



University  
of Glasgow

# The Living Laboratory: Building healthcare innovation and impact

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# Govan-Partick Bridge

**lamps from 60's ferry**



# 'Triple-Helix' Partnership

**Strength in Place- Living Laboratory**



**Largest UKRI SiPF award: £38m**

**Glasgow City investment: £32M**

**Partners: £22M**

**total investment ~£90M**



# Glasgow Riverside Innovation District

GRID: Queen Elizabeth University Hospital to the University of Glasgow's West End Campus, with a new pedestrian bridge connecting the communities



University of Glasgow

Church Street  
Innovation Zone

**HIH**  
Clyde Waterfront  
Innovation Campus

The Queen Elizabeth  
University Hospital

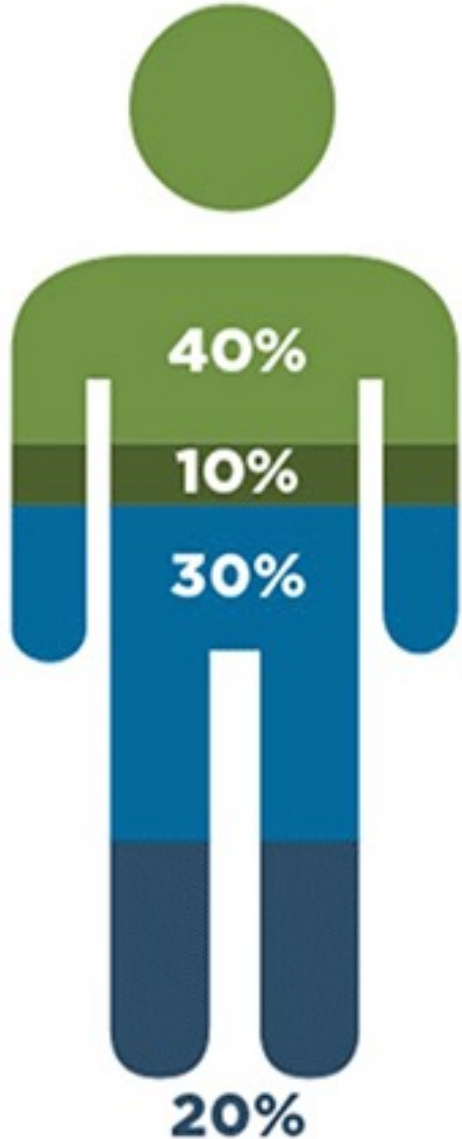
Water Row

Glasgow Riverside  
Innovation District

# Living Laboratory



# Determinants of health



Social & Economic Factors

- Education
- Employment
- Income
- Family & Social Support
- Community Safety



Environment

- Air & Water Quality
- Housing
- Transportation



Health Behaviours

- Alcohol, Tobacco & Drug Use
- Diet & Physical Activity
- Sexual Activity



Health & Social Care

- Access to Care
- Quality of Care



# Healthcare System Pressures

# *IMPACT of Innovation on Clinical Pathways*

**Prioritise /  
Risk Stratify**



**Increased  
capacity**



**Increased  
productivity**



**Enhance  
Efficiency**



**Faster  
diagnosis**



AI, Telemedicine, Digital Platforms and Pathways, Diagnostics, Omics, Medical Devices



# What are the barriers to adoption of innovations into health care systems?



User acceptance



Lack of evidence demonstrating improved patient outcomes or efficiencies



Misalignment with current workflows or clinical service readiness



Lack of stakeholder buy-in



Insufficient clinical validation or real-world evidence proving effectiveness, safety and cost benefits



Interoperability issues/Product not integrating with clinical systems



Training requirements before implementation



Lack of understanding of regulatory environments for diagnostics and devices



# An ecosystem enabling success

Our ecosystem offers real-life test environments where researchers, industry, clinicians and the public collaborate to create, test and refine healthcare innovations and solutions in real-world settings.

