

Empowering Partners on the ESG Journey – International Insights from Glasgow’s Innovation Districts

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Dear Grandpy,

I wanted to write this letter to help you understand a little bit more about what I am doing at university for my masters.

My goal is to help and give back to the world by saving lives and bettering the planet. Whether it be discovering new drugs to help cure disease, or sustainable methods to collect and distribute resources among our population, this course at Imperial college London will help me meet the right people and gain the right tools to do so.

The money you have so generously given to me will support me through my journey immensely and I hope one day I can do the same for my grandchildren.

Love, Jude



Empowering Partners on the ESG Journey – International Insights from Glasgow’s Innovation Districts

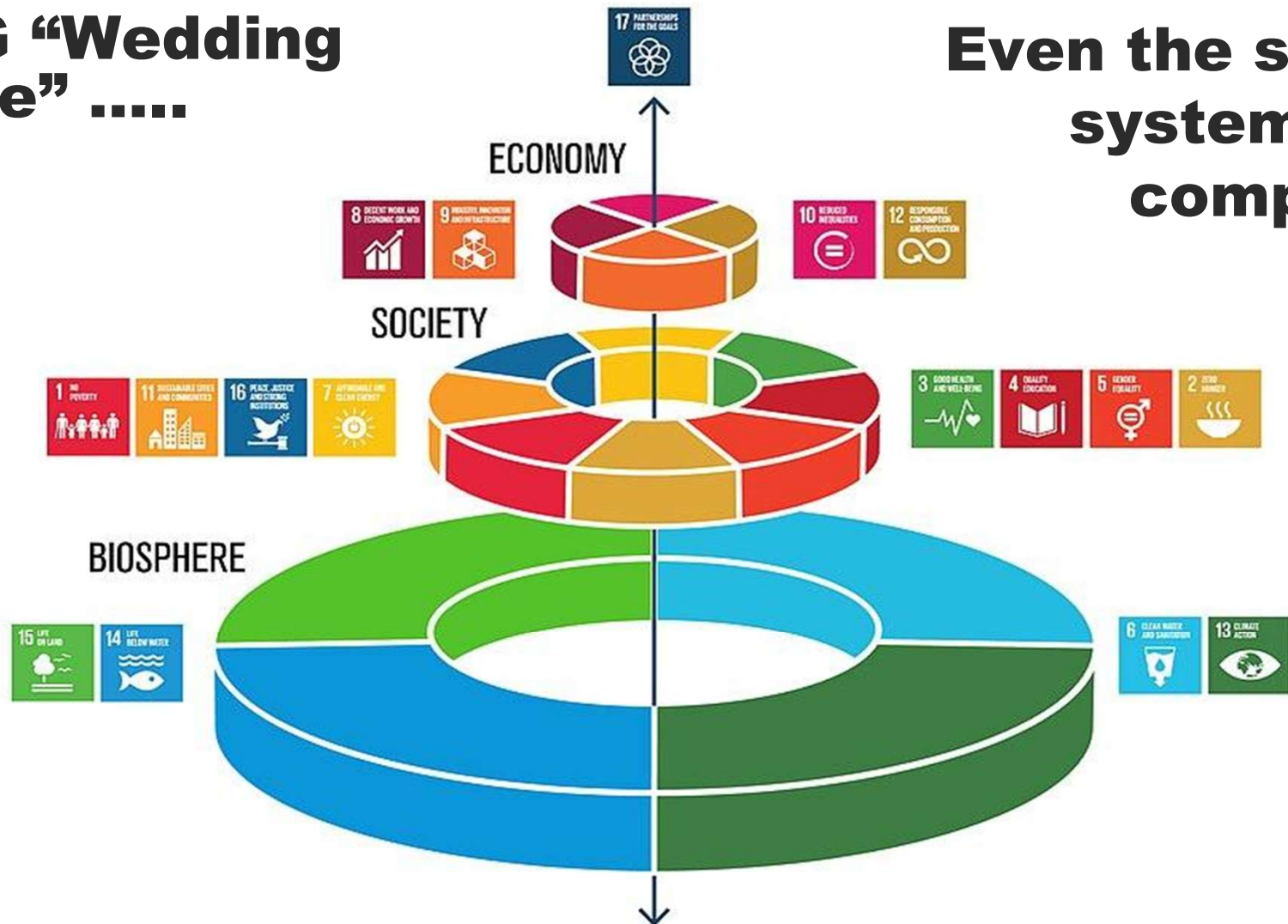
- *Why is this important?*
 - “Social” contract for future generations
 - What is ESG - and why is it important?
 - Insights and lessons to share
- Context University of Strathclyde
 - Place of Useful Learning
 - Sustainable Development
 - Innovation eco-system
- What is an innovation eco-system?
 - Science Park / Innovation District
 - Triple (quad) helix
 - Glasgow examples: GCID; NMIS; ANZIC
- Empowering partners - TRENDS programme
 - Assets
 - Actors
 - ...Action planning
- Insights and lessons - *reprise*
 - Systems thinking
 - Role of University (4th Generation)
 - Leadership and culture

Lessons and Insights

- Systems thinking
- Leadership and culture
- Role of Universities (4th Generation)

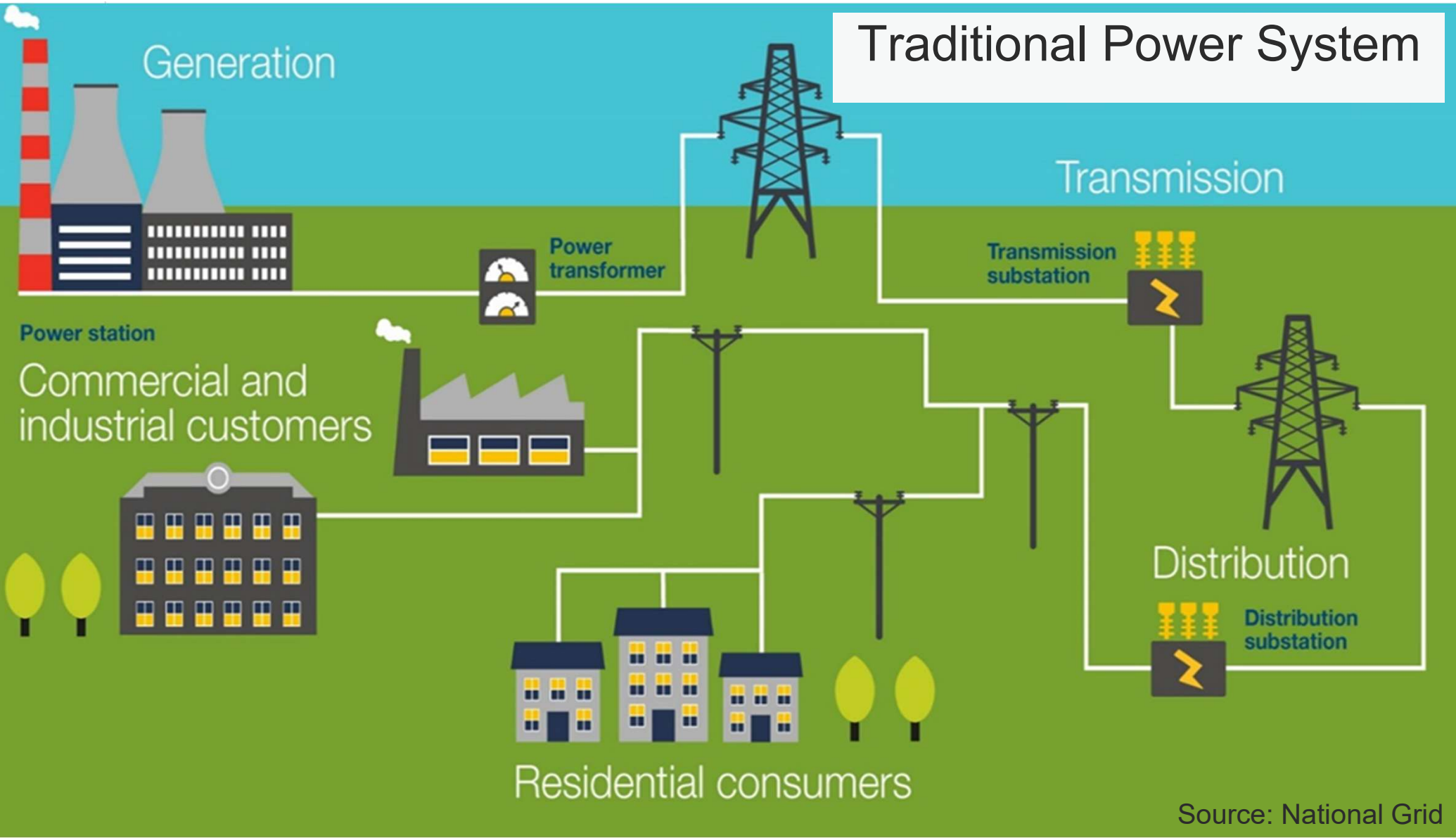
SDG “Wedding Cake”

