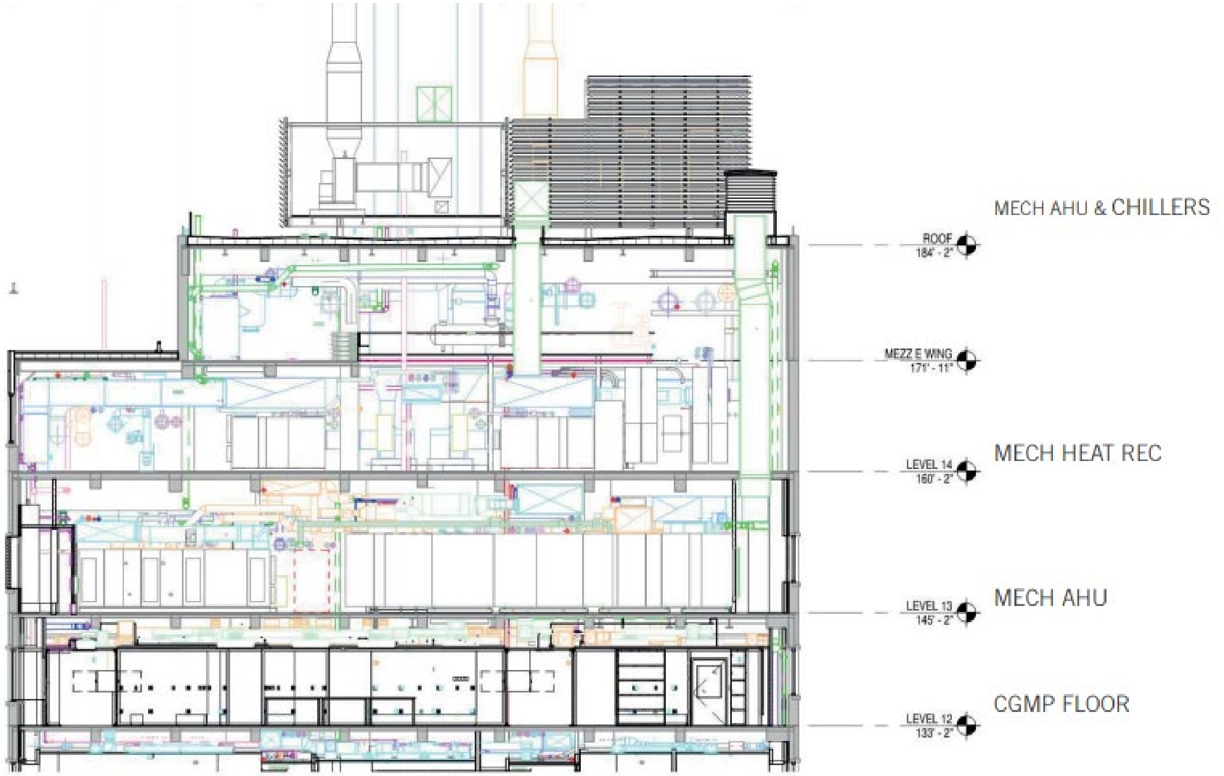
TYPE 1: HIGHLY-SPECIALISED FACILITIES (E.G. SPECIALIST GMP FACILITIES)

Specialist heavily serviced facility for manufacturing

- Land value
- Compliance – Biosafety
- Affiliation with Hospitals or Universities
- Speculative units outside zone 2



Small unit added on Hospital Roof



Section through example unit

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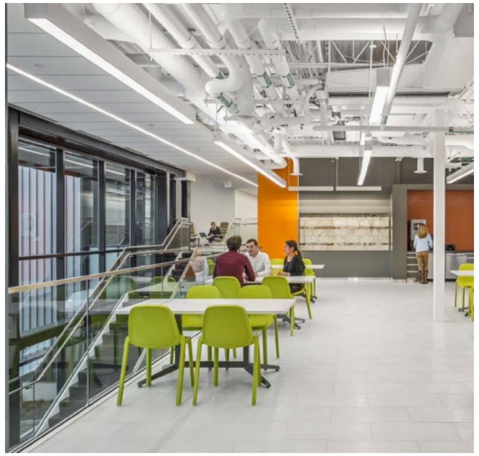
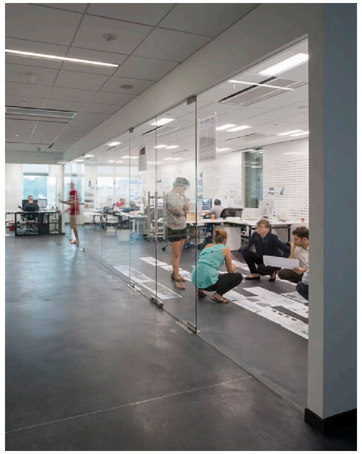
TYPE 2: ADAPTABLE SPACE IN OFFICE BUILDINGS