## Innovation is accelerated:



### Real-world insights

gained from data generated and feedback from real-world settings lead to more practical and effective solutions to be developed



### Involving a wide range of stakeholders

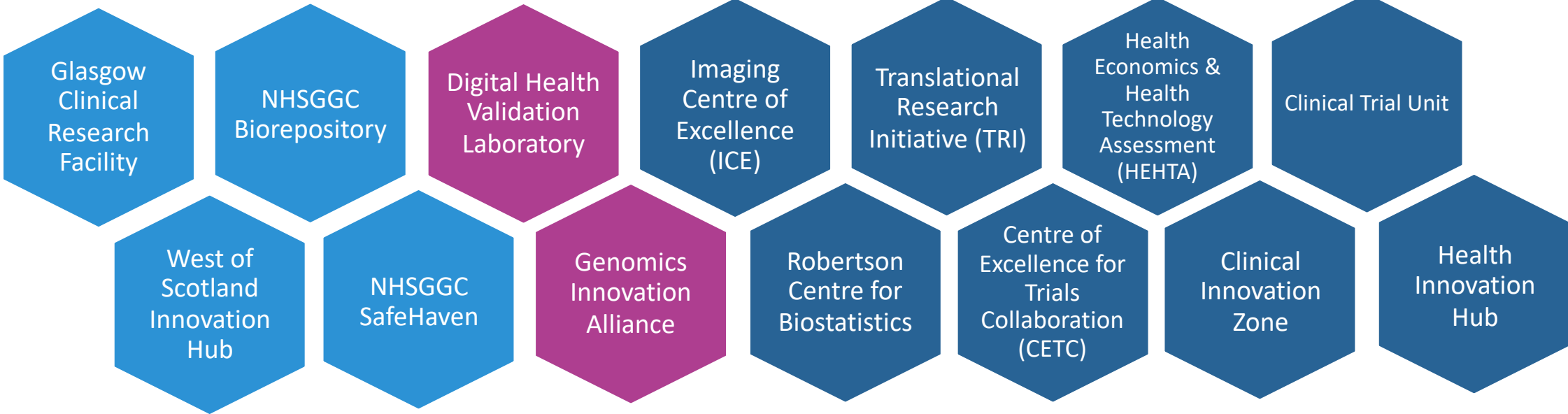
ensures that diverse perspectives are considered and solutions more widely accepted



### Ability to deploy technologies in real-world settings

demonstrates the viability (or lack of) products speeding up the innovation cycle

