

Tackling challenges: A look at lessons learned from the UK

Matthew Durdy, CEO
Cell and Gene Therapy Catapult

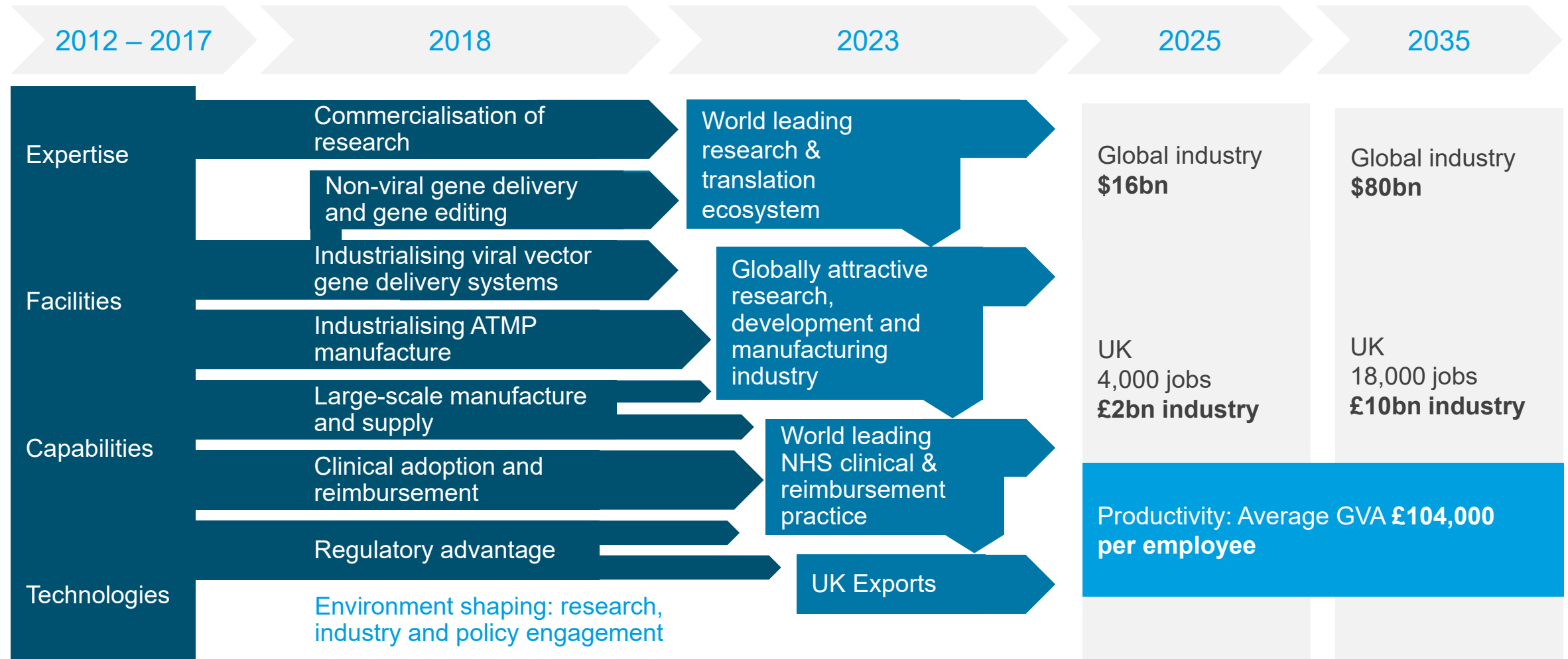
Our mission

Accelerate	Complement	Innovate	Facilitate
the commercialisation of innovations from research	industry and academia with unique technical facilities and expertise	in collaboration with academia and industry	operating in UK as a global centre; working with Government, the NHS and international regulators