BCO specification adapted for life sciences

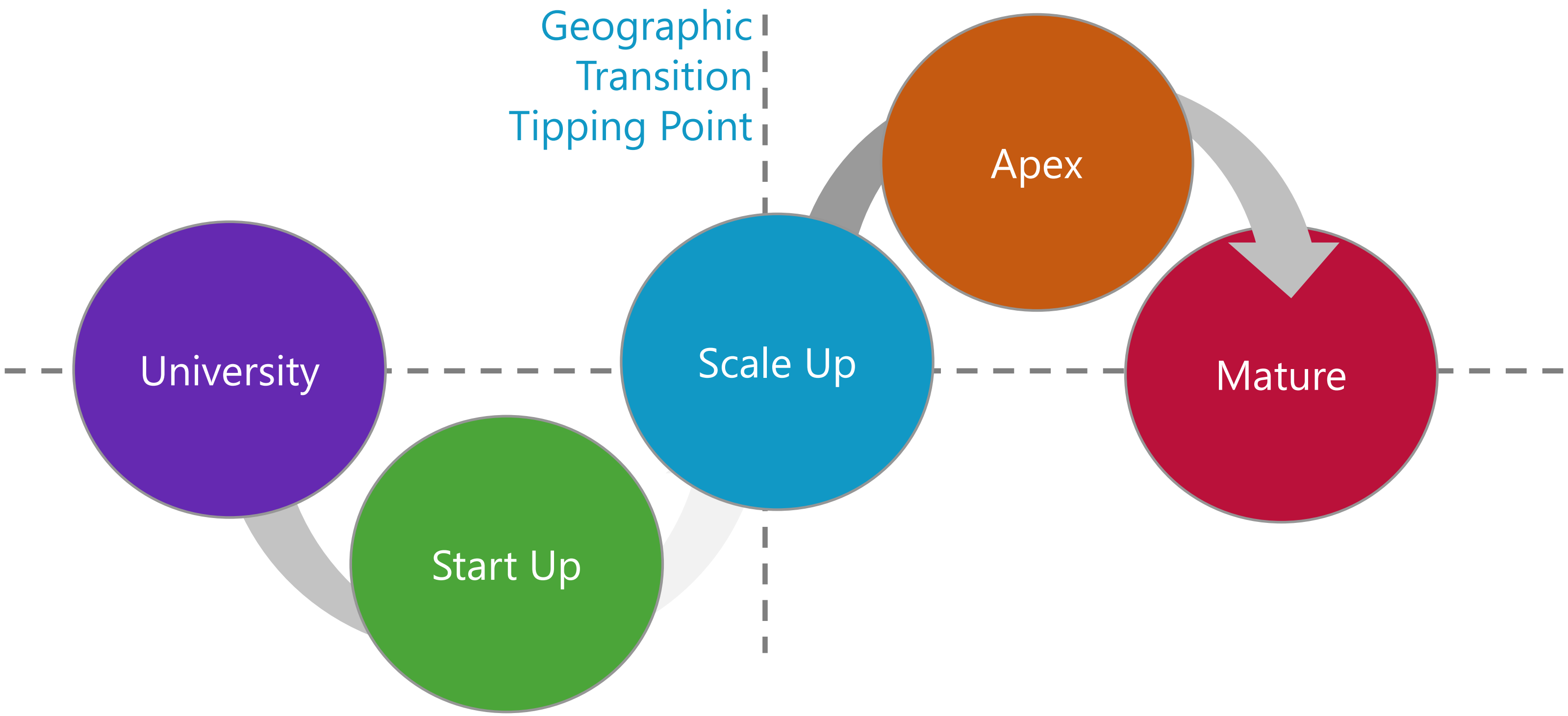
- Shell & Core
- Fully Equipped
- On average Less than 50% of space is Laboratories.
- SciTech companies are looking for same workplace standards as the tech sectors





SCIENCE + TECHNOLOGY COMPANY EVOLUTION

Needs are varied and change over time



- **University:** Fighting for funding and a bench
- **Start Up:** Anywhere affordable and accessible
- **Scale Up:** Anywhere affordable, accessible, **and with space for growth**
- **Apex:** Anywhere affordable, accessible, **with space, and with talent**
- **Mature:** Anywhere affordable, accessible, **with talent, schools, shops, wellness, open space…**

