



abcam

Serving science, sustaining growth

Capital Markets Event

14 November, 2019

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abcam

Welcome and opening remarks

Peter Allen
Chairman

Sustaining long term growth and value creation

Alan Hirzel
CEO



Sustaining long term growth and value creation

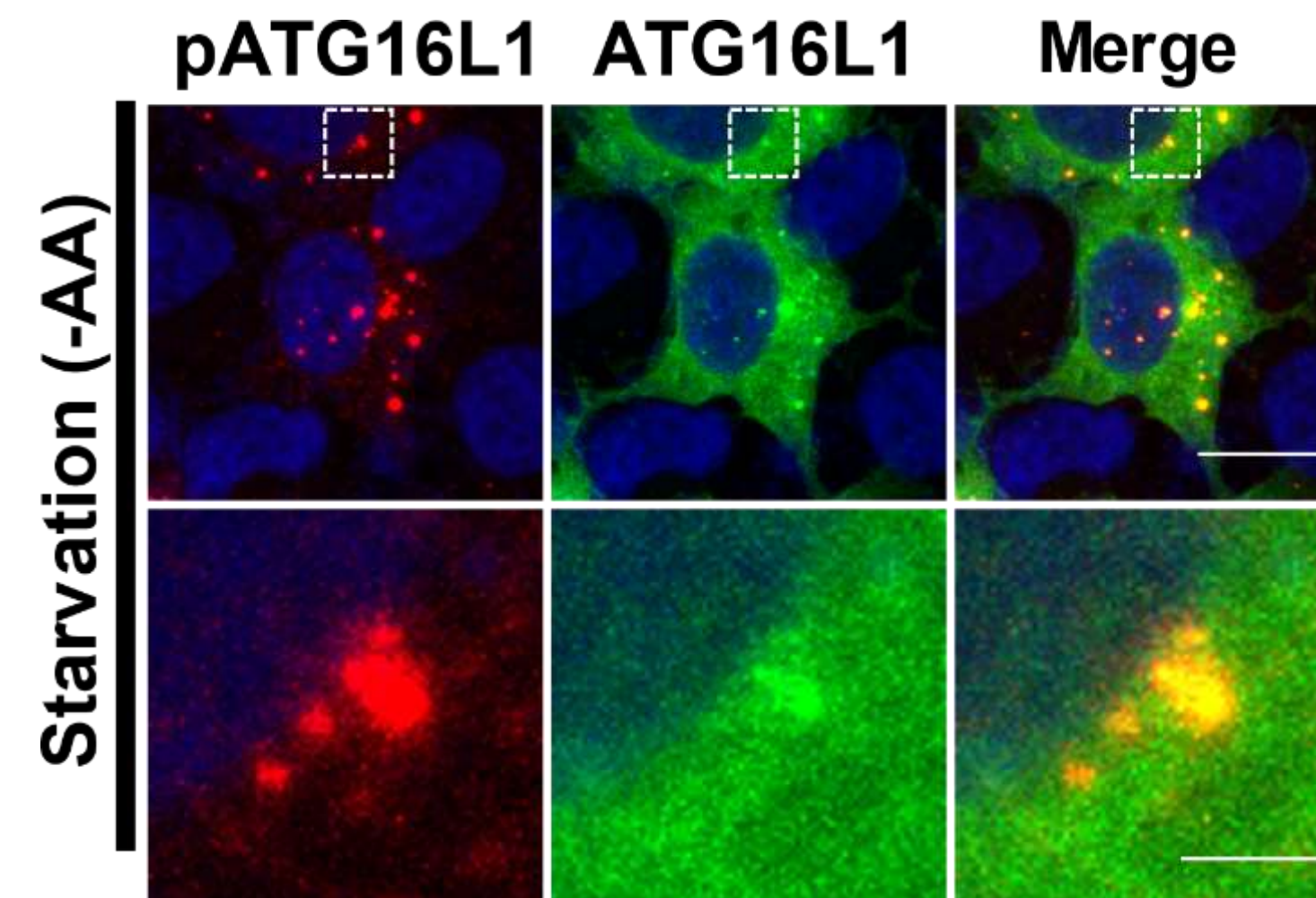
- Twenty year track record creating value
- Addressing large attractive markets
- Innovation and business model leading to many opportunities
- Five year investment plan led by a global team that makes results possible