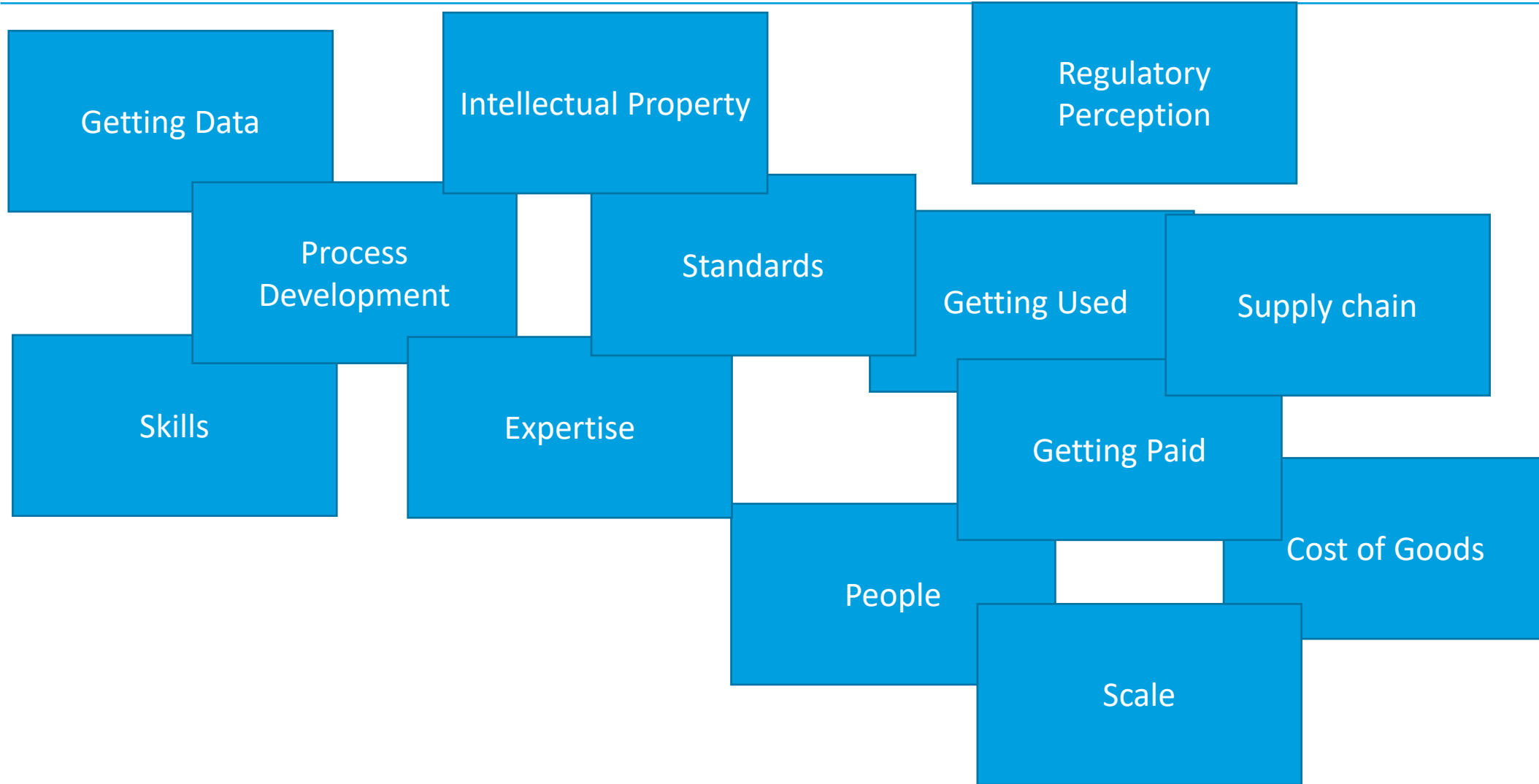
← Cell and gene therapy specialists (>300) →

London	Stevenage	Braintree
1,200m ² centre for industrialising cell and gene therapy manufacture	7,700m ² facility for cell and gene therapy manufacturing at scale	4,627m ² facility to develop technology transfer innovation for industrial scale cell and gene therapy manufacturing
Industrialisation	Regulatory and clinical	Engagement
<ul style="list-style-type: none"> Process development Analytical development Manufacturing systems Supply chain 	<ul style="list-style-type: none"> Regulatory Non-clinical safety Clinical delivery Programme management 	<ul style="list-style-type: none"> Collaboration formation Intellectual property and patent Health economics Reimbursement