THE ECOSYSTEM

City Building: You are creating more than just a cluster

Knowledge exchange & talent recruitment

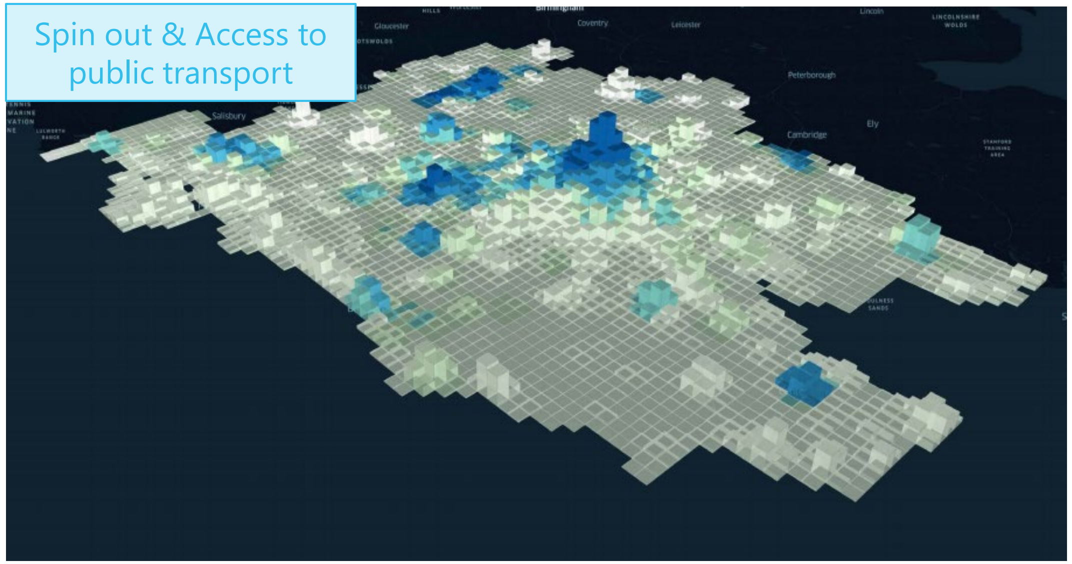
Expanding Options for Commercialisation

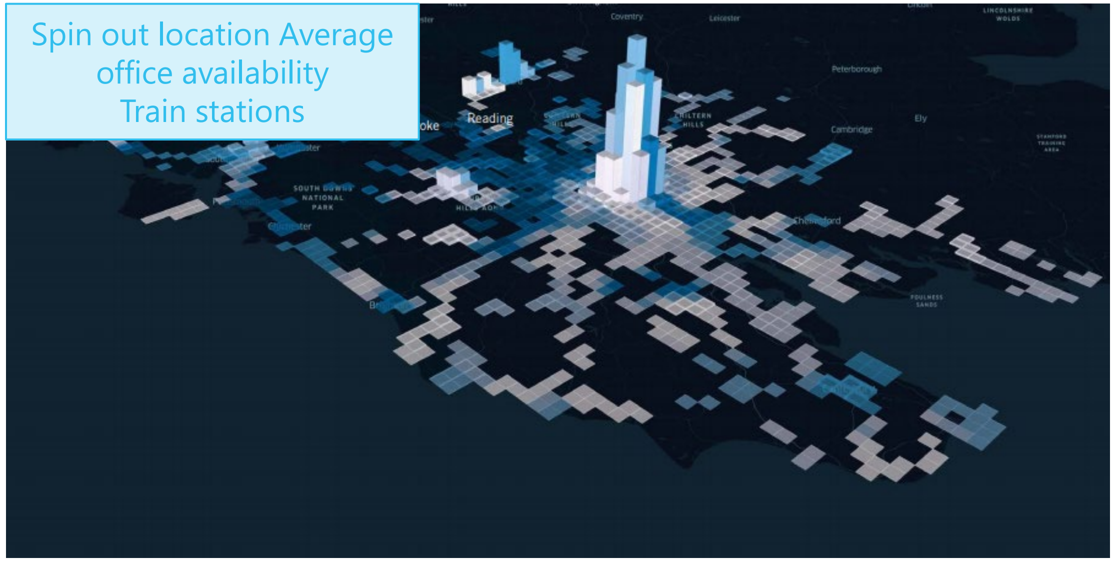
Staying Competitive in Your Market & Globally

HOW DO WE IDENTIFY DEVELOPMENT ZONES

Layering demand and geospatial criteria

- Drivers
  - Proximity to University, University Hospitals
  - Proximity to Spin-outs, Incubator / Accelerator
  - Proximity to Tools/Facilities
- Mobility
  - Digital Accessibility: broadband
  - Local Accessibility: bus/underground
  - Regional Accessibility: coach/railway
  - International Accessibility: airports
- Market
  - Residential Market
  - Lease Market: Office, Labs … Adaptable space
  - Lease Market: Manufacturing Space
- Talent
  - Population density
  - Qualifications
  - Education facilities





EXAMPLE DEDICATED DEVELOPMENTS

Fully operable models – Fee example from Boston

- **Flexible and Fully Equipped Shared Lab And Office Space**
  - Ready-to-go, permitted lab and office
  - Kitchen and open-plan communal space
  - Month to month service agreement