Even the simple systems are complex...

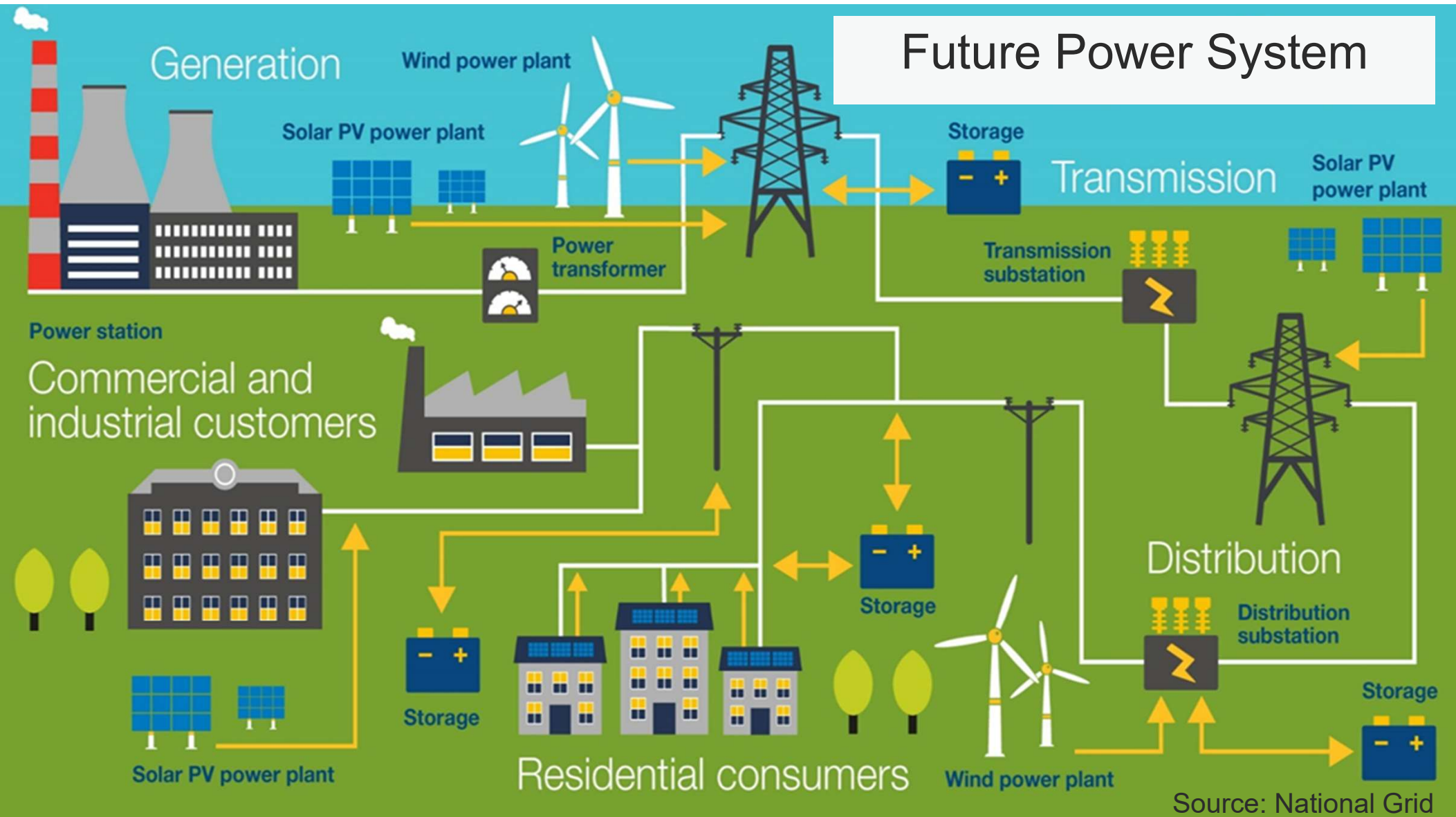


(Source: Azote Images for Stockholm Resilience Centre, Stockholm University)

Traditional Power System



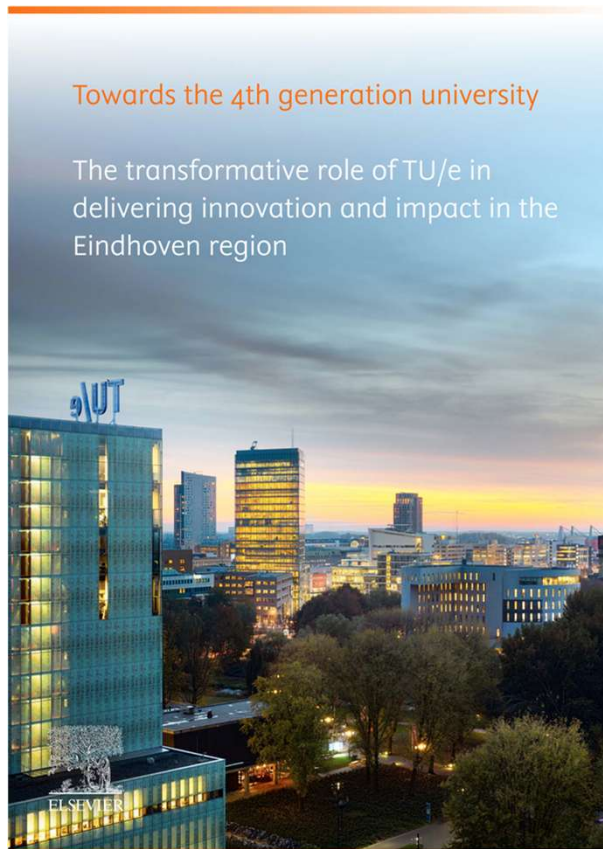
Future Power System



New set of leadership challenges

	Traditional Linear Thinking	Systems Thinking
Problem Framing	Defines ESG problems as isolated, manageable issues with simple solutions.	ESG seen as complex, dynamic challenges - interconnected parts.
Strategy & Planning	Focus: incremental goals and compliance.	Holistic strategy required, identifying points to influence systemic change.
Decision-Making	Cause-and-effect reasoning: event-based decisions.	Dynamic relationships & feedback loops: interconnected impacts across ecosystem.
Collaboration	Top-down, command-and-control model.	Leadership required across internal departments and external stakeholders.
Stakeholder Engagement	Engagement for managing risks or reporting requirements.	Need for diverse set of stakeholders for input and transparent communication.
Innovation	Solutions that fit with existing processes.	Culture of experimentation that seeks transformative solutions required
Risk Management	Focuses narrowly on immediate regulatory and reputational risks.	Change is constant: proactively assesses transition risks