Our customers trust us with their careers

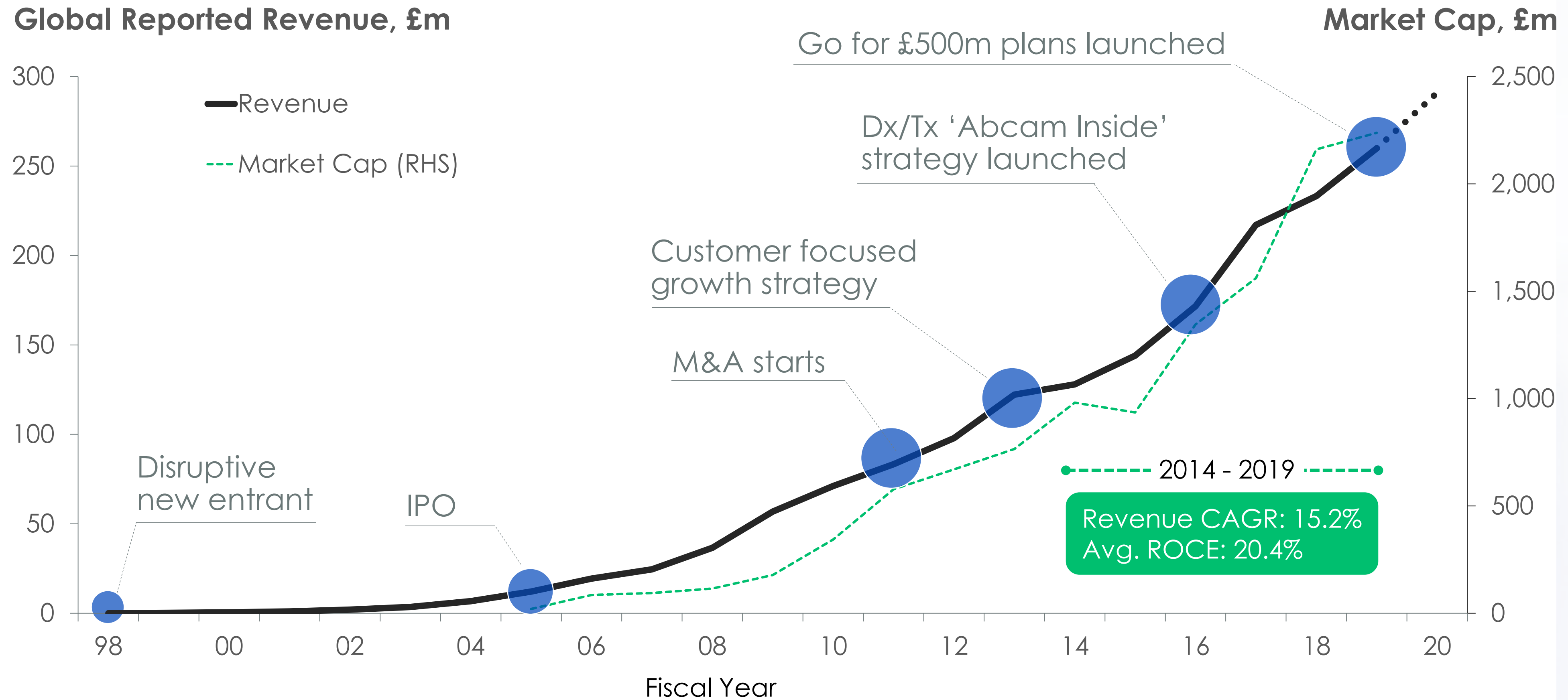


Development collaborations drive first in world scientific impact



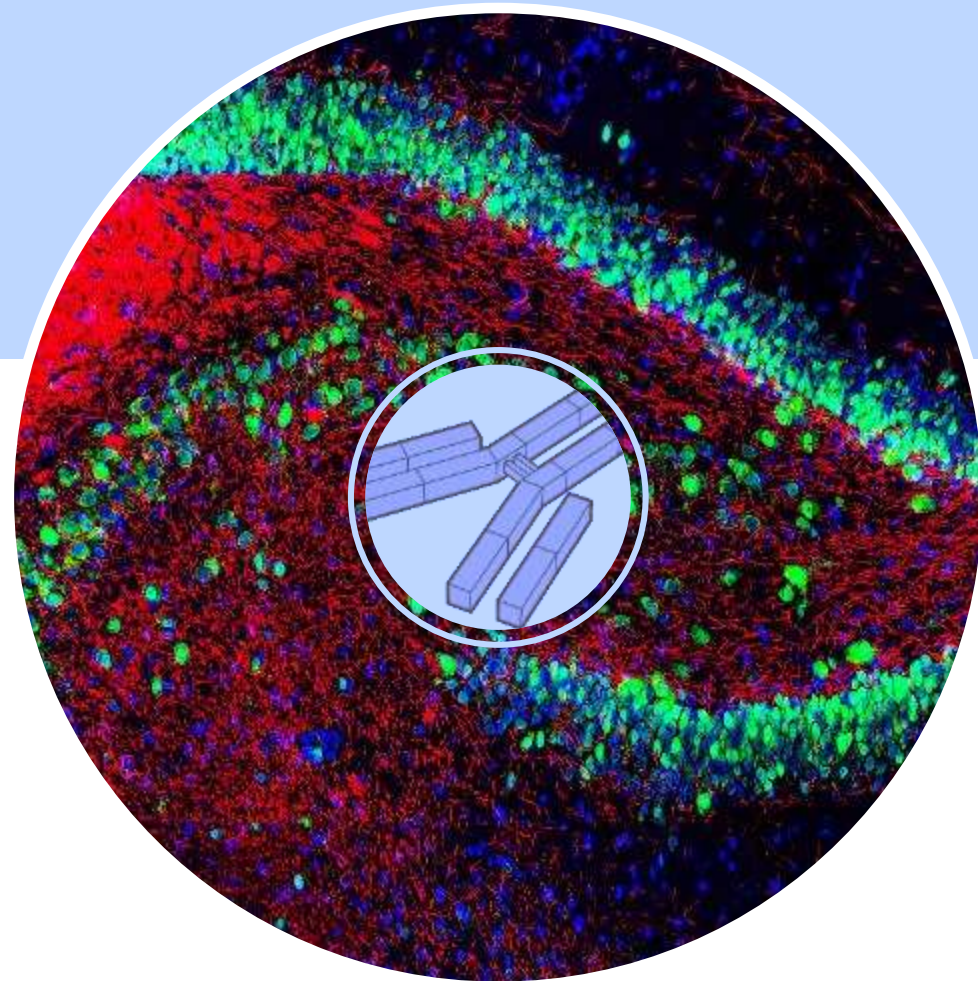
Abcam anti-pATG16L1 developed with Dr Ryan Russell; pre-publication in Nature Methods