# Health Innovation Ecosystem in Glasgow



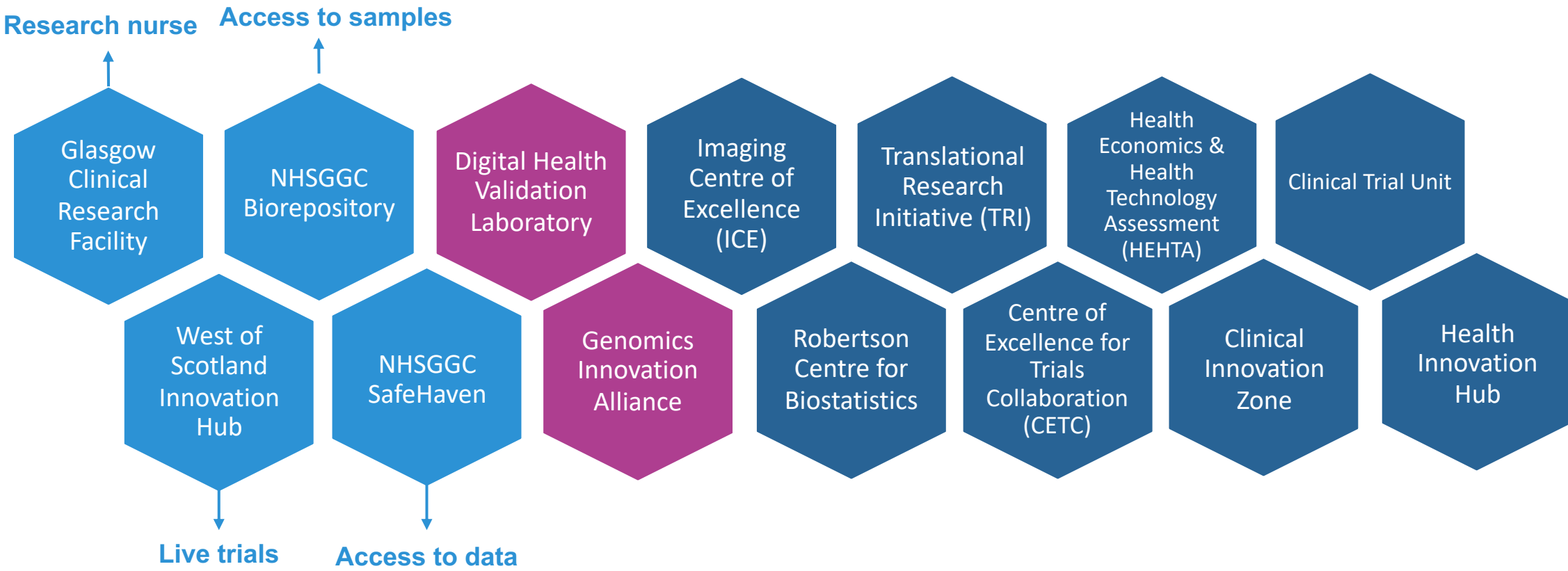
NHS Greater Glasgow and Clyde

Joint Initiatives