(4th Generation) Universities can help



ELSEVIER



Gateway for Talent:

- Developing talent for industry

Industrial Collaboration:

- Strategic partnerships with industry

Alignment with key Technologies:

- Research focus: enabling technologies

Spinouts & Alumni-funded Companies:

- Entrepreneurial Ecosystem - commercialisation

Shaping the Innovation Ecosystem:

- Significant leadership – drive ecosystem



University of
Strathclyde
Glasgow

UK UNIVERSITY OF THE YEAR 2026

Daily Mail University Guide

SCOTTISH UNIVERSITY OF THE YEAR 2026

Times/Sunday Times Good University Guide

THE QUEEN'S ANNIVERSARY PRIZES 1996, 2019, 2021 & 2023

For Higher and Further Education

UK UNIVERSITY OF THE YEAR 2012 & 2019

Times Higher Education



Sustainable Development

Strathclyde ranked joint 25th in world for contribution to achieving Sustainable Development Goals

- Education and awareness raising – Promote understanding
- Research - Co-creation, implementation & evaluation of research.
- International Partnerships - Engage.
- Knowledge sharing & thought leadership - promoting our outcomes
- Capacity building - Build a community of sustainable development expertise



UNIVERSITY of STRATHCLYDE
**CENTRE FOR
SUSTAINABLE
DEVELOPMENT**





University of
Strathclyde
Glasgow



Royal Charter
since 1964
Useful Learning
since 1796

Our industrial connectivity, our approach to innovation and impact, our entrepreneurial spirit, our collaboration with other sectors and our authentic and effective widening access strategies have seen us blaze a trail that others are now following.

These routes to impact are underpinned by our ongoing excellence in research and education.

Professor Sir Jim McDonald GBE, Emeritus
Principal & Vice-Chancellor



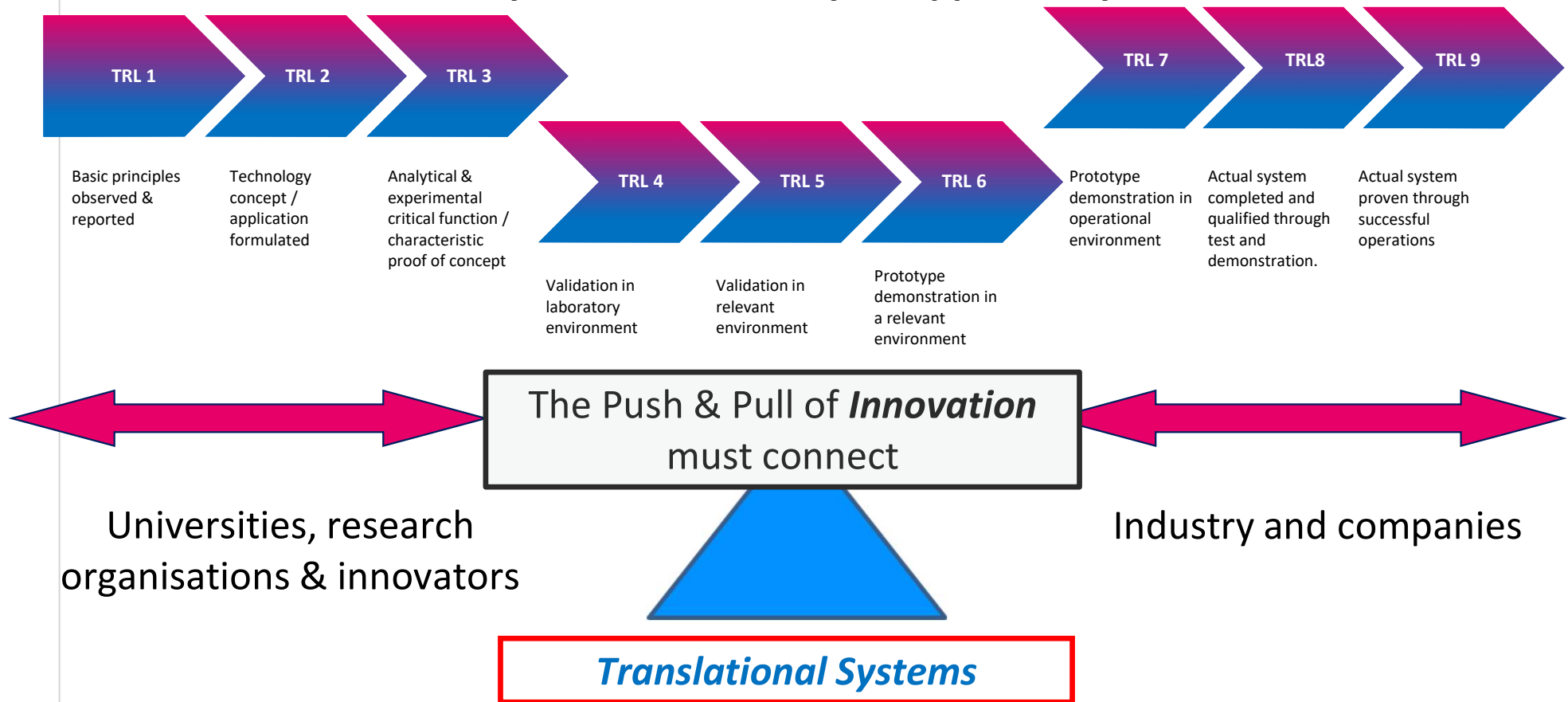
“Place of Useful Learning”

Our distinctive industry engagement model means we collaborate closely with a range of industrial partners