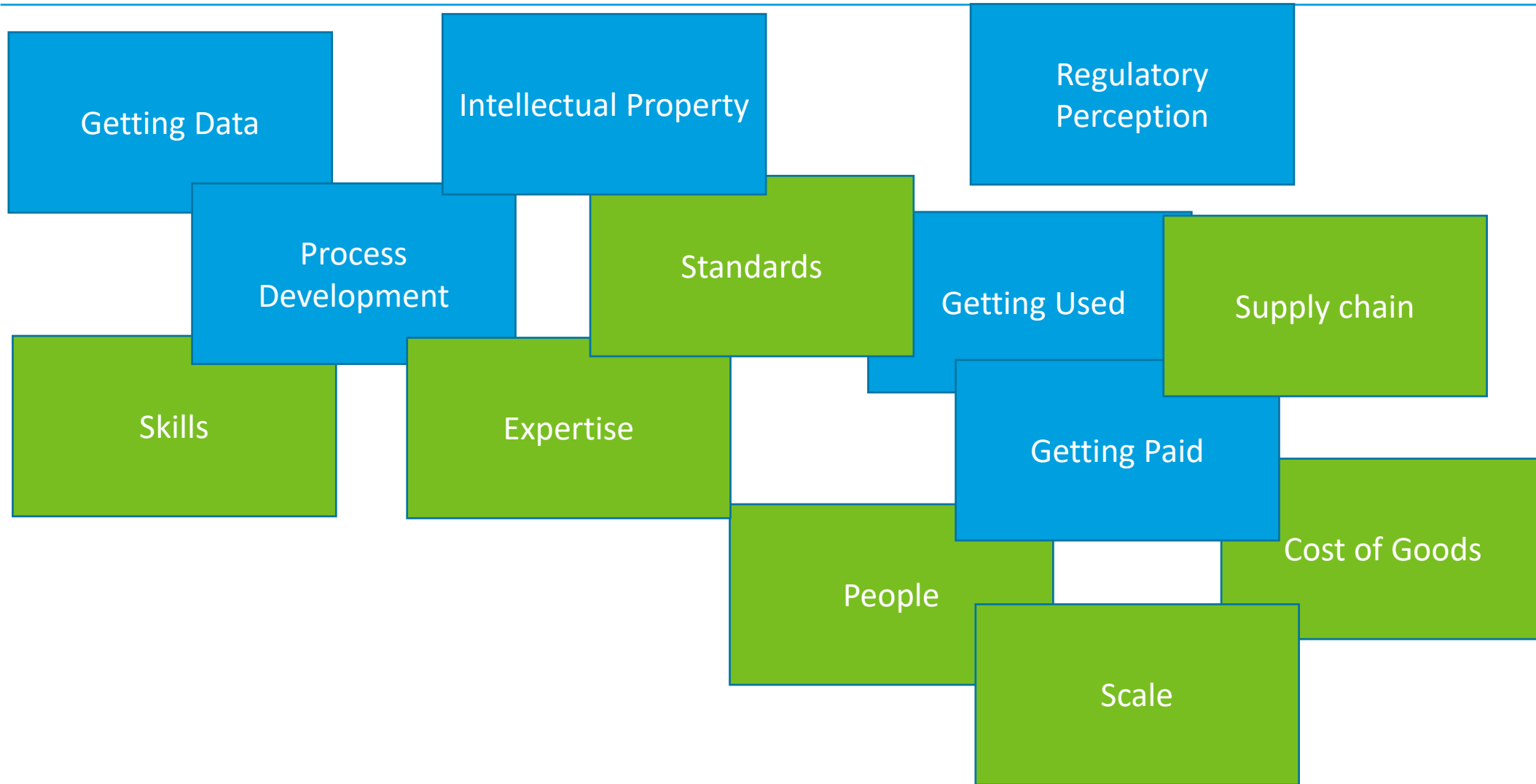
Strategic roadmap



What were the barriers?