Twenty years creating value as a disruptive growth company



The next five years: A clear strategy to sustain growth and value creation

Sustain and extend antibody
and digital leadership



Drive continued expansion
into complementary
market adjacencies



Build organisational scalability
and sustain value creation

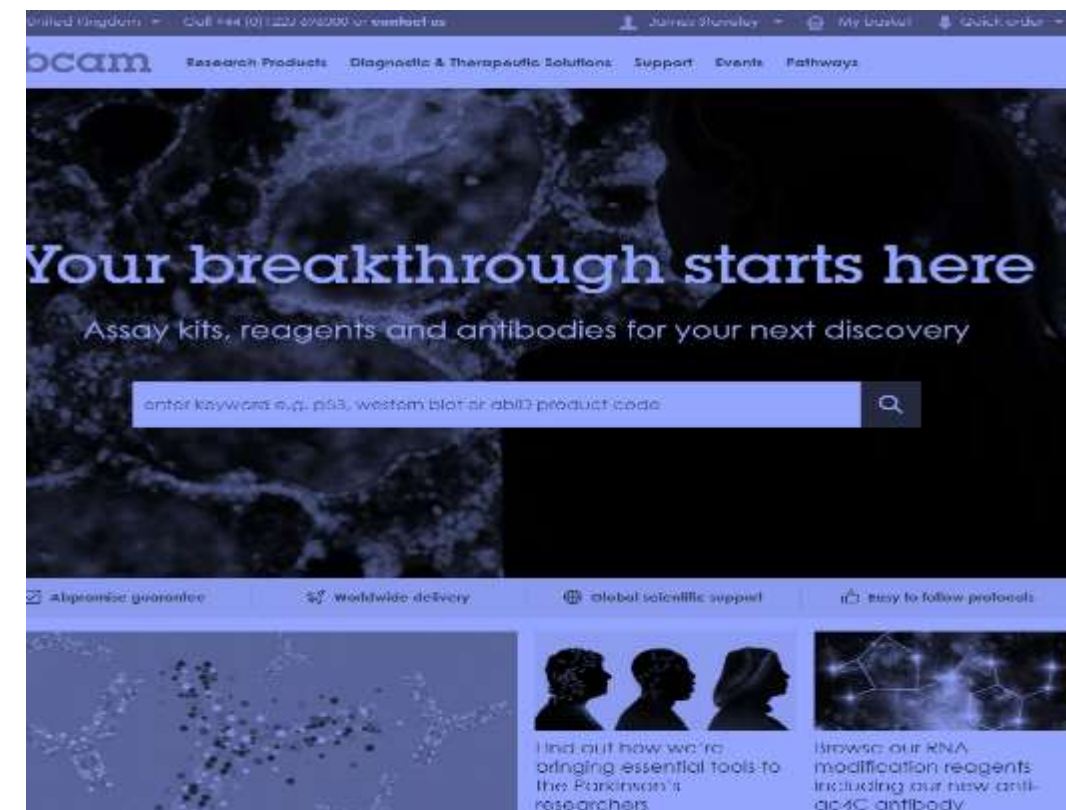


The next five years: We are investing to remove constraints to growth

**In-house capabilities
for faster / broader
innovation**



**Customer experience
and e-commerce**



**Operational capacity
and efficiency**

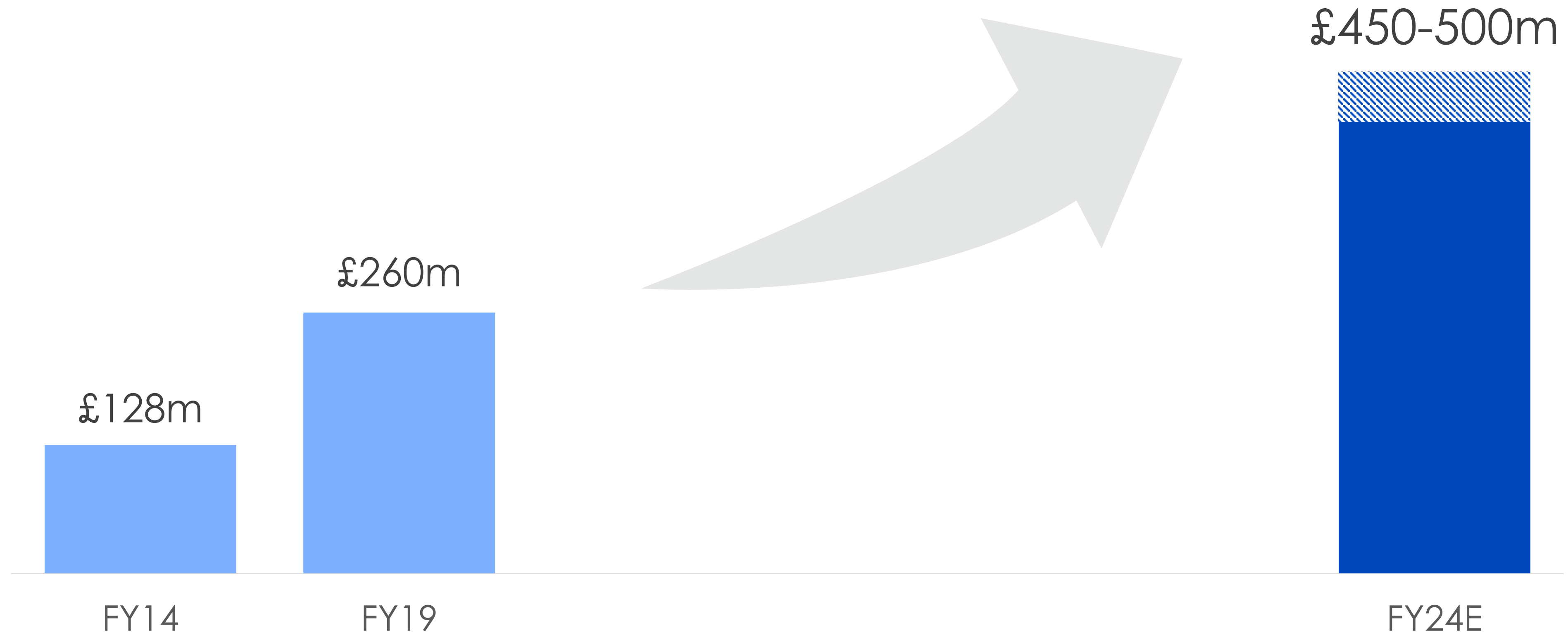


Other legacy IT



People: Organisation skills gap underpin all areas

Strategy to drive incremental £200m+ in profitable revenue by 2024



Our global team makes results possible

Senior leadership team



John Baker
SVP,
Product Portfolio &
Innovation



Yvonne Chien
SVP,
Customer Experience



Jac Price
SVP,
Supply Chain &
Manufacturing



Mark Dermody