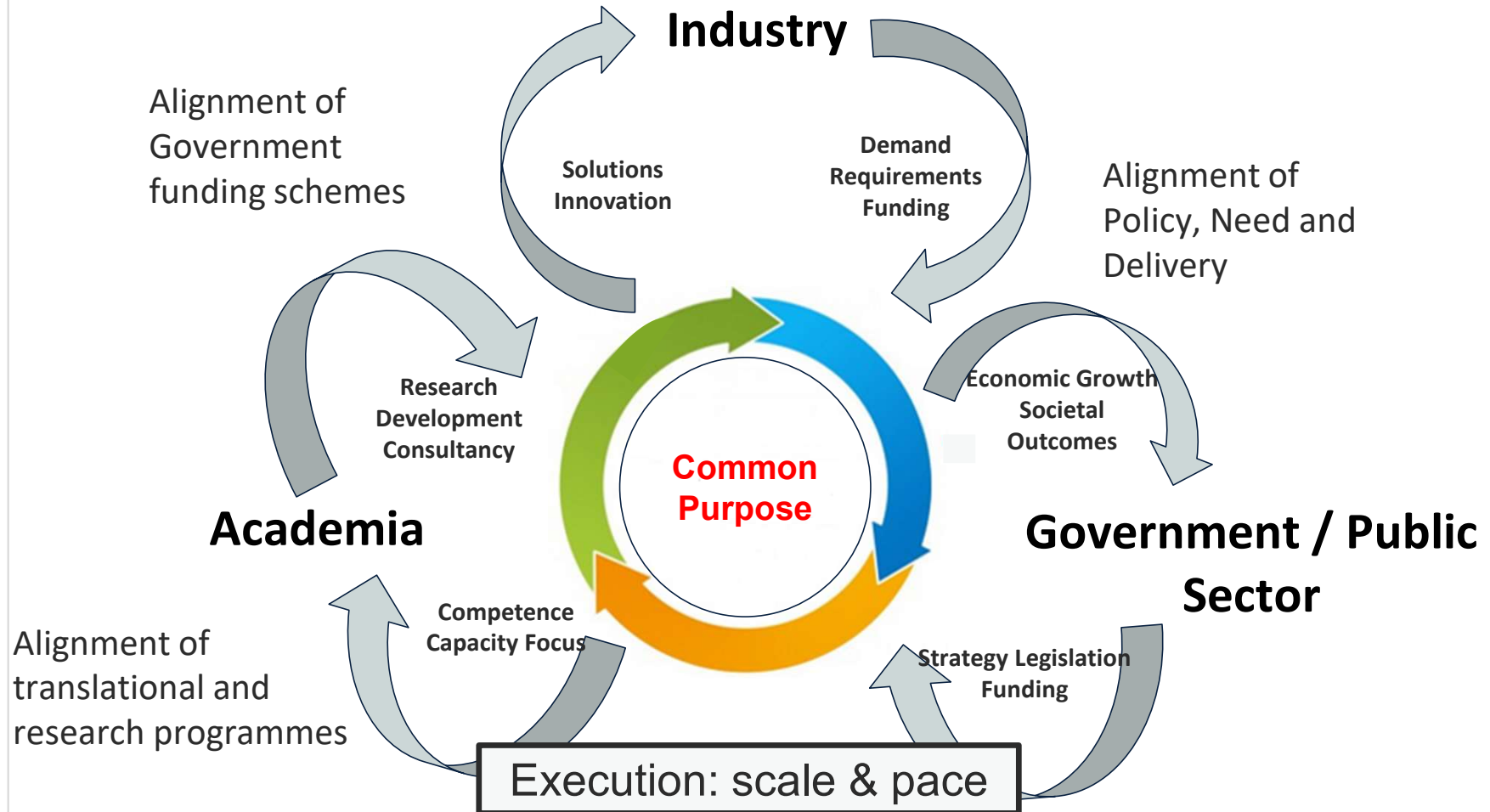


Rapidly translating research into application

‘Valley of Death’... ‘Valley of Opportunity’



Building Collaborations: The *‘Triple Helix’*

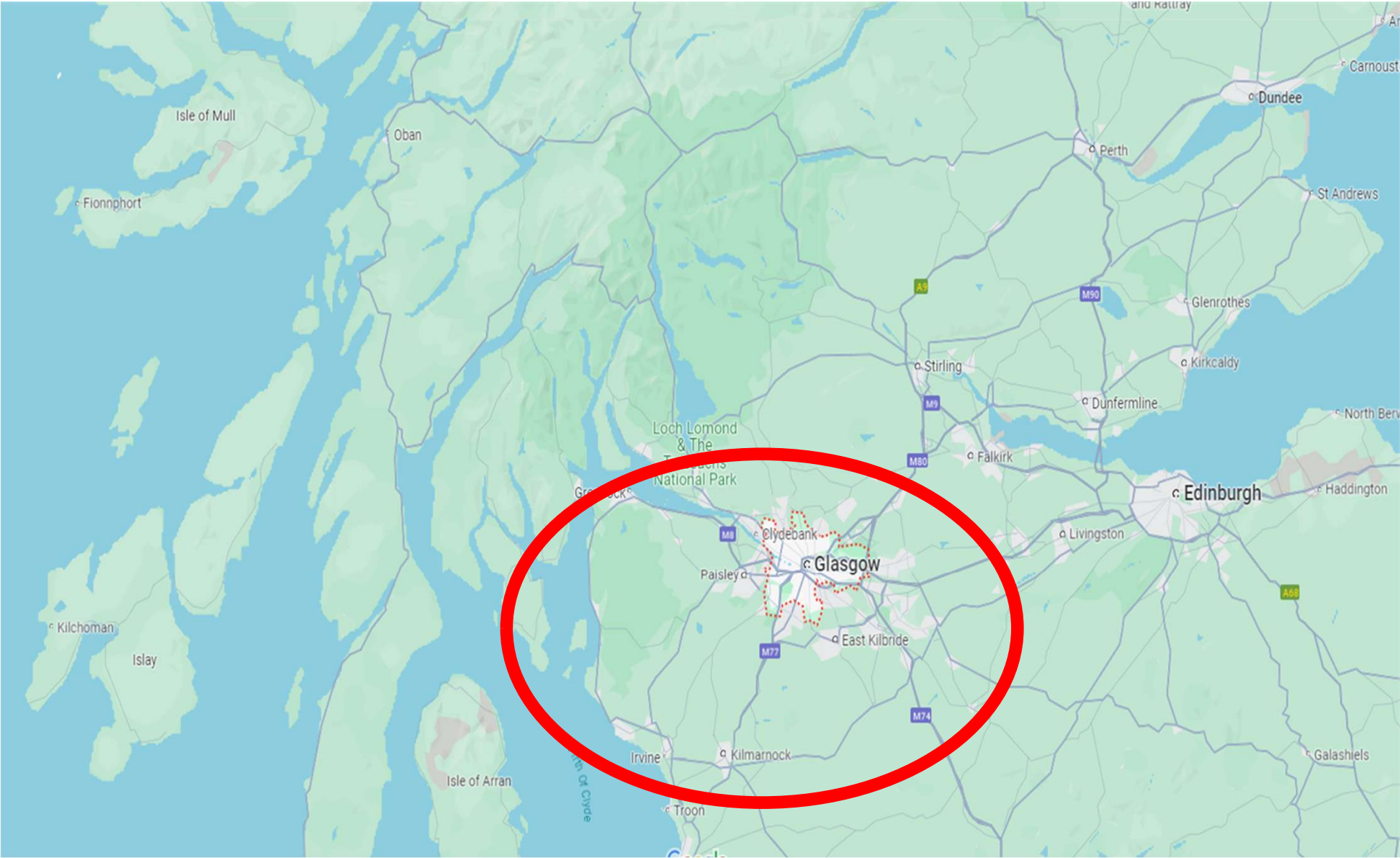


Role of Science & Technology Universities

- Universities as mission-oriented and innovation leaders
- Universities as innovation system integrators
- Universities as engines of innovation
- Universities as a source of entrepreneurship and innovation skills
- Universities as pillars of global open science