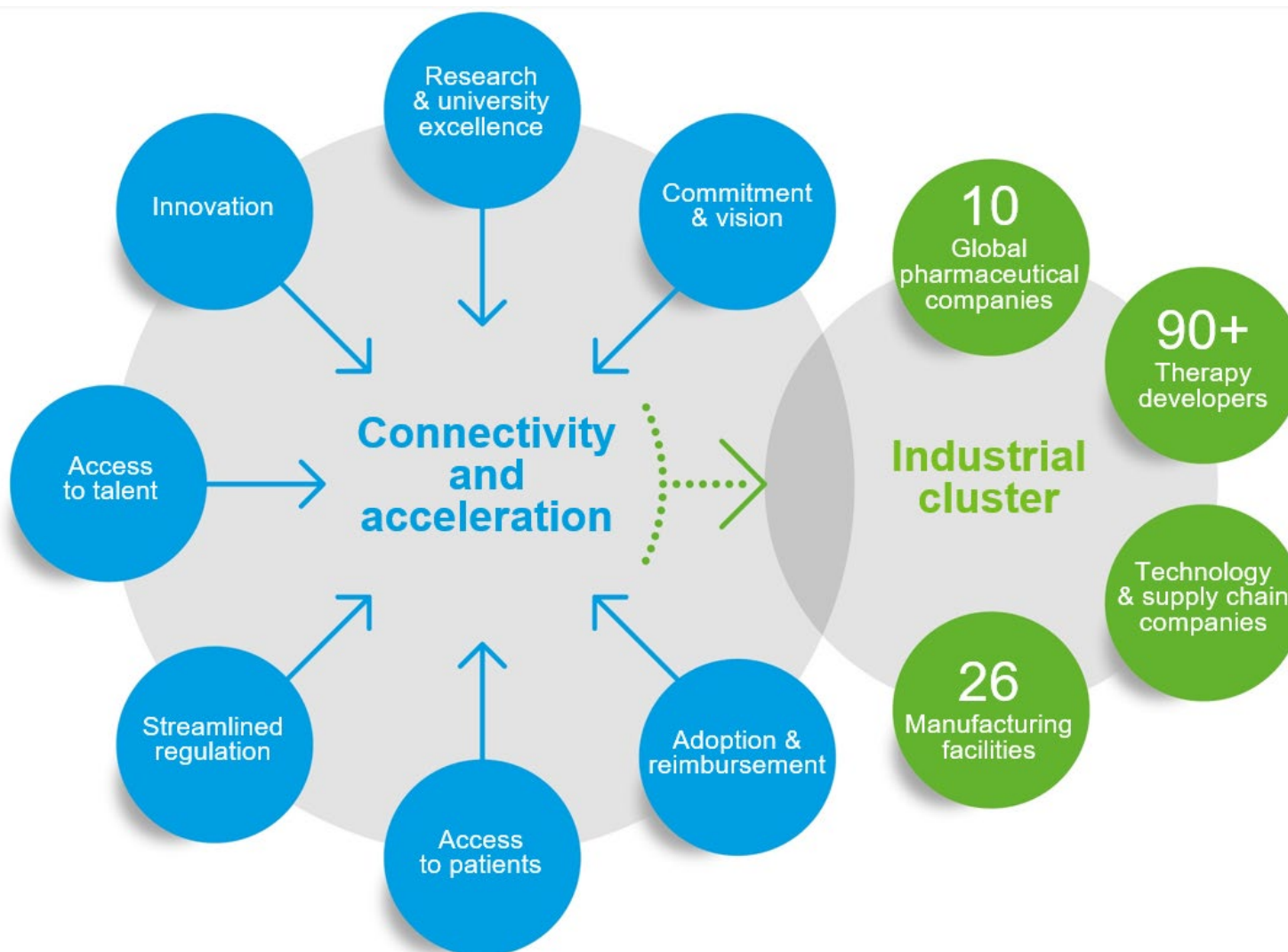
Working together



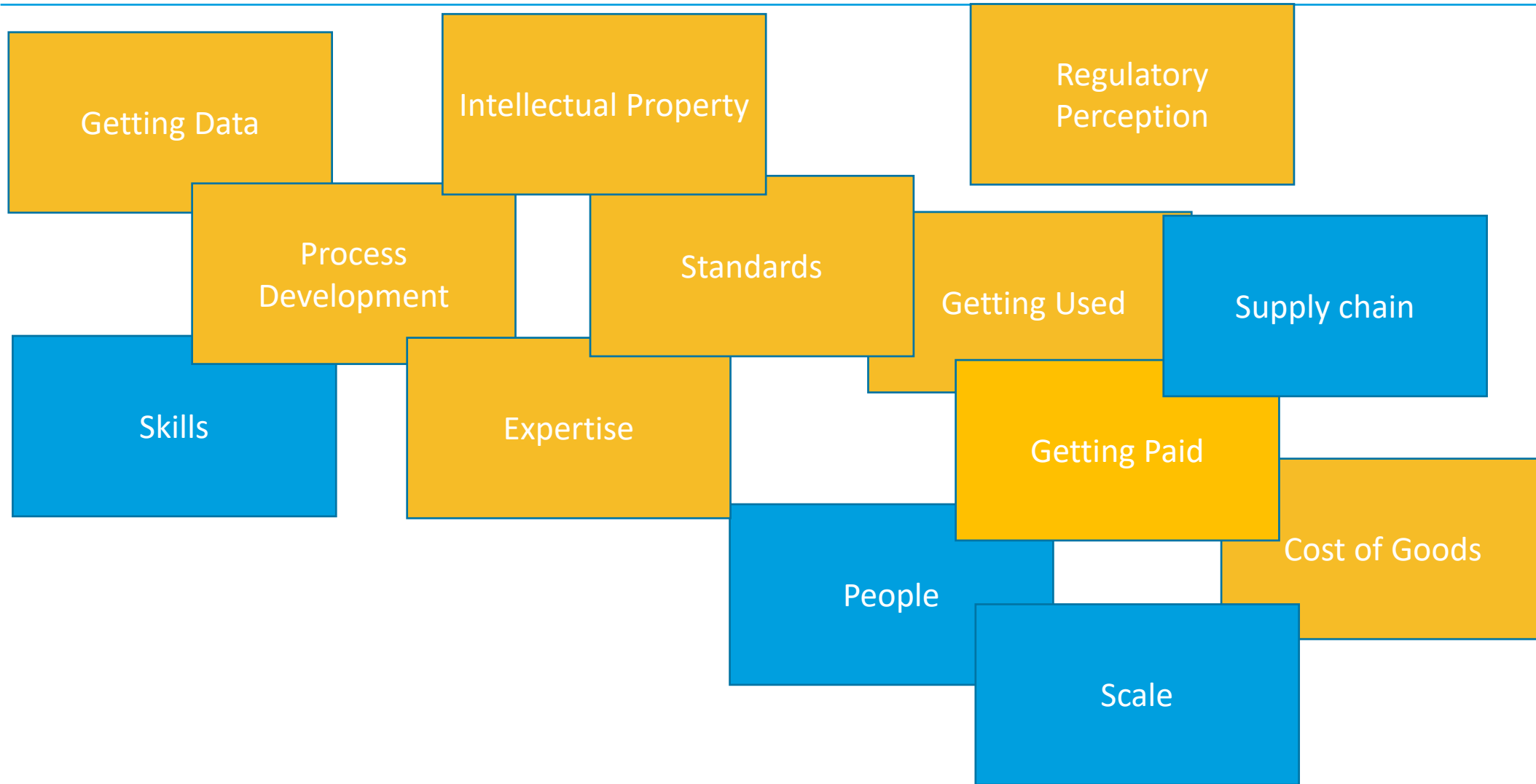
At the heart of the UK ATMP ecosystem

The UK has become the **go-to place for cell and gene therapy development** and boasts a complete cell and gene therapy ecosystem.

CGT Catapult is **facilitating the growth** of the UK ecosystem by working collaboratively with industry, the **research base, Government, the NHS, industry associations** and **international organisations**.



Design and Innovation



Our facilities



London