Interim SVP,
Technology



Nick Skinner
SVP,
Human Resources



Gavin Wood
Chief Financial Officer



Cheri Walker
SVP,
Corporate Development

Innovating to enable scientific breakthroughs and expansion in research markets

John Baker
SVP, Product Portfolio & Innovation



Innovating to enable scientific breakthroughs and expansion in research markets



We have a strong foundation within our markets



We have built an industry leading innovation engine



We see compelling opportunities to invest to remove constraints to growth



Our innovation and growth is enabled by a world class team of scientists

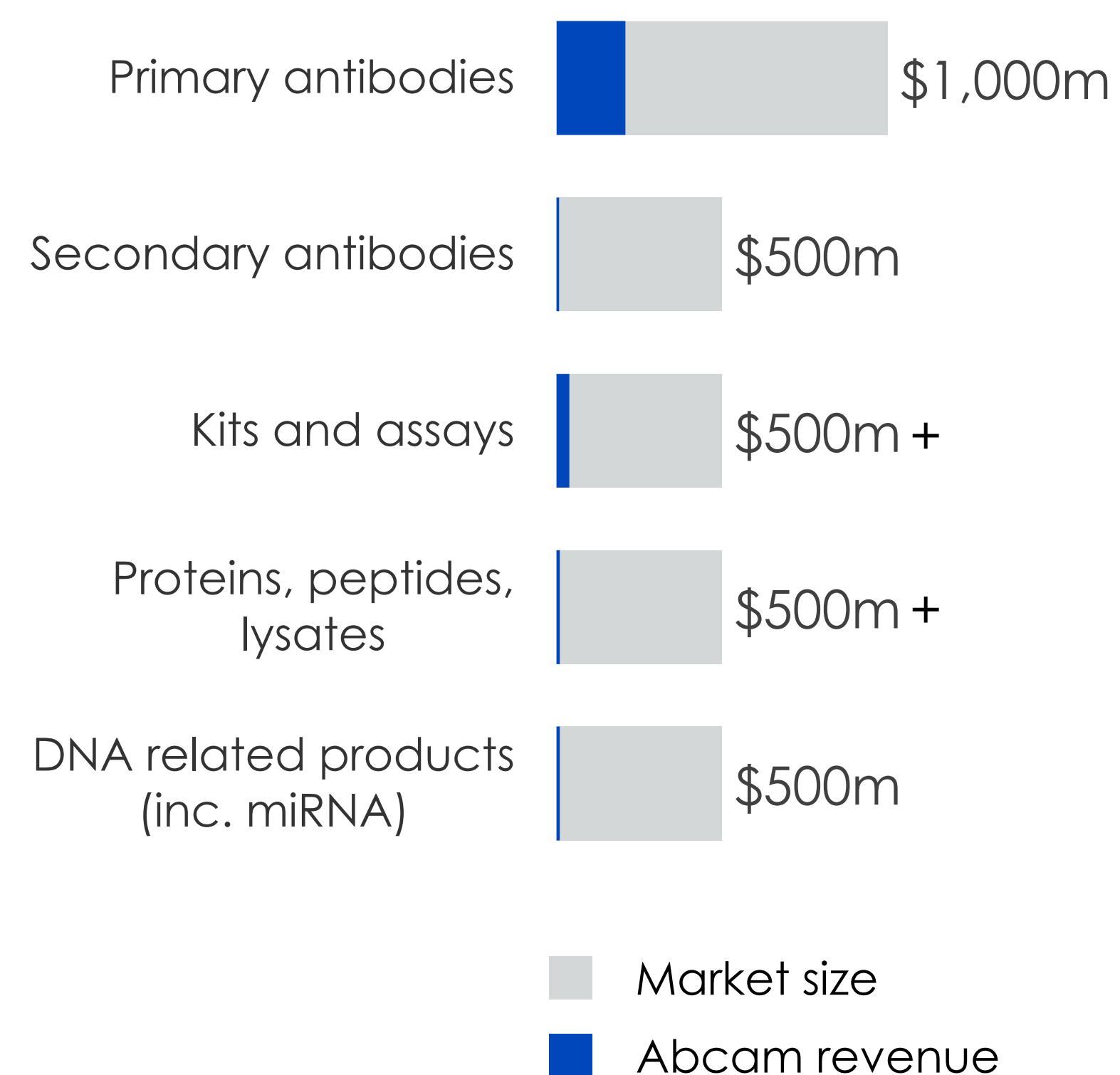


Addressable market for research antibodies and related reagents \$3bn+

RESEARCH USE ONLY (RUO) PROTEOMIC TOOLS MARKET



Protein binding reagents	Related reagents
Primary antibodies Secondary antibodies Singleplex immunoassays Multiplex immunoassays	Kits ¹ , proteins, peptides, lysates, cell lines, biochemicals