SOURCE: ROLE OF UNIVERSITIES OF SCIENCE AND TECHNOLOGY IN INNOVATION ECOSYSTEMS: TOWARDS MISSION 3.1 (CESAER)

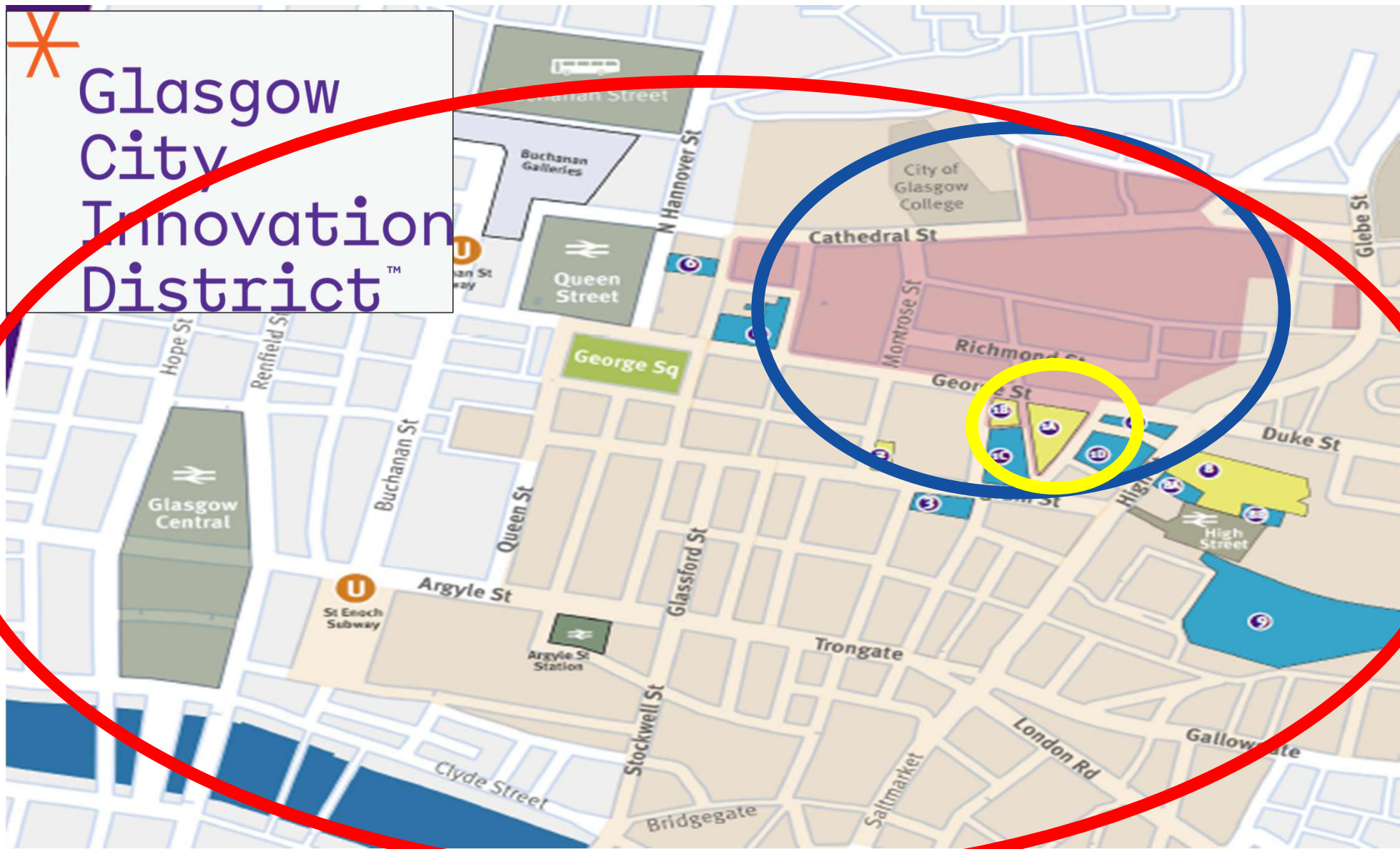




***National Manufacturing Institute Scotland (NMIS)
and Advanced Net Zero Innovation Centre (ANZIC), in
Advanced Manufacturing District Scotland***



***Glasgow City Innovation
District, GCID***



Technology & Innovation Centre

Technology & Innovation Centre: transforming how academics, business, community & public sector work in partnership.

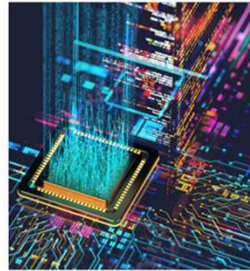


700 industry-facing leading-edge researchers, with businesses such as Rolls Royce, Pfizer, Siemens, Cisco...



Multiple partners

- 5 UK Government funded Catapults
- 4 Scottish Government funded Innovation Centres
- Fraunhofer Institute (Photonics)
- Industry Representative Bodies (e.g. FinTech Scotland) and
- Spin-outs and high growth companies
- Many others