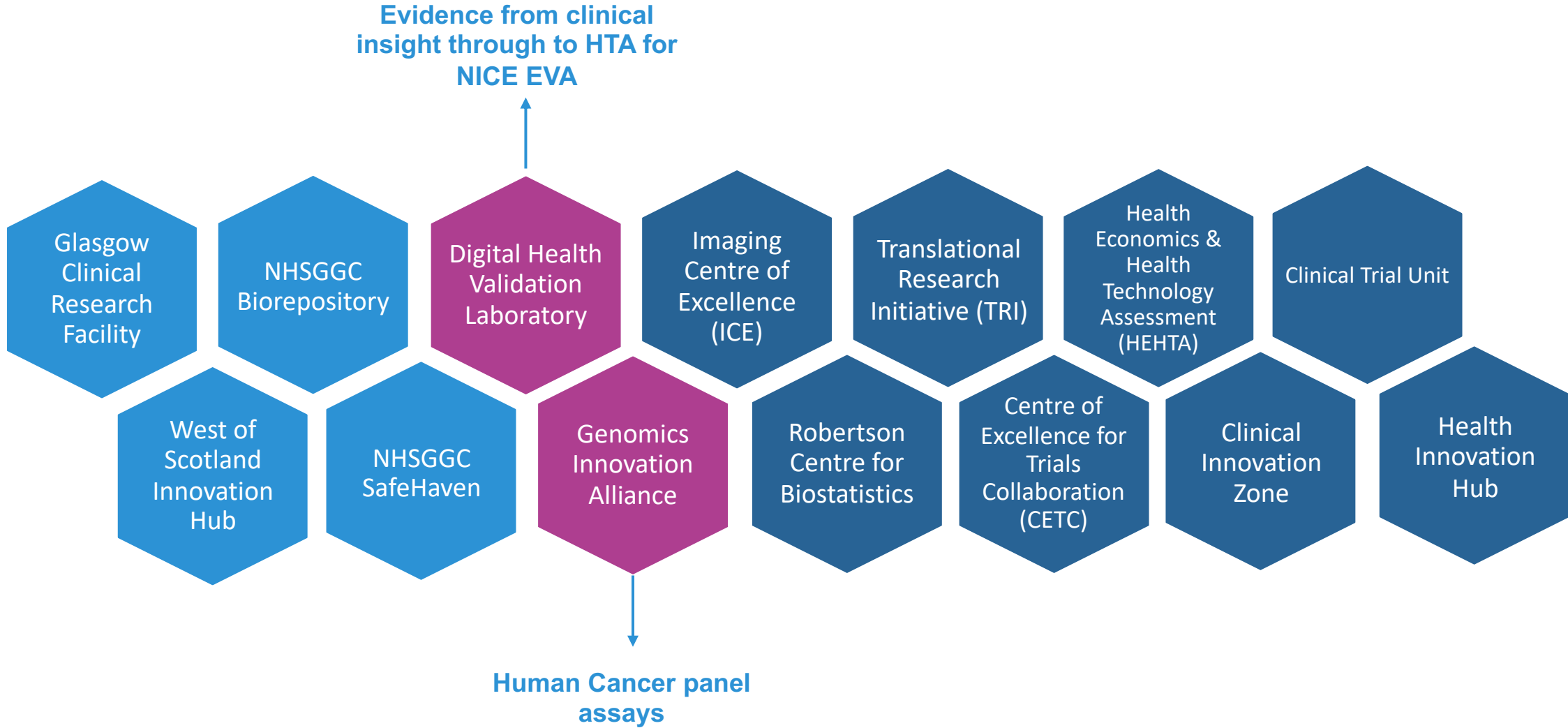
University of Glasgow



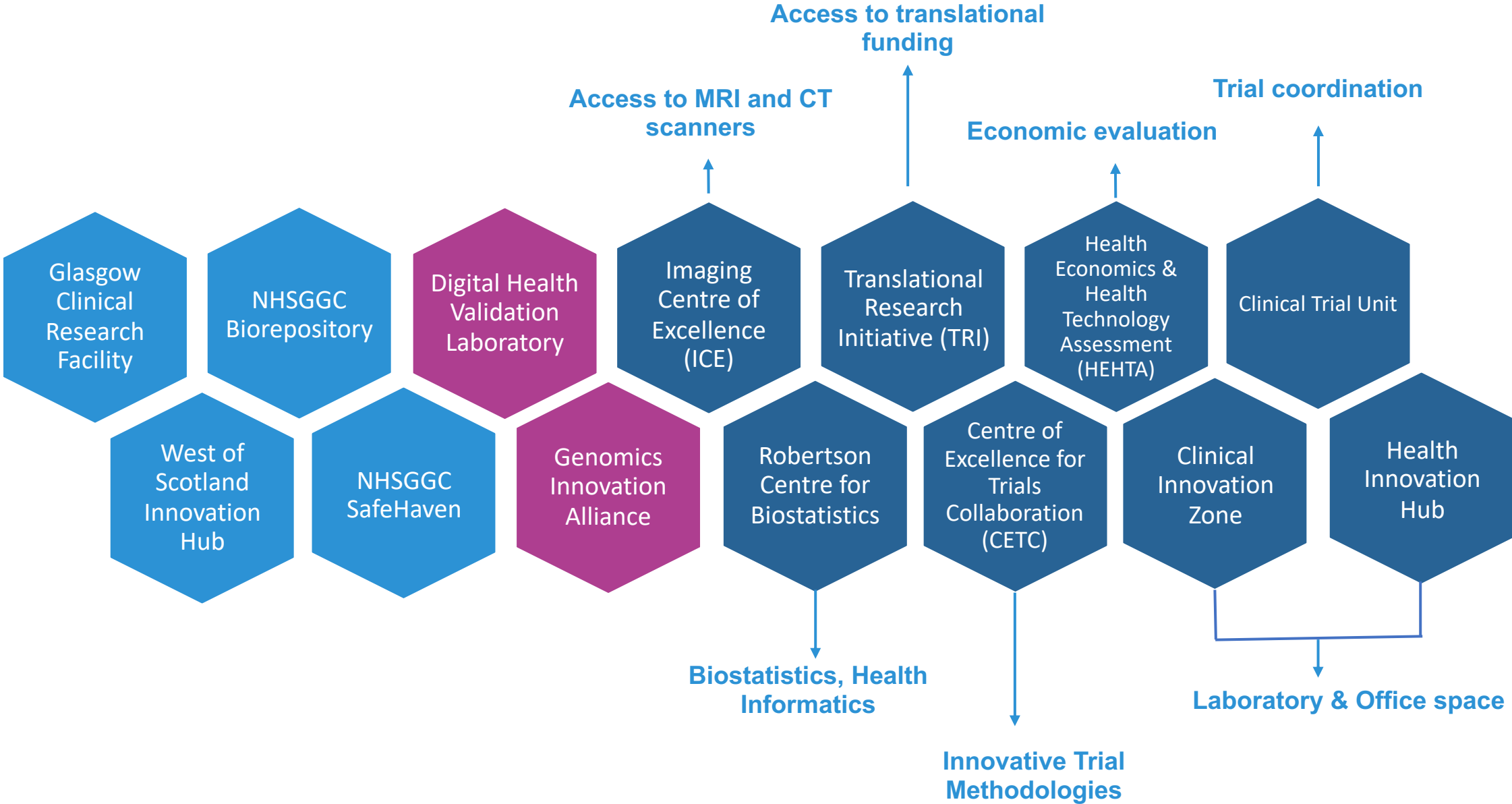
# Health Innovation Ecosystem in Glasgow