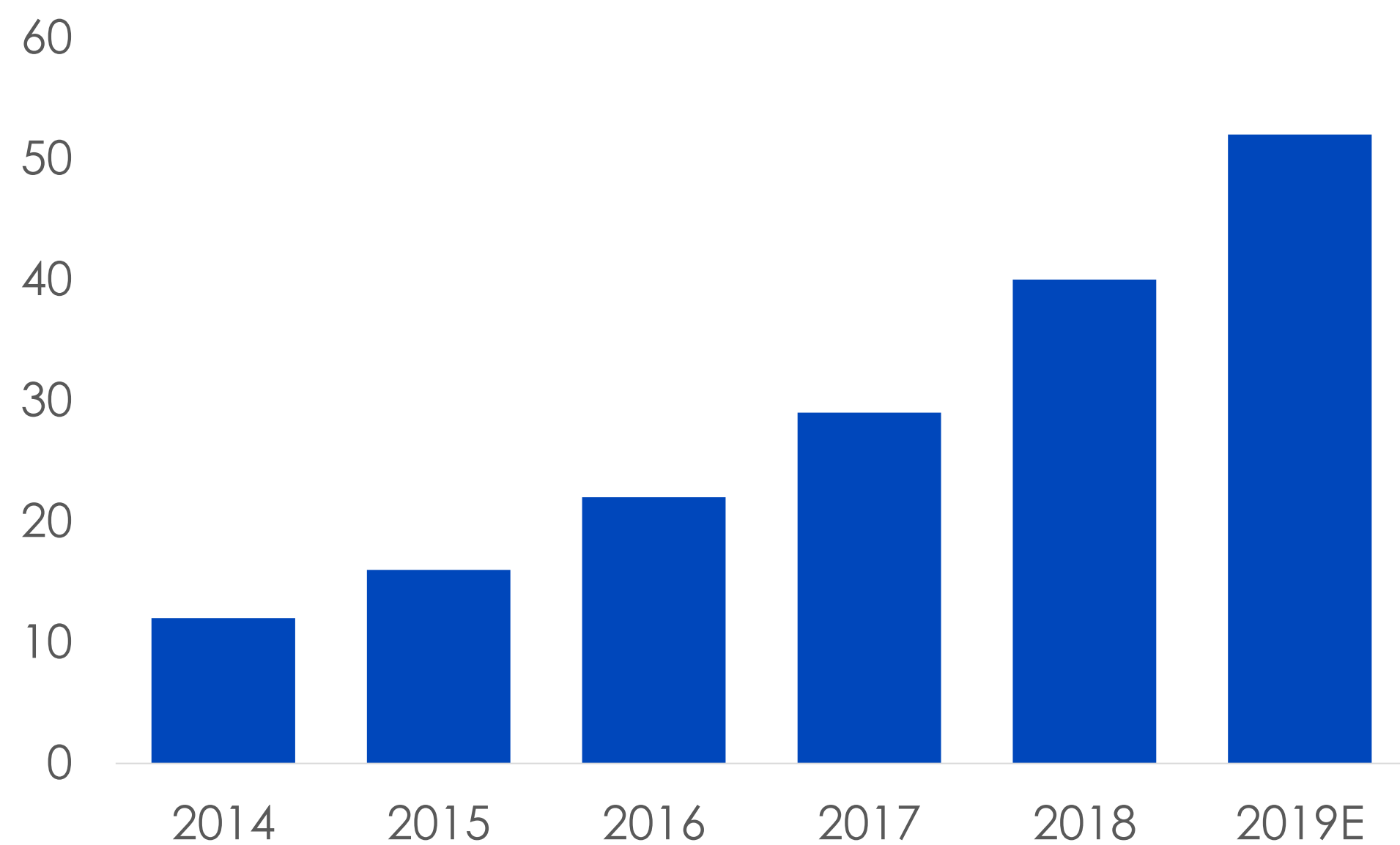




Our focus is on sustaining market share gains and becoming more influential to life scientists

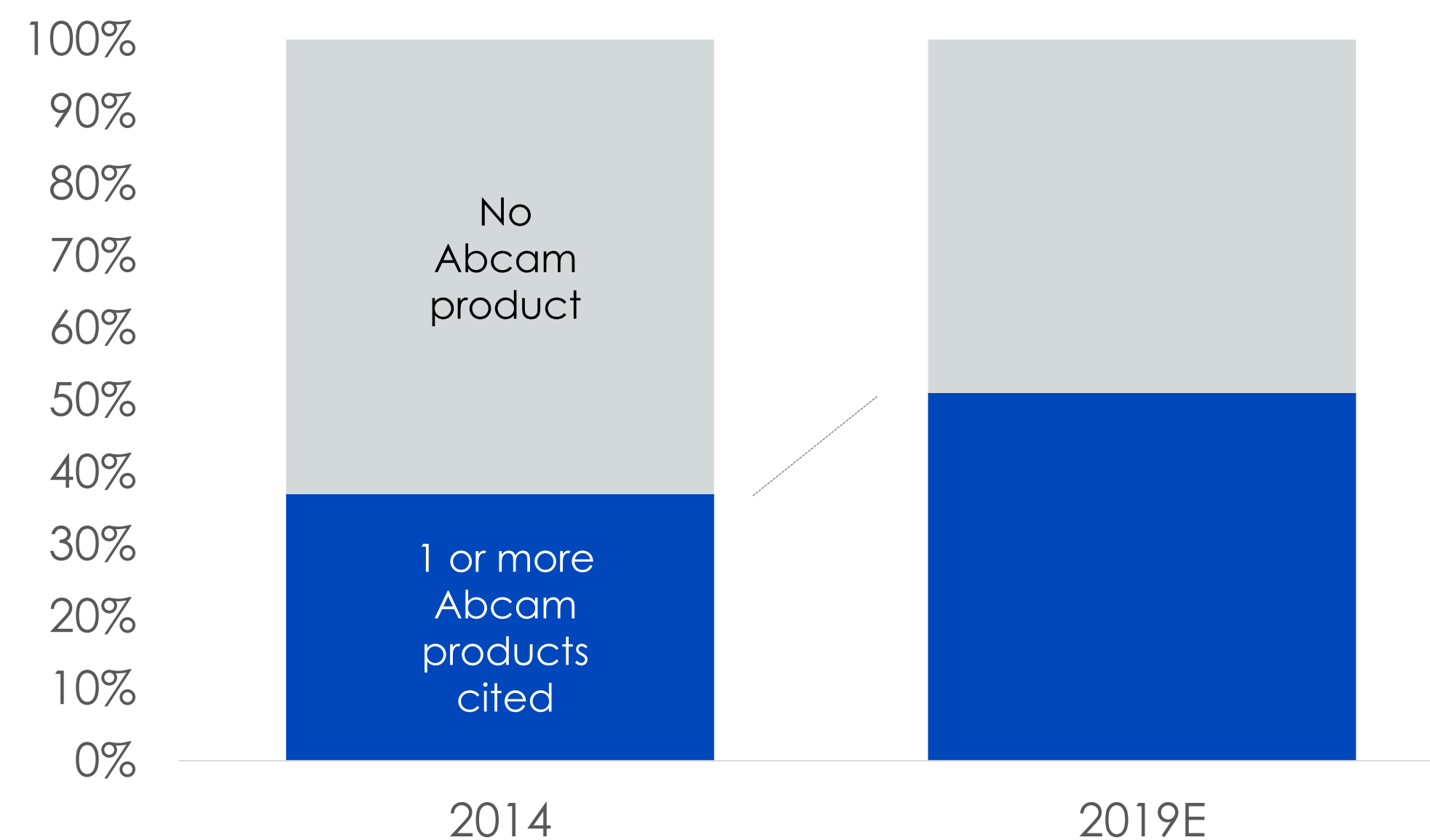
Abcam citations have been growing at >18% CAGR since 2014

Number of citations of Abcam products (K)



In 2019, over half of all life sciences publications cite at least one Abcam product