- 1,200m² purpose built centre located on the 12th floor of Guy's Hospital
- Analytical characterisation
- Process development
- Viral vector
- Stem cell differentiation
- 10th floor collaboration laboratory



Stevenage

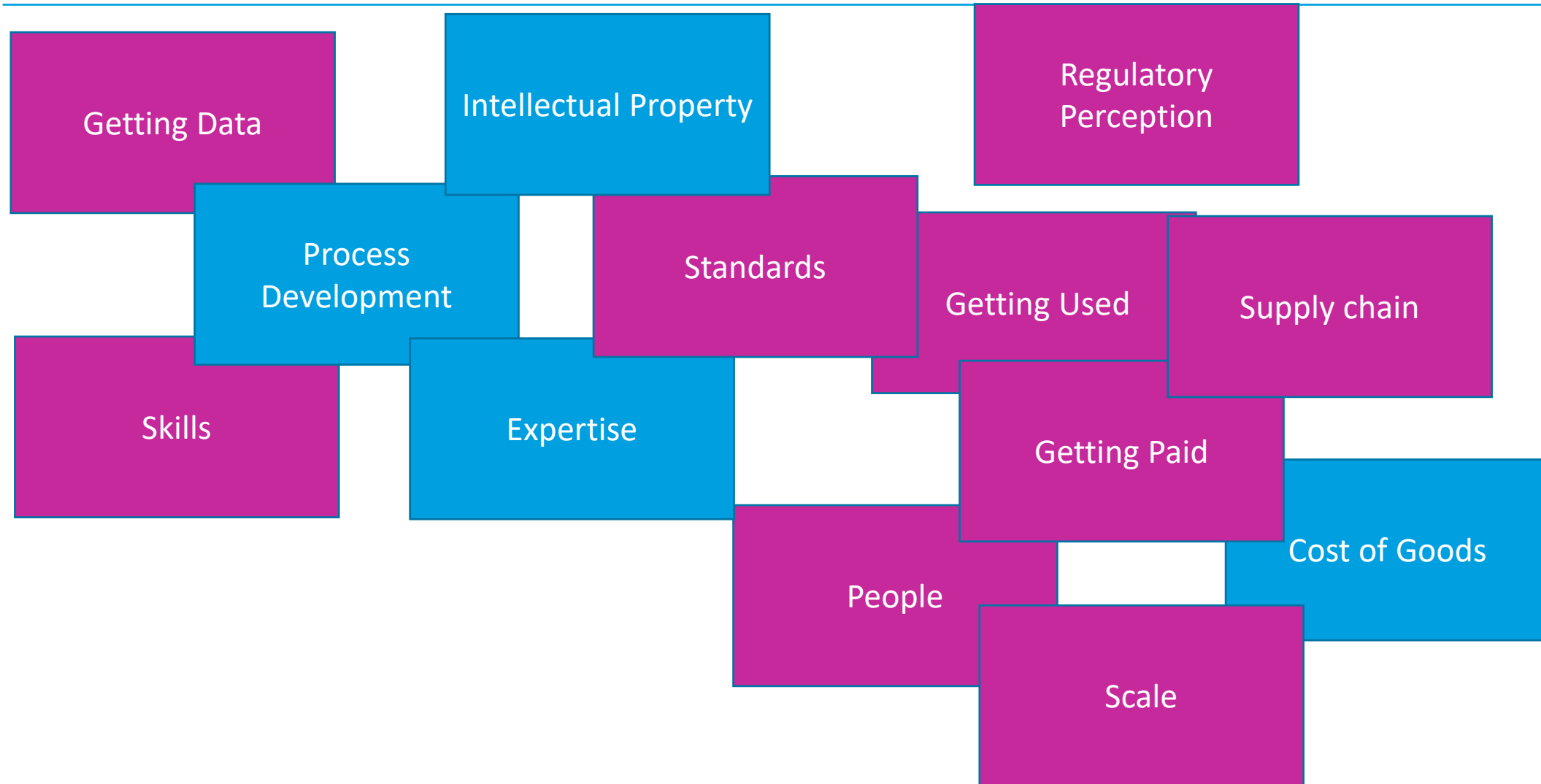
- 7,700m² facility designed specifically for cell and gene therapy manufacturing at scale
- 12 segregated cleanroom modules
- Secure collaborative model
- At the centre of the third largest cell and gene therapy cluster globally
- Expanded QC capacity and capability