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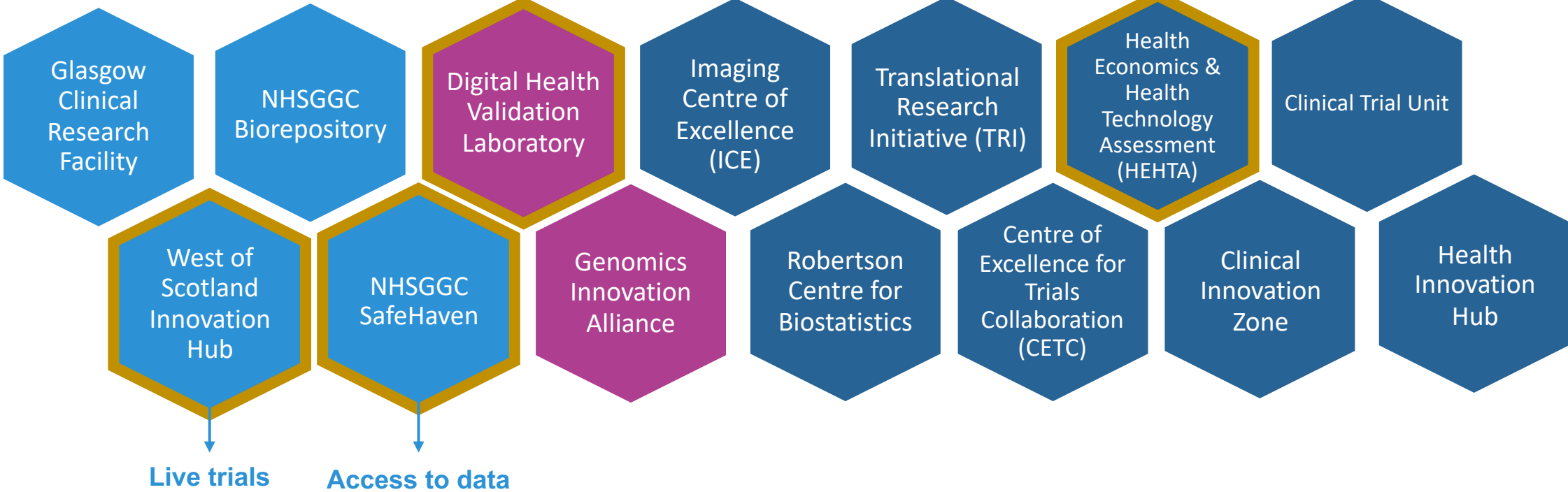


# Health Innovation Ecosystem in Glasgow

RADICAL

PPIE, evaluation studies

Economic evaluation



Live trials

Access to data





# 6 Projects

## Advanced Imaging

Digital Health (DHVL)

Pharmacogenomics

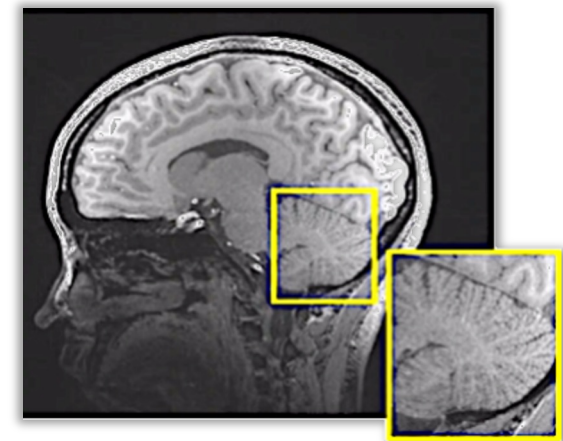
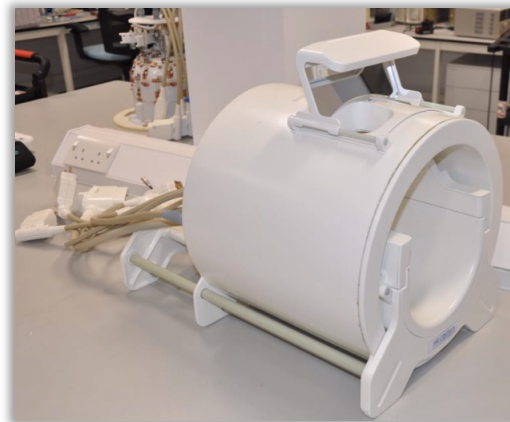
Radiogenomics