Penetration of Abcam products in research





Antibodies are the fundamental active ingredients of proteomic research

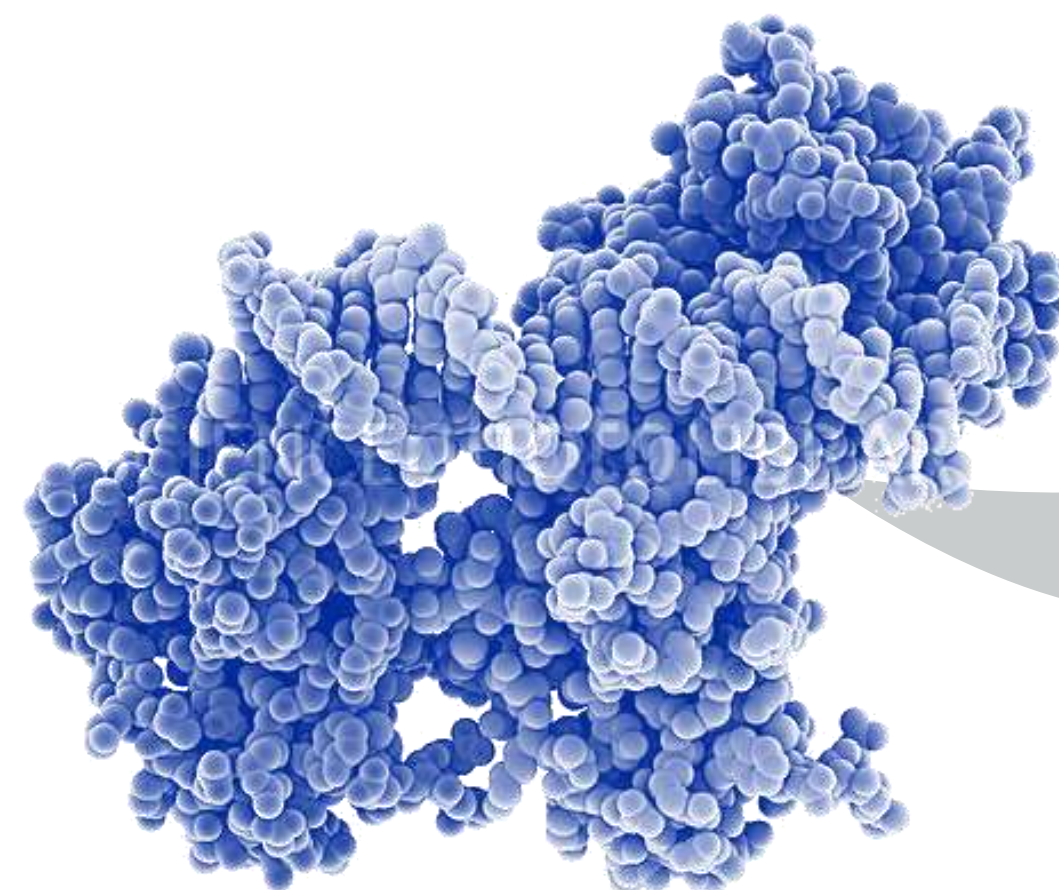
Antibodies



- Requirement for tools that are **specific**, **sensitive** and **consistent**

Proteins (target of interest)

millions of possible binding sites and applications



- Identification and location
- Quantification
- Protein expression profiling
- Structural and functional proteomics
- Detection of post translational modifications

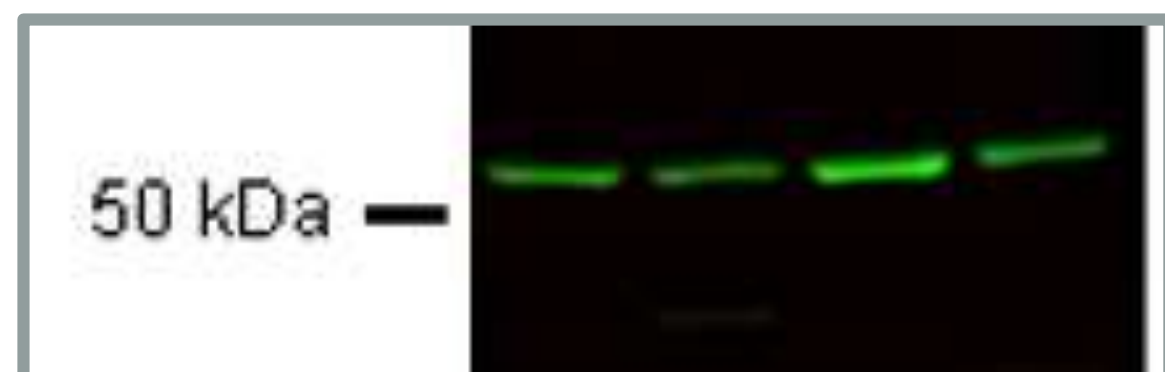
Major research / disease areas

- Cancer
- Cardiovascular
- Cell biology
- Epigenetics
- Metabolism
- Developmental biology
- Immunology
- Microbiology
- Neuroscience
- Signal Transduction
- Stem Cells



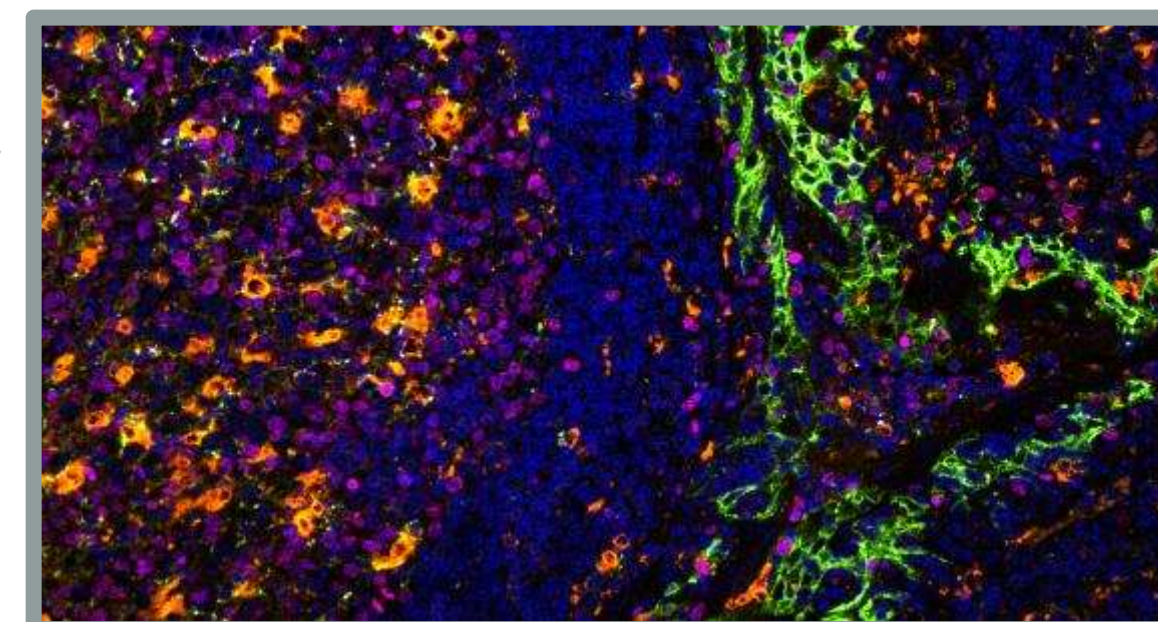
Scientists use our antibodies to answer proteomics' most critical questions:

Is my target of interest there?