- **Central Infrastructure**
  - common lab equipment for bioresearch, including:
    - Autoclave, bottle wash, and ice machines
    - Deionized water, vacuum, and gas supply
    - Chemical hoods and BSL-2 cell-culture facilities
    - Centrifuges, vortex, shakers, freezers, storage facilities
    - Flow cytometry, PCR, plate readers, imaging station, luminometry, HPLC
  - **Services**
    - Maintenance of permits for all lab operations
    - Mandatory EHS training and compliance for all lab users
    - Maintenance of equipment and technical support
    - Cleaning and waste removal
    - A vibrant community, sharing knowledge and interacting regularly

- **Incubator COST:**
  - 54 individual lab benches: $3,610 to $4,340 monthly
  - dedicated desks with telephone: $490 to $1,100 monthly
  - lab “pods” with 3-4 benches: $15,410 to $15,960 monthly
  - private lab suites: $8,530 to $62,920 monthly
  - private offices: $1,070 to $6,220 monthly
  - Per person resident fee: $425 monthly

- **Next generation Lab Cost**
  - private lab suites, 2-3 private offices, dedicated BSL-2 cell-culture room: $58,000 to $104,000 monthly
  - Per person resident fee: $425 monthly

Starting fee of circa $5000 Per person

We expect that the lease structure in London will be similar.

ADAPTABLE FLOOR PLATES

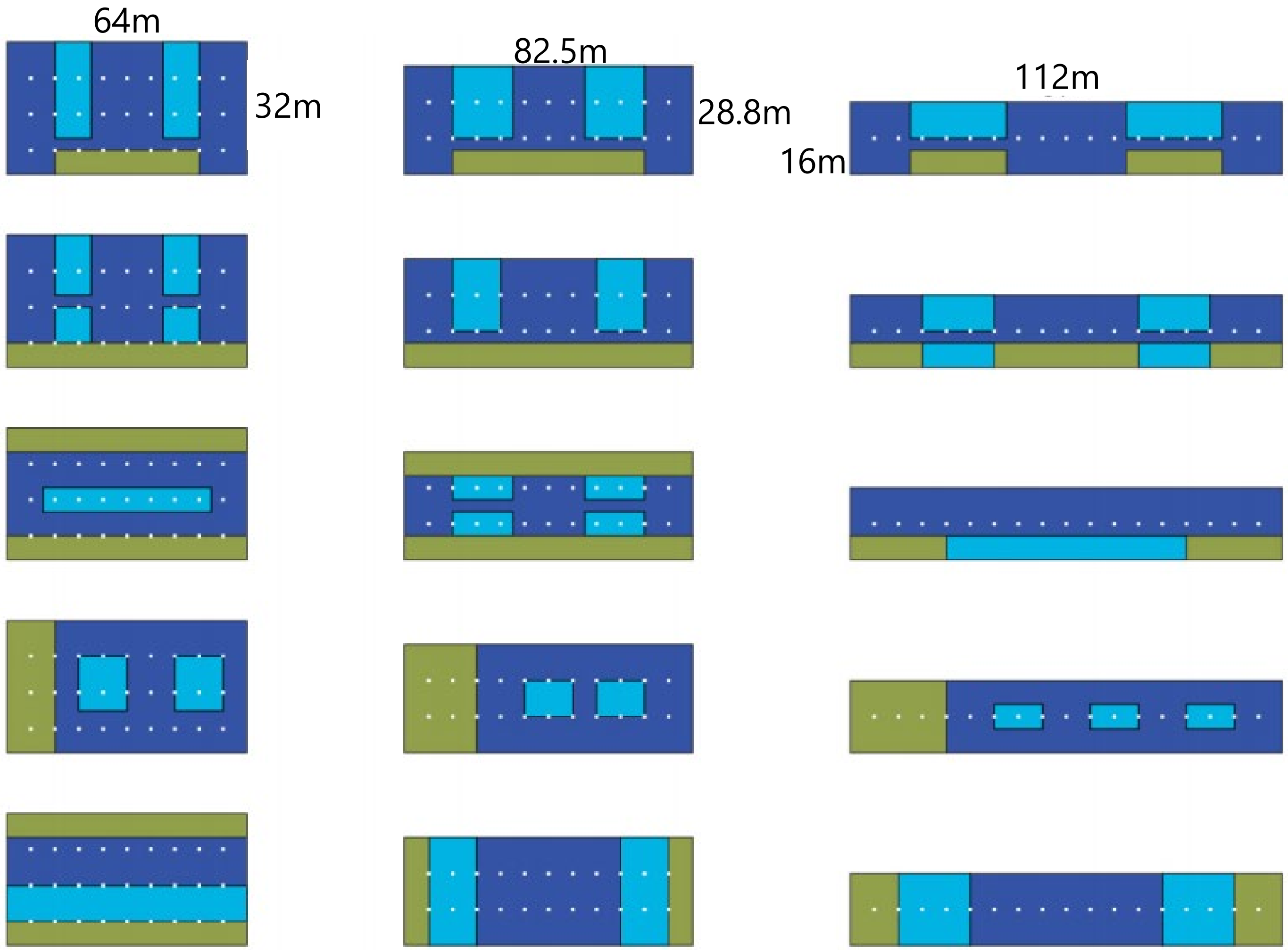
Any floor plate can be adapted (to a certain extent)