CENSIS



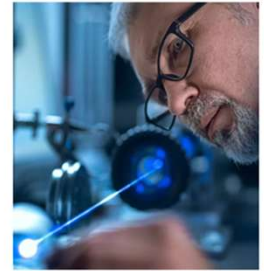
Digital Health & Care



IBioIC



The Data Lab



National Physical



**Connected Places
Catapult**



**High-value
Manufacturing**



**Offshore Renewables
Catapults (ORE)**



**Satellite Applications
Catapult**



**Compound
Semiconductor**



Techscaler



Barclays Eagle Labs



**Royal Academy of
Engineering**

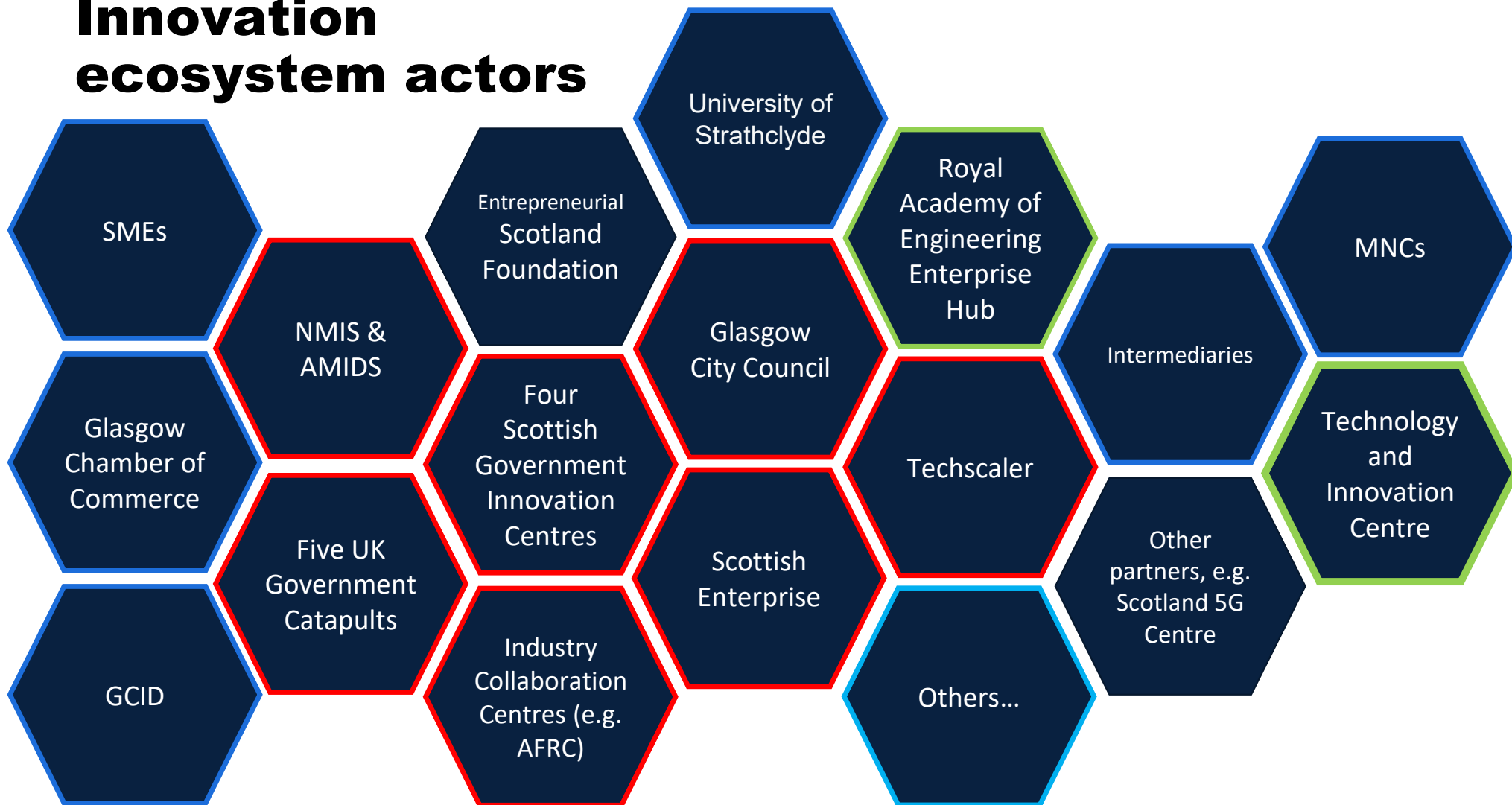


**The Scotland 5G
Centre**



**Entrepreneurial
Scotland**

Innovation ecosystem actors



National Manufacturing Institute Scotland (NMIS)

Centres:

- Advanced Forming Research Centre
- Lightweight Manufacturing Centre
- Manufacturing Skills Academy
- Digital Factory
- Collaboration Hub



Advanced Net Zero Innovation Centre

ANZIC: critical anchor for UK net zero innovation - a bridge to global markets and partnerships ...bringing a whole-systems, whole-value-chain approach:

- Bring people together: build capacity
- Host global companies
- Support home-grown innovators to scale internationally
- Focus on impact

Clarity of purpose within the innovation ecosystem: a catalyst and a convener – connecting the expertise of researchers with:

- the insight of industry,
- the vision of government, and
- the needs of society.



[Link](#)

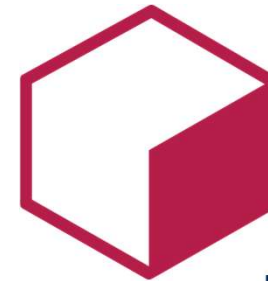
Glasgow Economic Leadership

Strategic leadership body for economic development in Glasgow City Region to boost private and public investment

The Board has a ‘triple helix’ membership that brings together senior leaders from academia, industry and the public sector.

GEL has responsibility for providing strategic direction to:

- Sectors (with several private sector-led-key work streams)
- Innovation
- Glasgow’s business messaging
- Investment
- Business Support
- Skills ‘hubs’