Spatial

Health Innovation Hub

## Coil for 7-Tesla MRI Scanner

Shajan Gunamony, MR CoilTech, Siemens



“Parallel Transmit Technology”

Working towards approval for intl markets

# 6 Projects

Advanced Imaging

## Digital Health (DHVL)

Pharmacogenomics

Radiogenomics

Spatial

Health Innovation Hub

## Digital Health Validation Laboratory

David Lowe, NHS



'Virtual trial' of new ideas:

"how do they fit in the NHS ecosystem?"

# 6 Projects

Advanced Imaging

Digital Health (DHVL)

**Pharmacogenomics**

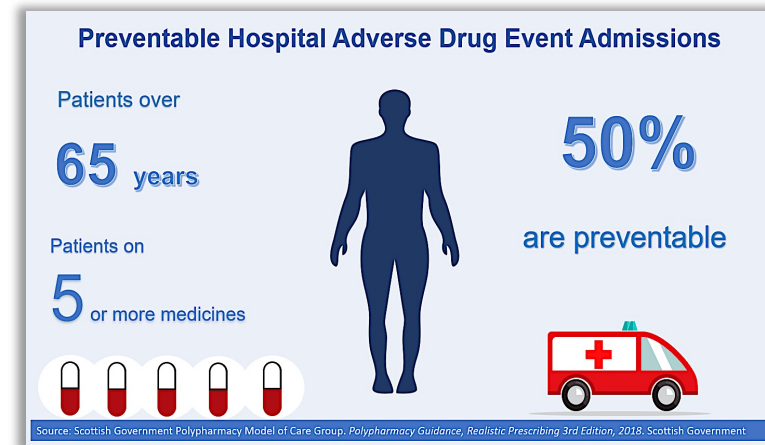
Radiogenomics

Spatial

Health Innovation Hub

## Multi-drug Risk Study

Sandosh Padmanabhan, corporate partners



Improve patient health  
reduce NHS costs

# 6 Projects

Advanced Imaging

Digital Health (DHVL)

Pharmacogenomics

**Radiogenomics**

Spatial

Health Innovation Hub

## Radiogenomics

*Kevin Blyth, Canon Medical, NHS*



Precision Diagnostics  
(also Omics, AI Path)

cancer (lung, salivary)  
giant cell arteritis, etc.

# 6 Projects

Advanced Imaging

Digital Health (DHVL)