Braintree

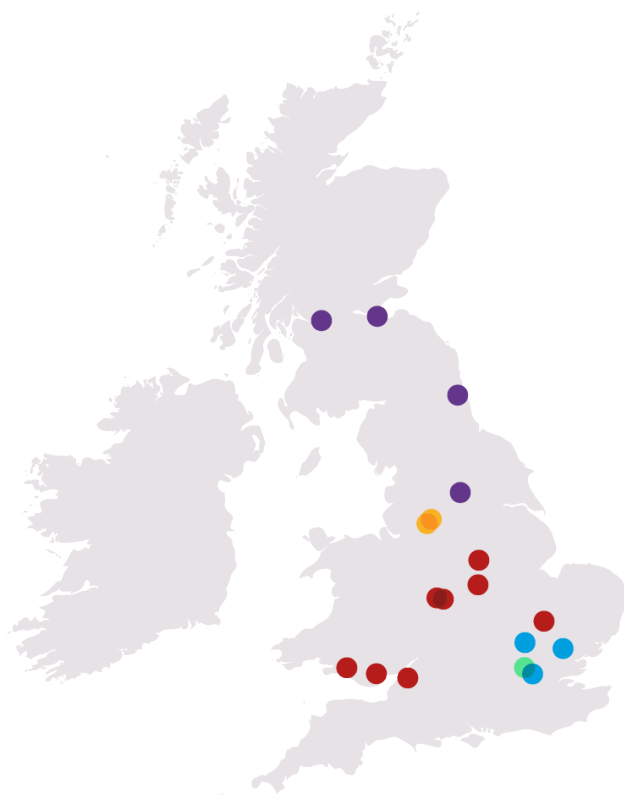
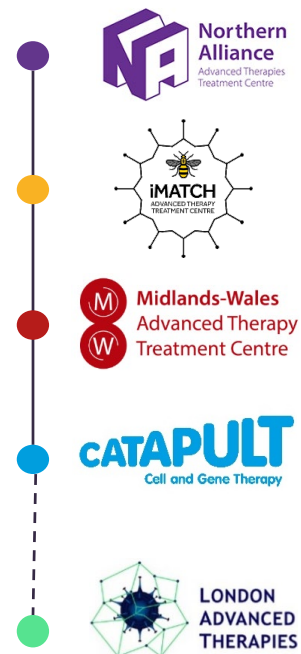
- 4,627m² facility to support national COVID-19 vaccine manufacturing
- Fully operational by Dec 2021 to meet immediate vaccines demand
- To become innovation centre for cell and gene therapies and develop technology transfer innovation

Adoption Systems



Challenge

Ensure the NHS has the infrastructure and training to deliver cutting-edge treatments to patients at scale



Working collaboratively with **67 partners** across NHS and industry to address common challenges