GLASGOW
ECONOMIC
LEADERSHIP



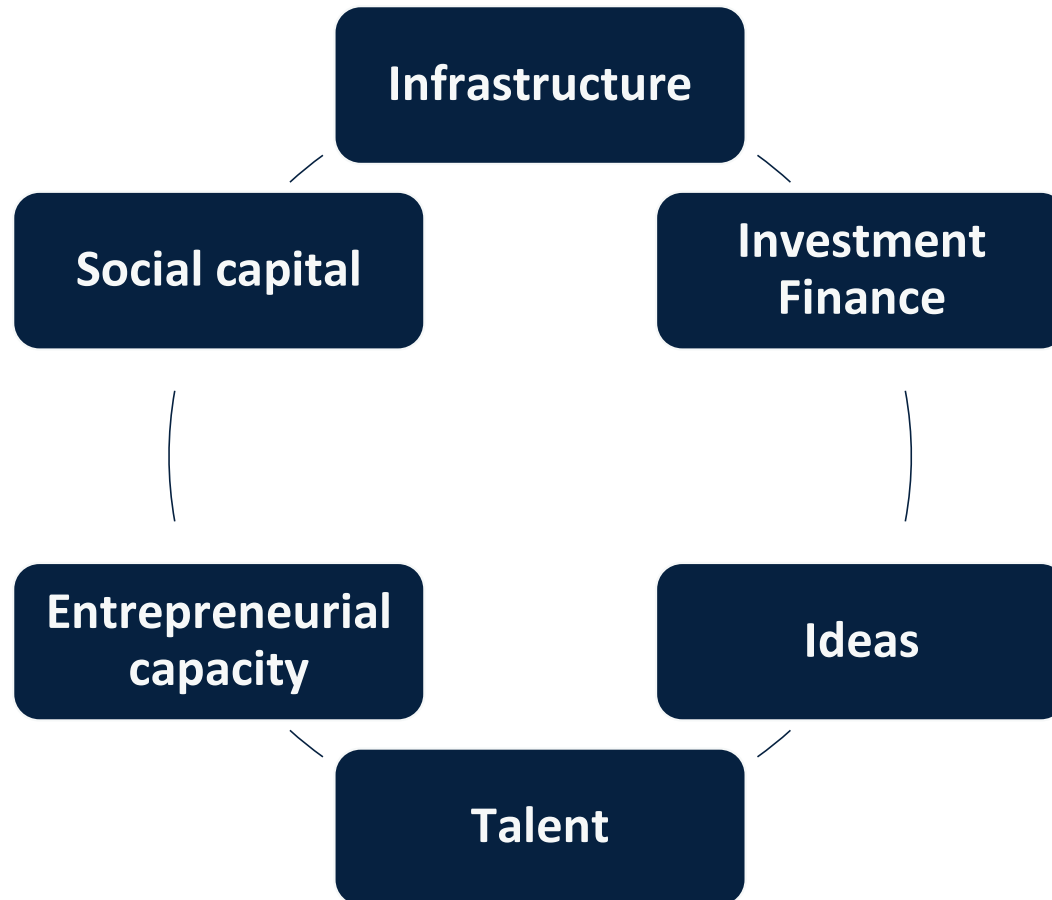
GLASGOW
CHAMBER OF COMMERCE

TREX – Training Research Executives

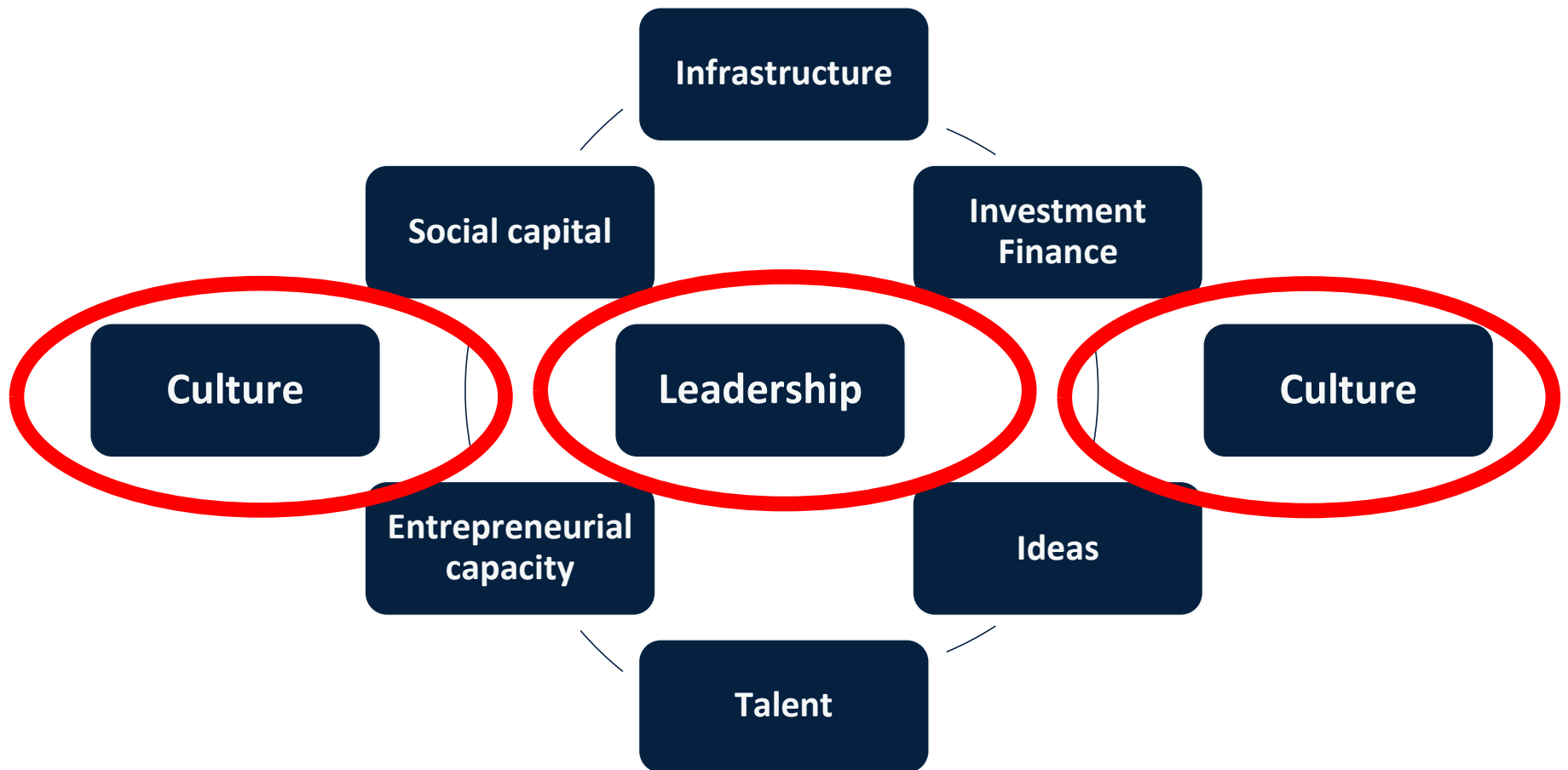


[Video link](#)