- Consider type of tech required
- Recommended slab to slab 4.2+
- Most superstructures can support Medium to Low tech Lab (typical)
- Infrastructure Key
- Other considerations
  - Logistics
  - Riser space
  - vertical lifting
  - vibration design category not simply stiffening – use basements as an option

Open lab

Specialist lab

Office



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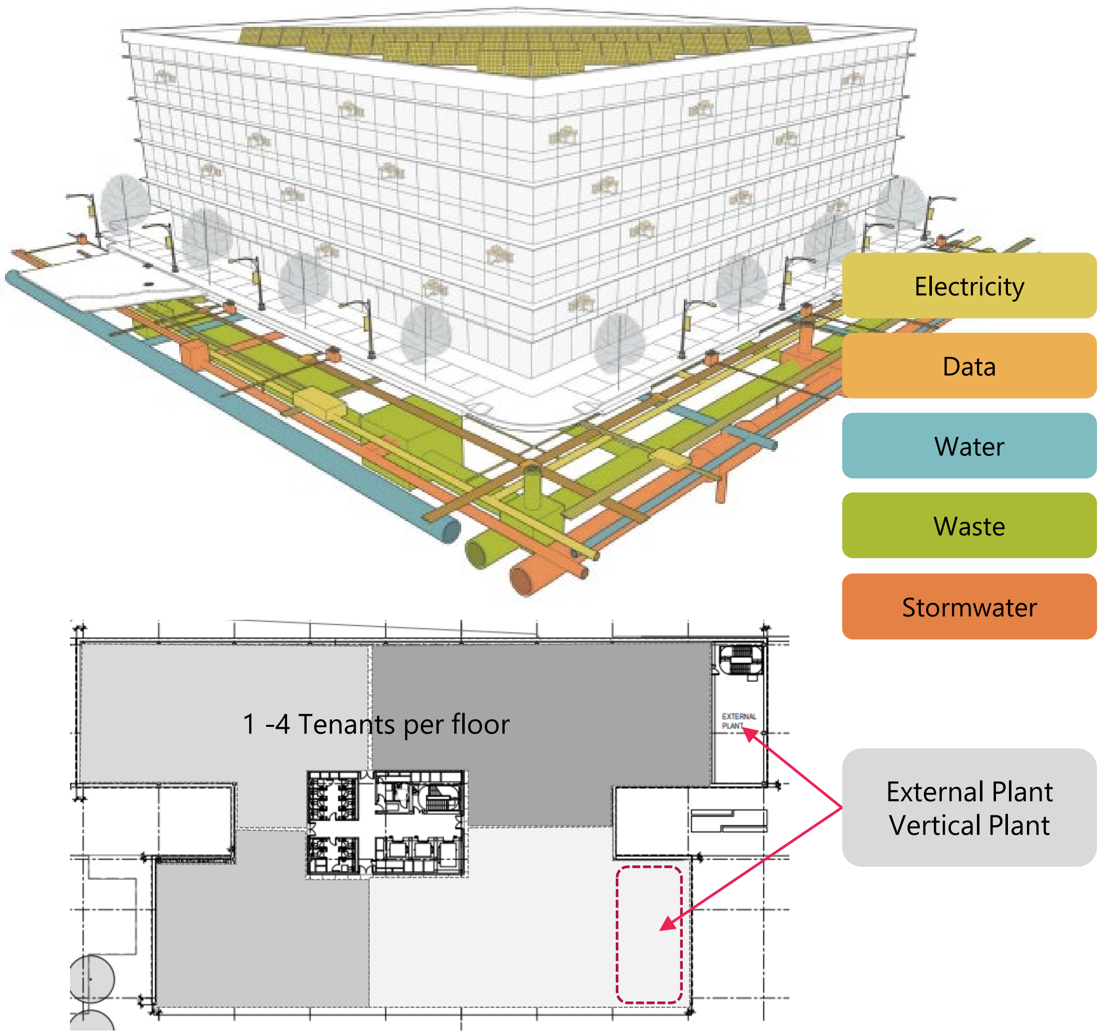
INFRASTRUCTURE REQUIREMENTS

Consider the following for new-build or repurposing:

- Oversize utility systems capacity
- Electrical and data requirements expected to increase in the future
- Large tenant risers as tenants come with different requirements
- Sperate air exhaust (e.g. some may require fume cupboards that cannot be fitted within the existing system)
- Consider on floor plant or vertical plant room
- Consider centralised services and metering (therefore proportionally dividing charges according to usage)
- Logistics (e.g. loading bays, gas storage etc.)
- Occupancy ratios

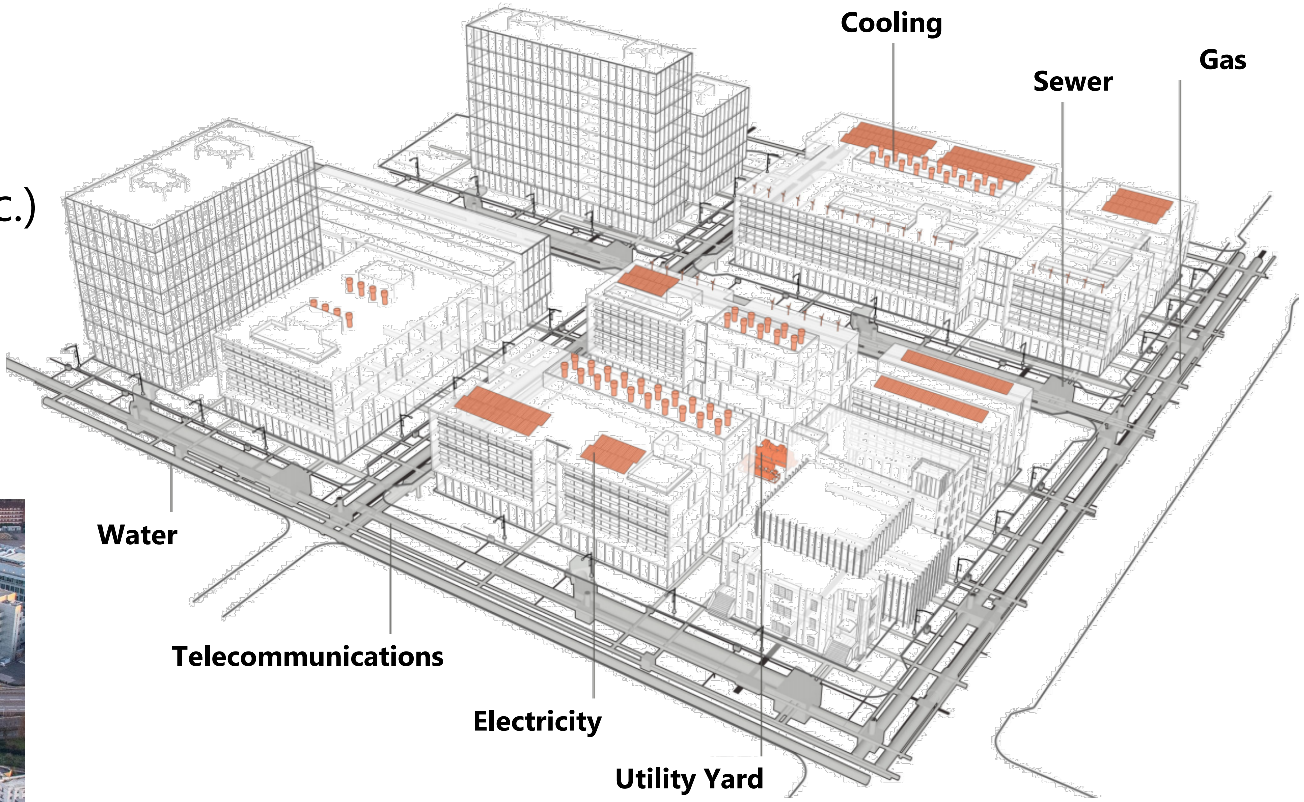


RESILIENCE PLANNING

Adaptable buildings

- Riser space premium
- Future proof electrical & data capacity
- Drainage capacity restrictive
- Secure space for gases (LN2, O2, Ar, etc.)
- Secure space for specialist waste
- Vertical lifting flexible distribution
- Secure Loading Bays