Over **£8m (\$11m)** invested by industry into the UK ATMP ecosystem



~5,000 NHS and industry staff have attended ATTC training events



Created **~80 new jobs** across the Advanced Therapy Treatment Centres

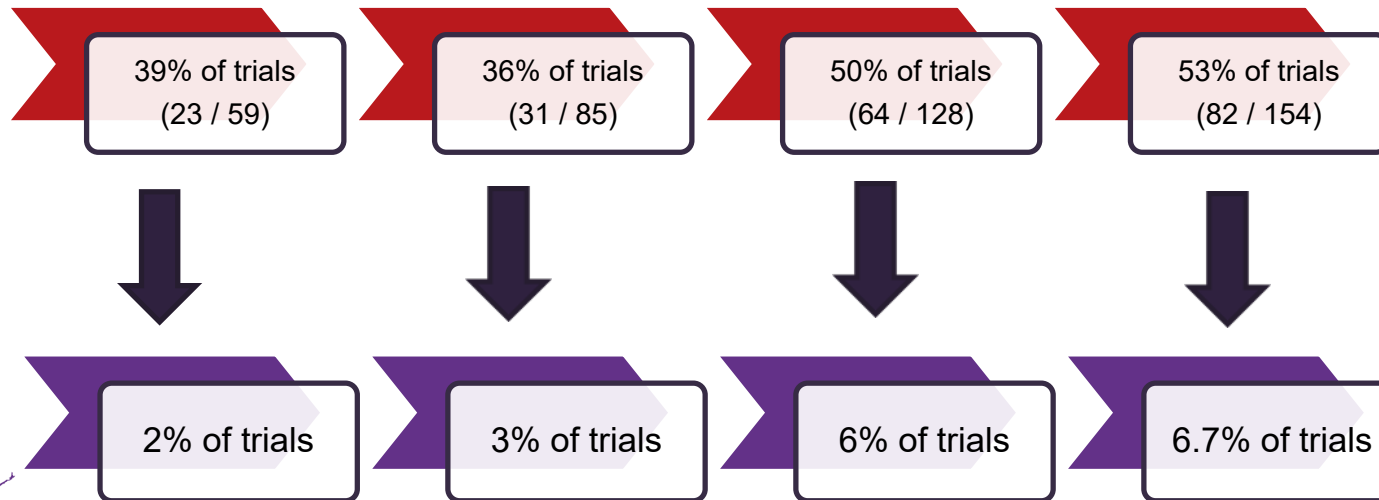
Accelerating clinical adoption and patient access

Challenge

Establish the UK as a globally attractive environment to set up and deliver ATMP clinical trials