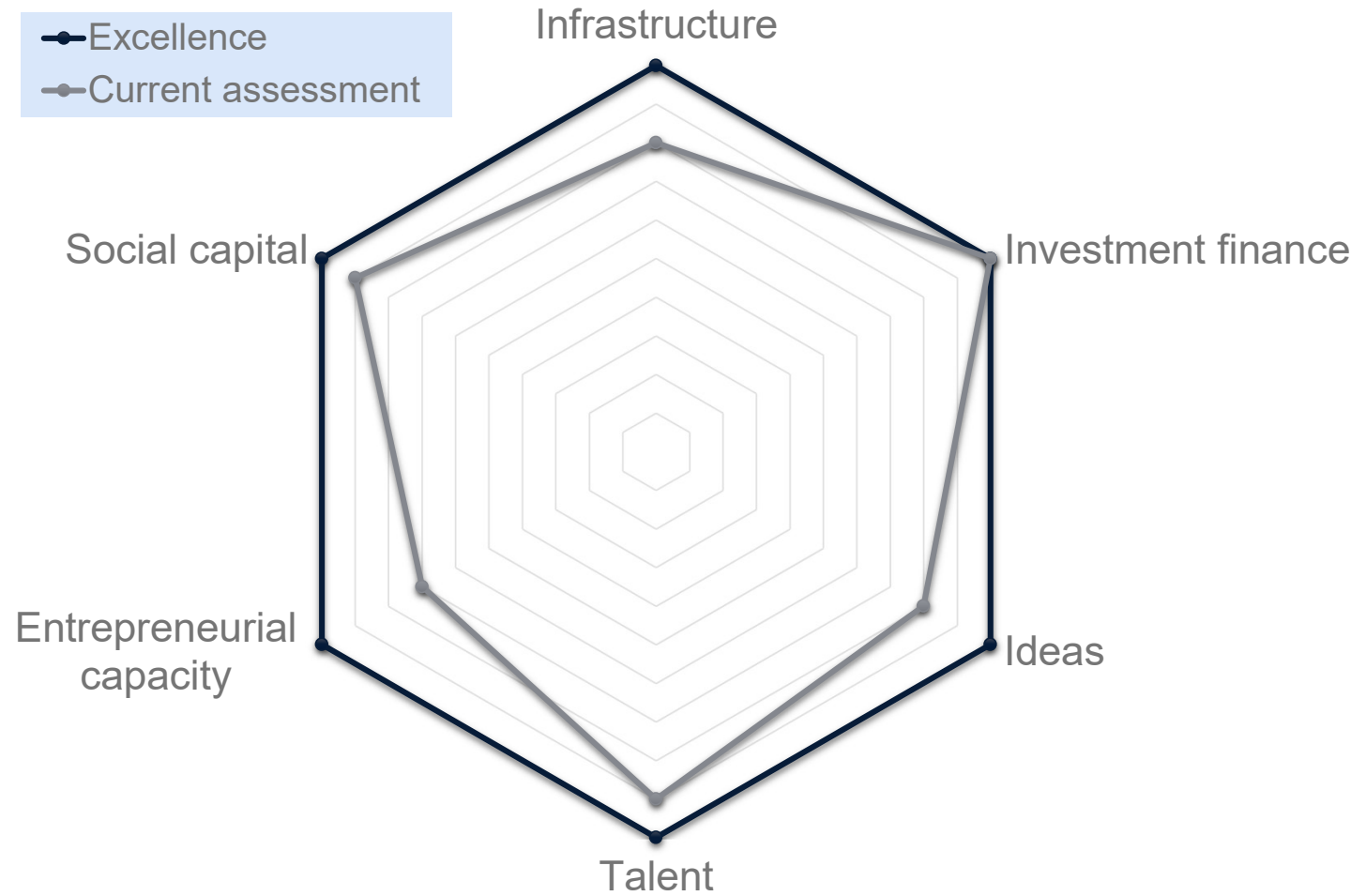
Innovation ecosystem – assets



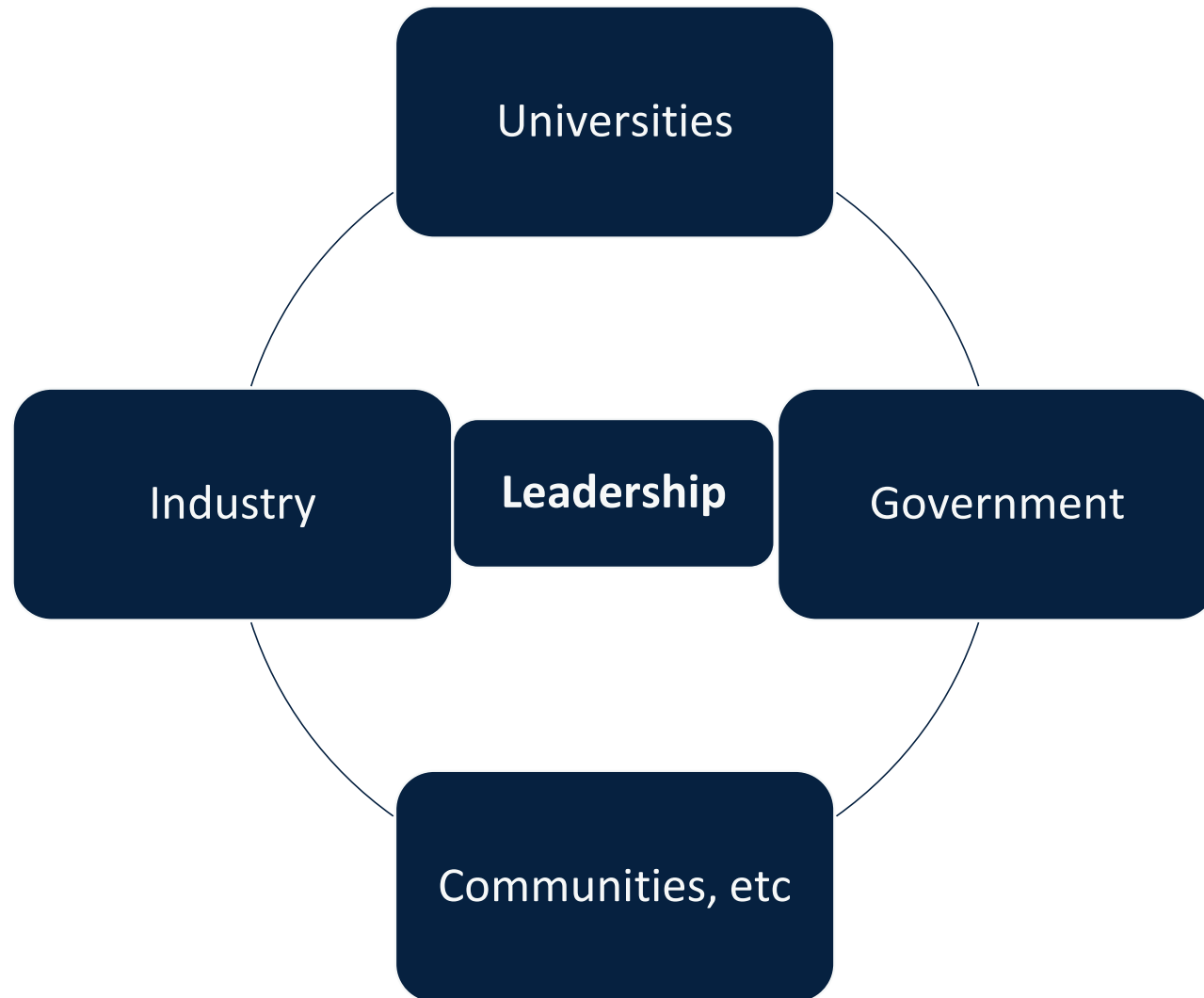
Innovation ecosystem – assets



Develop benchmarking & diagnostic tool together



Innovation Ecosystem Actors



Innovation ecosystem – action *plan*

	University	Government	Business community	Others
Infrastructure				
Investment finance				
Talent				
Entrepreneurial capability				
Social capital				
Ideas				



...ButThe Connection Challenge



Rank Top ten barriers for **business**

- 1 IP and other contract negotiations are difficult to complete, processes difficult to navigate, or take too long
- 2 Business find it difficult to identify academic partners or where academic capability lies
- 3 Business and academia operate to different timescales
- 4 Lack of funding
- =5 Lack of alignment of objectives: tension between business and university needs or objectives
- =5 Lack of trust or mutual understanding
- =7 Businesses focus on the short term, rather than long term R&D
- =7 Other funding issues (for example, SME eligibility, subjects within scope)
- 9 Low overall levels of business investment in R&D, including a lack of absorptive capacity
- 10 Lack of understanding within business of potential benefits of working with universities

Rank Top ten barriers for **universities**

- 1 University metrics, including the REF, prioritise the production of high-quality publications
- 2 IP and other contract negotiations are difficult to complete, processes difficult to navigate, or take too long
- 3 Other pressures on academic time (teaching and research) limit resources for collaboration
- 4 Lack of funding
- =5 Collaborative experience not valued as part of academic career progression
- =5 Lack of time/resource for networking or project development
- =7 Business and academia operate to different timescales
- =7 Tension between academic desire to publish work, and business concerns about competition
- 9 Lack of trust or mutual understanding
- 10 Low overall levels of business investment in R&D, including a lack of absorptive capacity

Lessons

- Systems thinking
- Leadership and culture
- Role of University (4th Generation)

Leadership skills

Skill area	Traditional linear thinking	Systems thinking
Problem solving	Problem decomposition: Breaks problems into parts (symptoms).	Identifies patterns to understand deeper structures driving issues.
Strategy and planning	Sequential planning: Uses a step-by-step, predictable process.	Strategic foresight: Anticipates risks / opportunities - continuously scanning.
Decision-making	Centralises decision-making, emphasising speed and efficiency	Distributed agility: Decentralise decision-making – empower, allow iterative adjustments.
Collaboration	Transactional: Manages relationships on explicit needs	Coalition-building: Mobilises a diverse network - co-create & build common purpose.
Empathy & culture	Functional focus: Prioritises achieving goals and targets.	Uses emotional intelligence to listen, build trust, and navigate sensitive issues
Learning and growth	Assumes expertise is fixed and best practices are stable.	Continuous learning: insights are gathered from failures - refine strategy continuously

Towards the Fourth Generation University

	3rd Generation		4th Generation
Goal	Education, research and knowledge transfer	▶	Mission-driven (challenge-based) education, research and valorization
Role	Create value	▶	Enable societal value creation
Method	Interdisciplinary research	▶	Transdisciplinary research and multi-actor innovation
Human capital	Researchers, professionals and entrepreneurs	▶	Researchers, professionals, entrepreneurs, artists, customers, ecosystem participants
Orientation	Global orientation	▶	Ecosystem orientation
Organization	Institutes, centers	▶	Innovation spaces
Interaction	Industrial partnerships	▶	Integration in global and local ecosystems
Technology integration	Digital instruments	▶	Advanced technology and AI integration

Source: Towards the 4th generation university





University of **Strathclyde** Glasgow