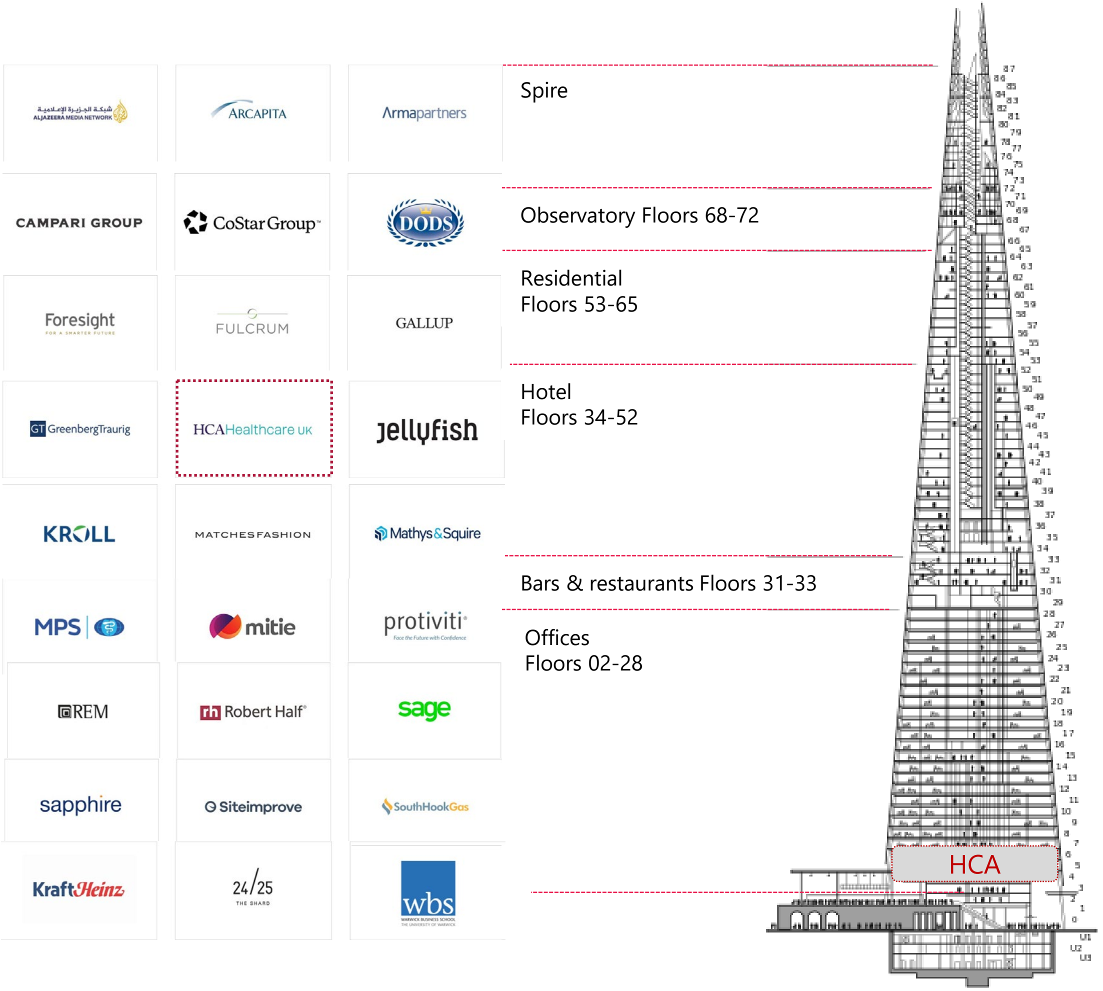
Imperial West – White City



MULTI-USE, MULTI-TENANT

Take the Shard as an example

- Vanity project
- Was not designed for specialist requirements
- HCA, Healthcare provider part, outpatients
  - proximity to the city
  - Proximity to London Bridge station
  - Treatment & consultancy rooms
  - Imaging CT, MMR
  - Dedicated Access
- How much more feasible will it be to adapt an unremarkable 80s rectilinear building?



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KEY TAKE-AWAYS

So Is SciTech a viable option ?

Two development typologies:

1. Predominantly Science Building
    - Flexibility and Adaptability
    - Proximities
    - Affiliations
    - Develop in line with demand curve
    - Construction takes time
2. Multi Use
    - Flexibility and adaptability
    - All sectors … local demand
    - Consider tenant type distribution in the building
    - Shared amenities

- Flexible letting models
    - Consider fitout investment and length of lease
    - Consider tenants funding stream
- Not all type of users are looking for same solutions
    - Fully serviced models favour the sturt up, spinout and young SME's
    - Shell & core and growth space favour the more established firms

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REPAIR – REFURBISH – RE-PURPOSE - DIVERSIFY

Summing up

London is evolving

- **Centres** shift, compete & expand
- New spaces, new focal points
- Need to establish if traditional centres can evolve with it too.

Responsible evolution

Maintain London's unique urban fabric + Sustainable growth = Responsible development

Changes

- Potency of the **real estate sector**
- New **emerging markets**
- Accelerated **office trends**

Science + Tech deep dive

- **Disruptive trends** revolutionise healthcare, S+T
- Life Sciences sector
- Types of Life sciences