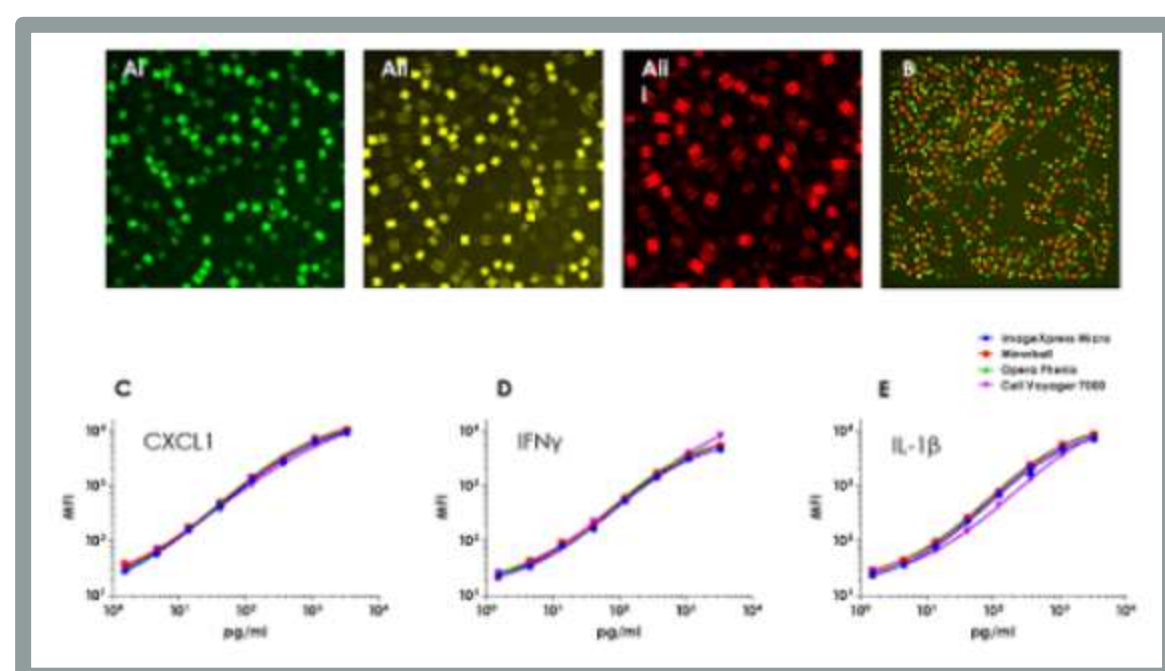
Western Blot

Where is it?



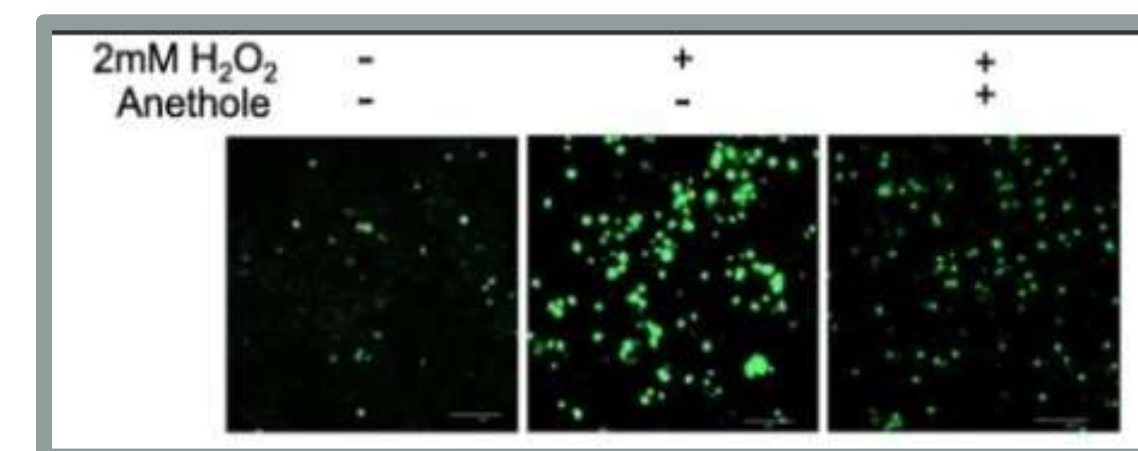
Immunocytochemistry

How much is there?



Immunoassay

What's it doing?