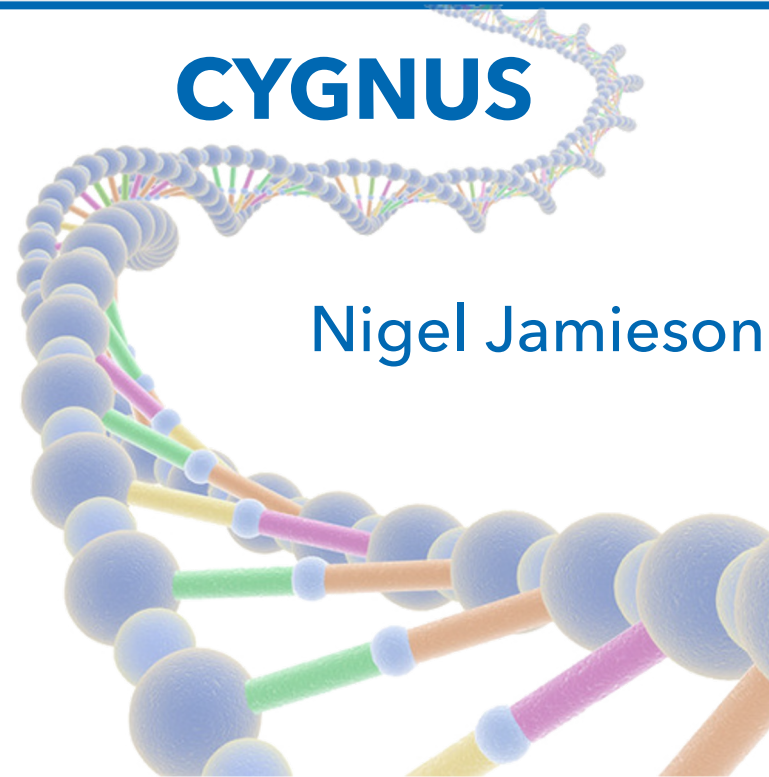
Pharmacogenomics

Radiogenomics

**Spatial**

Health Innovation Hub

## CYGNUS



Nigel Jamieson

Spatial Transcriptomics

Nanostring CosMX, GeoMX

# 6 Projects

Adv  
Digit  
Phar  
Ra



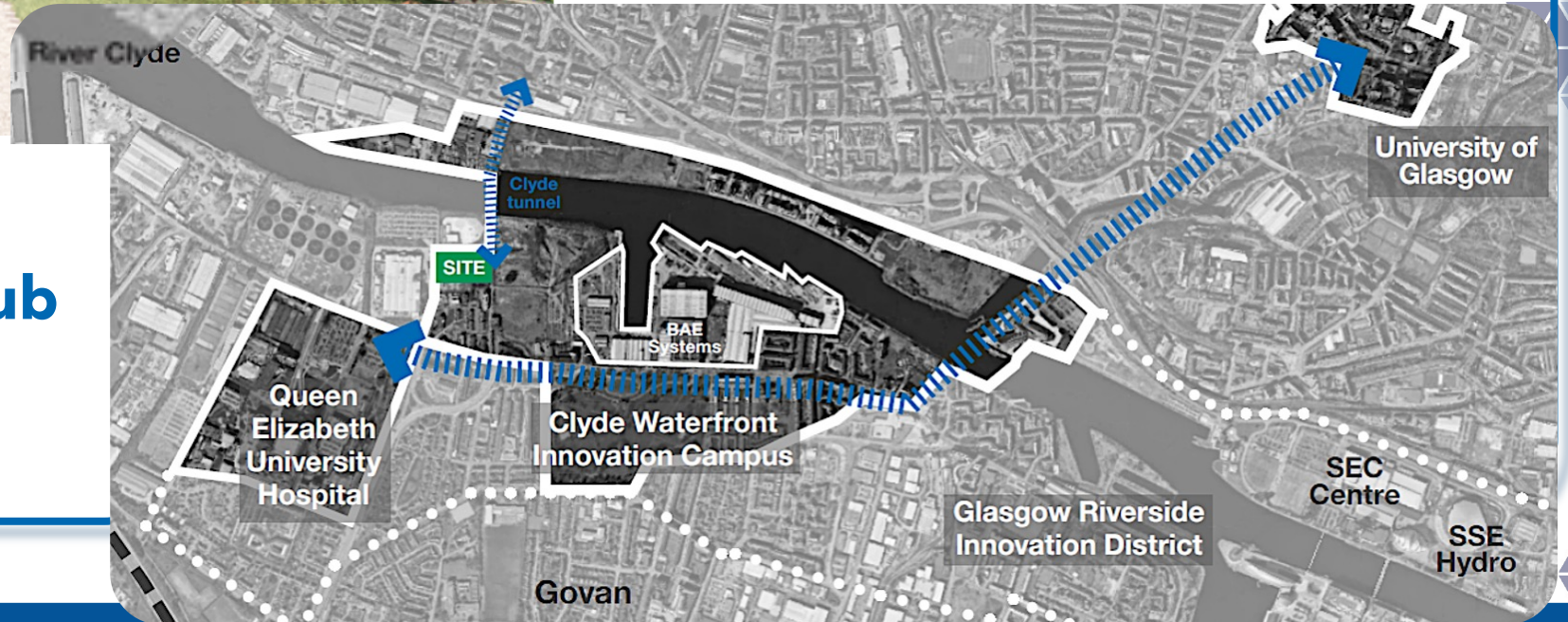
## Kadans Science Partner

UoG, DHVL

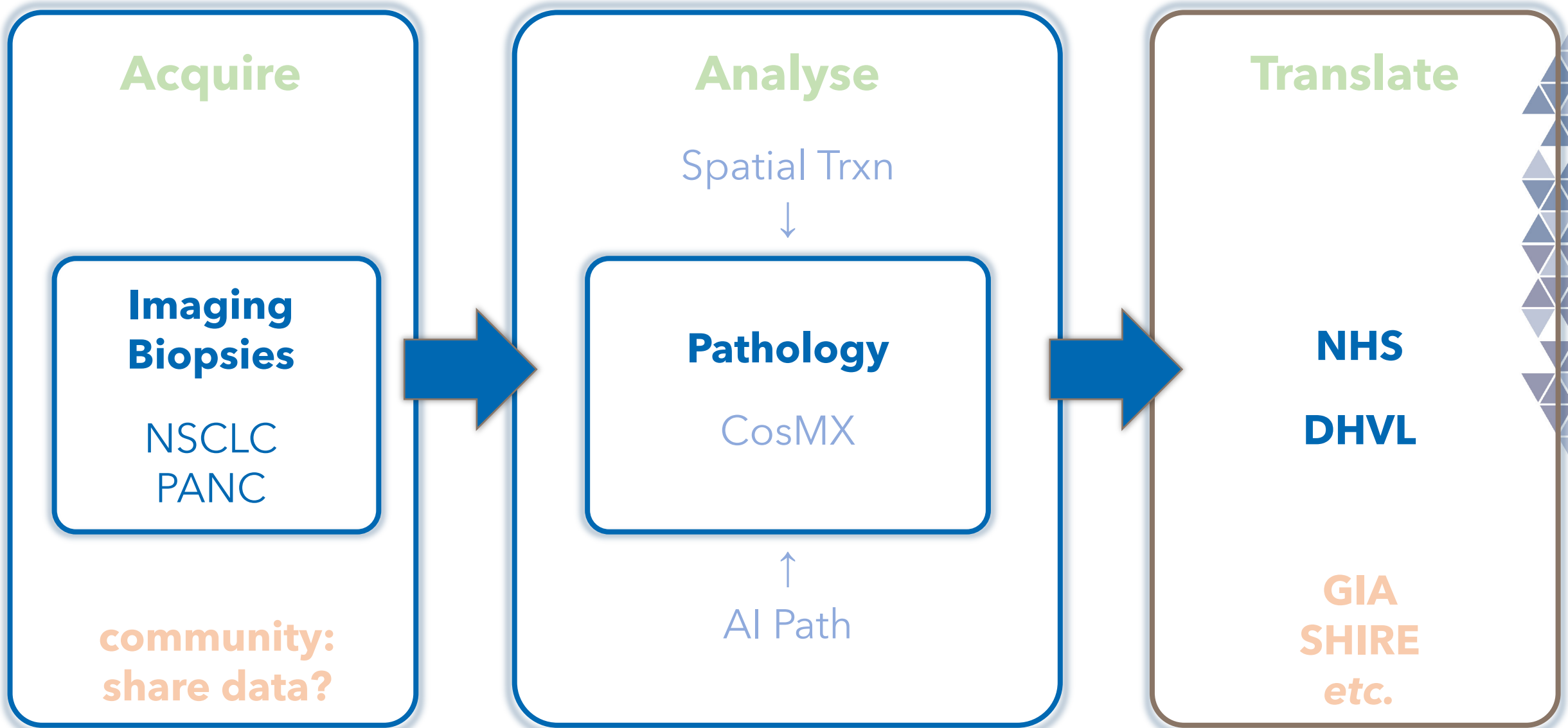
4 floors (65,000 sq ft lettable space)  
mix of tenants

Infrastructure

## Health Innovation Hub



# Building a Smooth Pathway



# Building Our Future

- 1. Living Lab future**
- 2. Engage the community**
- 3. Culture of entrepreneurship**
- 4. Outside expertise**
- 5. Scotland panel**
- 6. Vision**





# Our ecosystem offers a comprehensive suite of innovation assets to turn opportunities into impact fostering an environment conducive to business growth and innovation



Turn ideas into market ready healthcare innovations



Demonstrate safety and efficacy of healthcare innovations in real world settings



Increase trust with users



Utilise established evidence-based approaches to accelerate time to value



De-risk investment decisions



# Benefits to Scotland, Glasgow and their population

Facilitating Scotland's pioneering healthcare innovation initiatives to transform the health landscape





# Living Laboratory

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