Requirements of the S+T

- Company evolution
- Ecosystem
- Development requirements

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thank you

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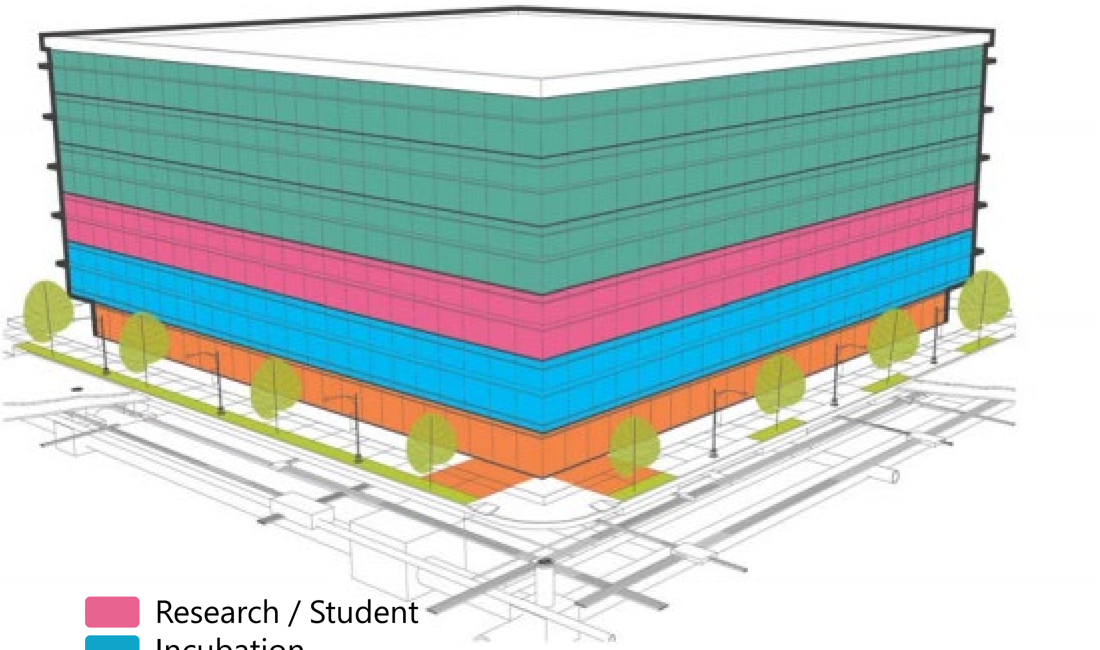
COMPLETE LIFECYCLE S+T BUILDING

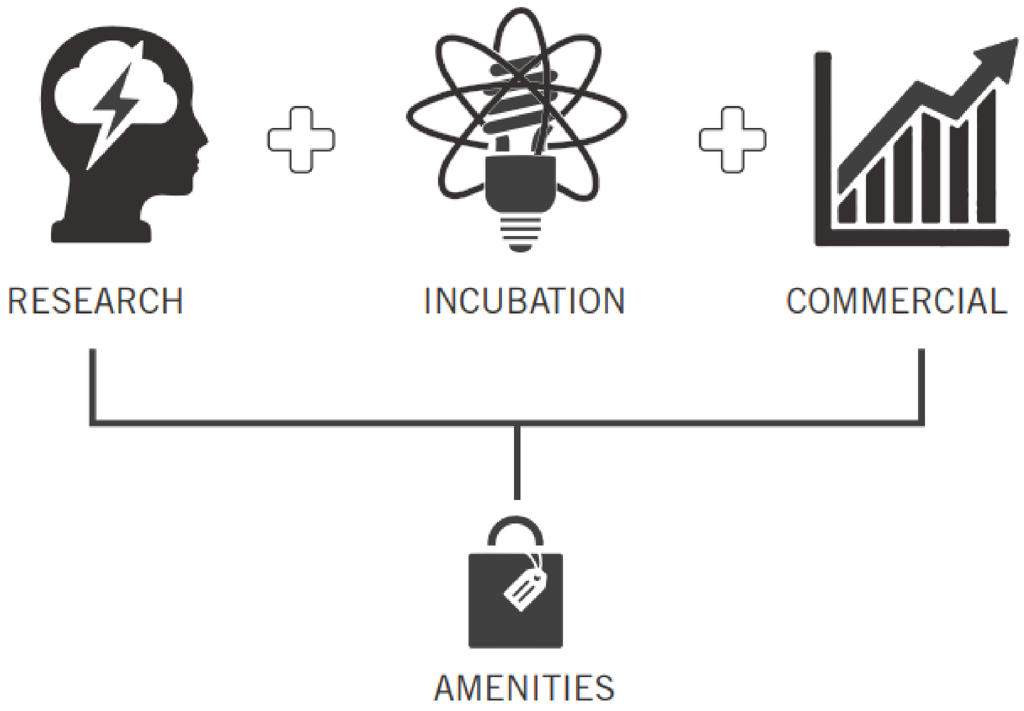
Reviewing a Purpose Built / science centric Building

- Potential to support the Start-Up to Apex development
- University, JV or Speculative models - new or refurb

- Base enabling components do not have to be under the same roof but assisted buy proximity



Research / Student
Incubation
Commercialisation
Amenities / Support



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