ATTC-run clinical trials on a national and global stage



UK ATMP clinical trial landscape



↑ 29%

Commercial trials since 2019



↑ 22%

Growth in trials since 2019



↑ 42%

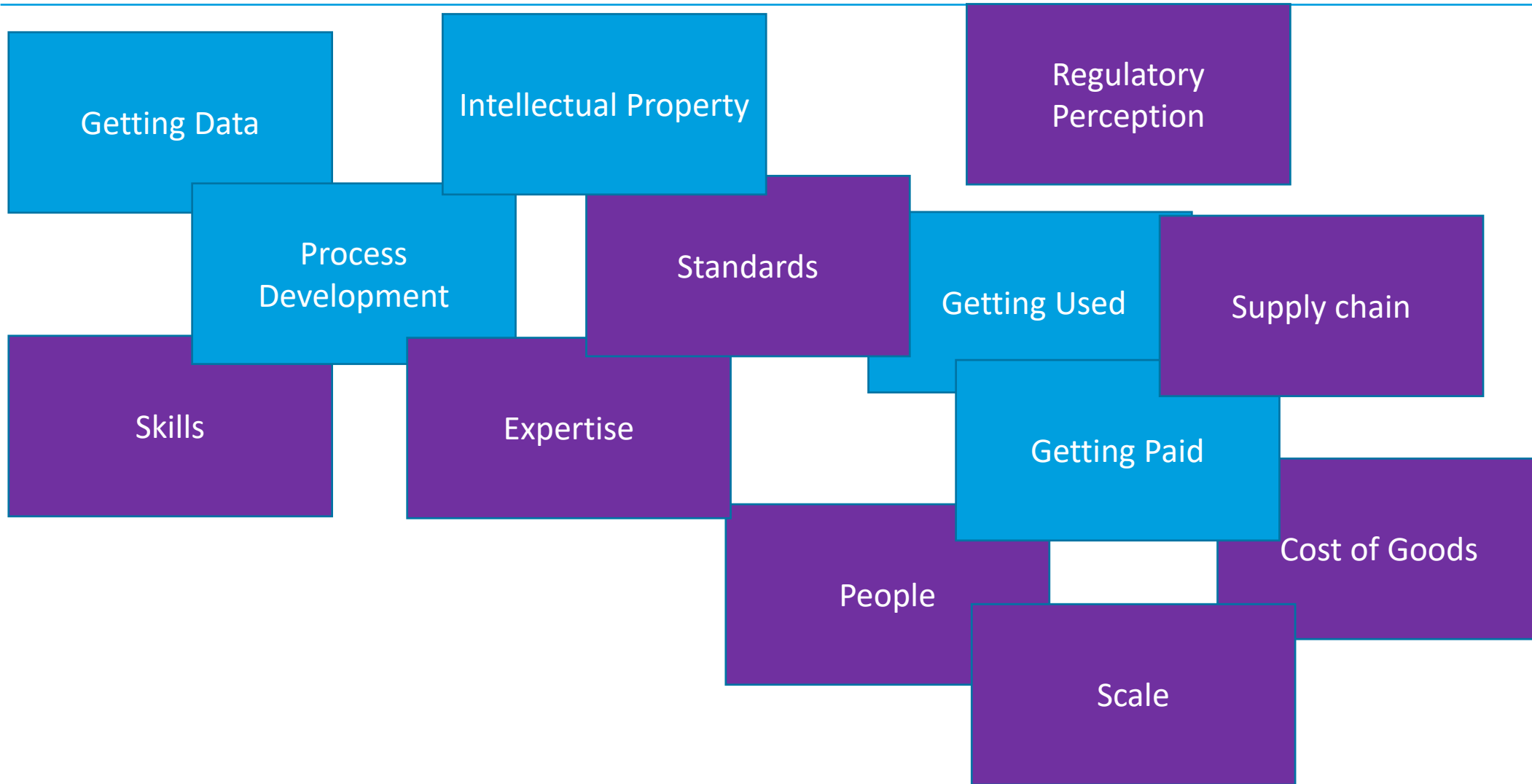
Phase II clinical trials since 2019



12%

Global share of ATMP clinical trials

Manufacturing at Scale



Expanding UK ATMP manufacturing capacity and capabilities **CATAPULT** Cell and Gene Therapy

Challenge

Increase the UK cell and gene therapy capabilities to support rapid shift towards commercialisation



Locations of MHRA-licensed cell and gene therapy manufacturing sites within the UK



Stevenage facility central to development of **third largest** global cell and gene therapy cluster



£850m of £1.1bn UK site investment is in cell and gene therapies



7 collaborators in our Stevenage facility including global pharmaceutical company, GSK



70% of ATMP manufacturing companies in the UK are collaborating with CGT Catapult



Stevenage facility one of main contributors to **48% increase** in of UK cleanroom space from 2019 to 2020

Challenge

Meeting the ATMP industry's growing demand for skilled, trained staff in high-value roles

ATAC Advanced Therapies Apprenticeship Community

- Established by CGT Catapult and MMIP
- £1.5m award from ISCF
- First advanced therapies apprentice programme
- Aims to provide the skills required to fuel industry growth

137 apprentices have now been employed

36 companies have hired ATAC apprentices

10 programmes have been developed

ATSTN Advanced Therapies Skills Training Network

- £4.7m funding from BEIS to establish an online training platform and national training centres
- Career Converter tool to attract talent from outside the industry
- Training for industry skills in advanced therapy and vaccine manufacturing
- Developing skills and experience in aseptic techniques for GMP to the rapidly growing industry



The UK's leading position in the global industry



10

Licensed ATMPs approved



33%

Share of ATMP companies in Europe



10

Global pharmaceutical companies



Largest

cell and gene therapy cluster outside of the US



26

Manufacturing facilities



5-6000+

Jobs in the sector



12%

Global ATMP trials in the UK



90+

Therapy developers



£2.5bn

Investment received by UK companies since 2012



£1.7bn

Total financing for UK ATMP companies in 2018-2020



3

Advanced Therapy Treatment Centres



Global **1st** CGT specific apprenticeship programme and industry driven training network



2025 vision

- **4,000+** jobs
- **£2bn** in revenue

2035 vision

- **18,000+** jobs
- **£10bn** in revenue

- No silver bullet: think systems
 - Some things you can't do alone: supply chain, standards etc
 - The road to getting paid starts before the clinic: design and innovation
 - The product and healthcare system need to work together: Adoption systems
 - Plan for success: Commercial manufacturing systems
 - Growth needs people
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CATAPULT

Cell and Gene Therapy

Cell and Gene Therapy Catapult is committed to ensuring high standards of research integrity and research best practice in the activities we carry out. We subscribe to the principles described in the UK concordat to support research integrity.

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12th Floor Tower Wing
Guy's Hospital
Great Maze Pond
London SE1 9RT

info@ct.catapult.org.uk
ct.catapult.org.uk
Twitter: @CGTCatapult