Immunocytochemistry

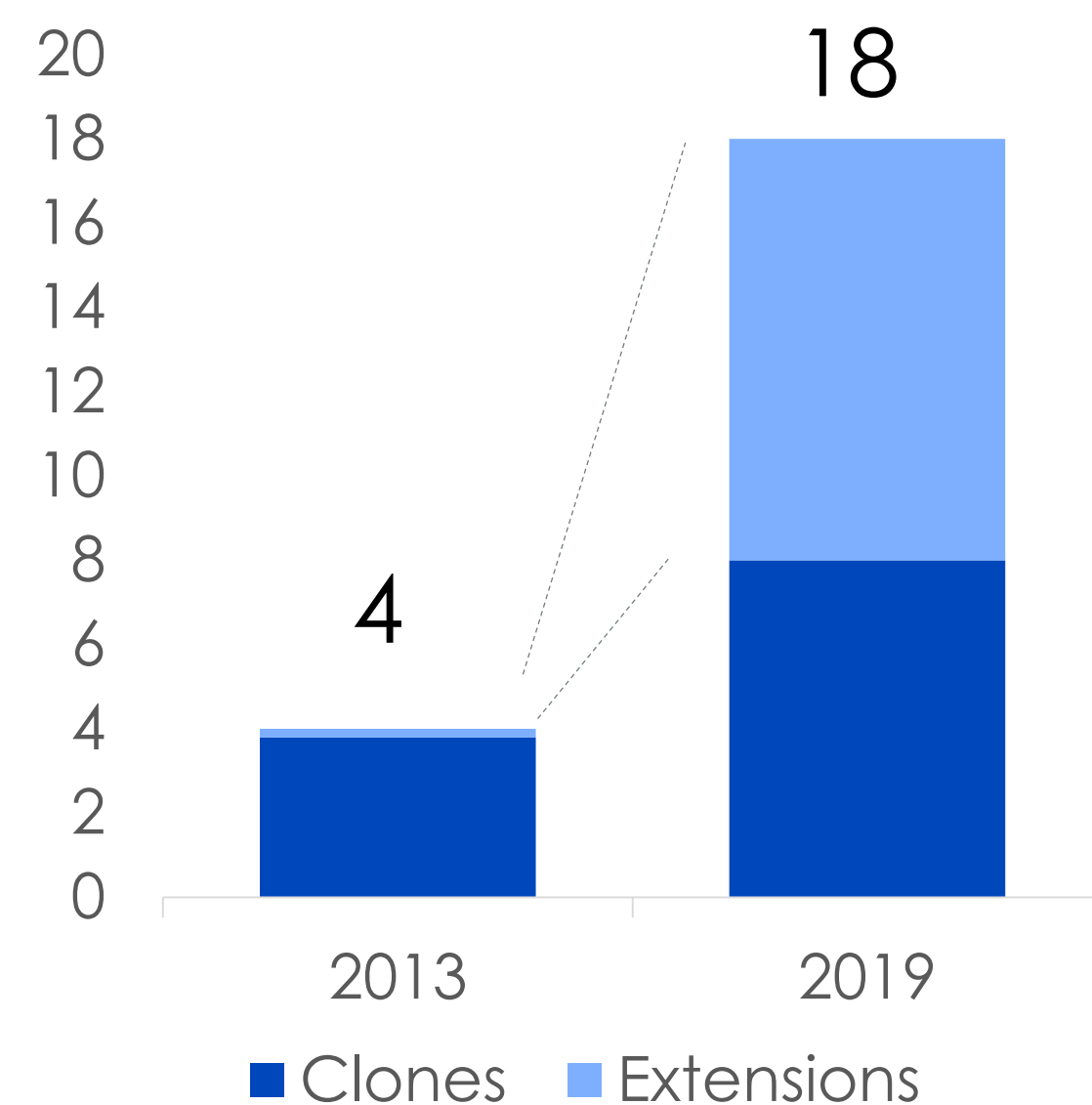


Why our customers trust us

Product performance

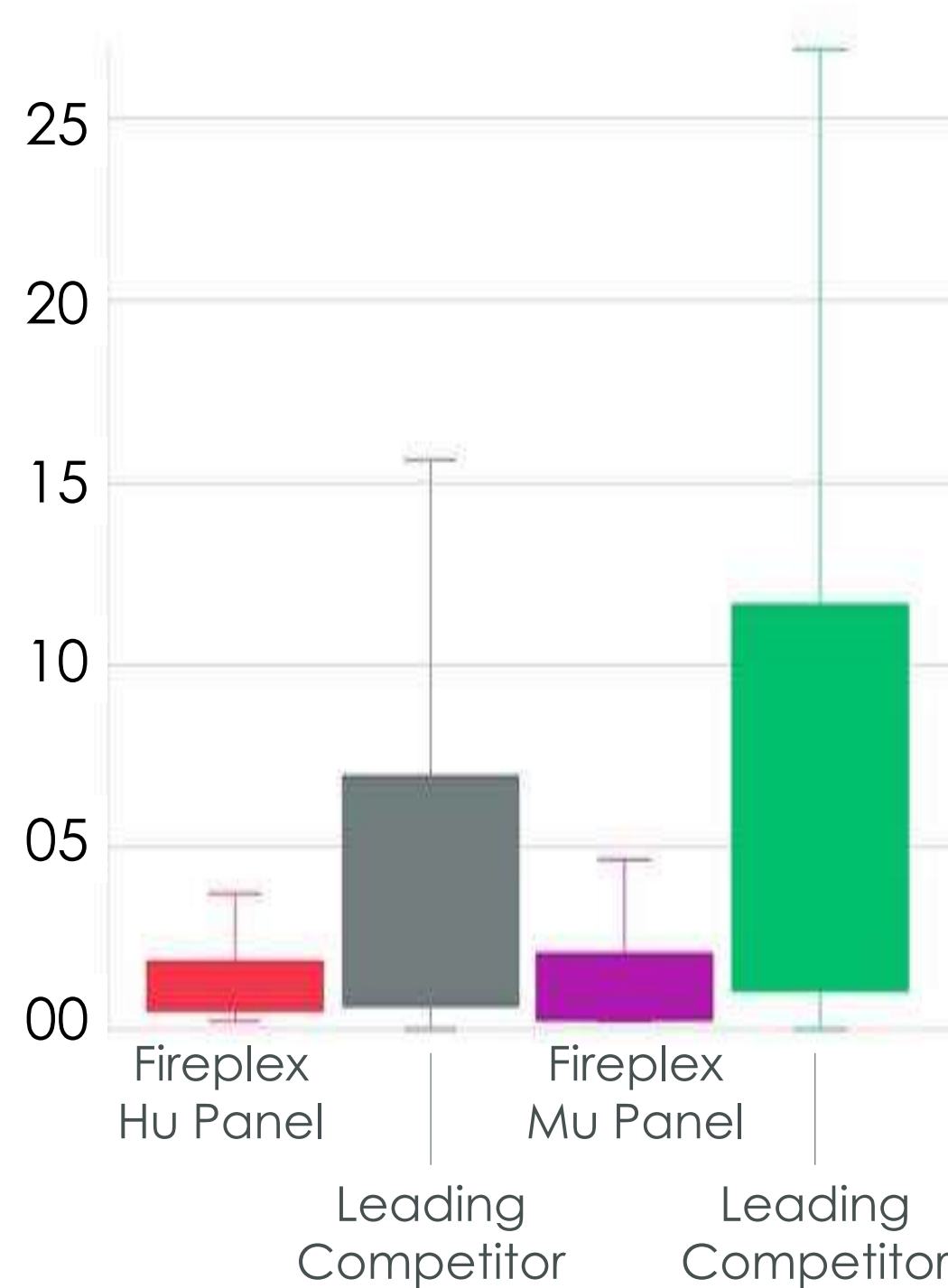
Recombinant RabMAb® products for reproducibility...

Number of recombinant products ('000s)

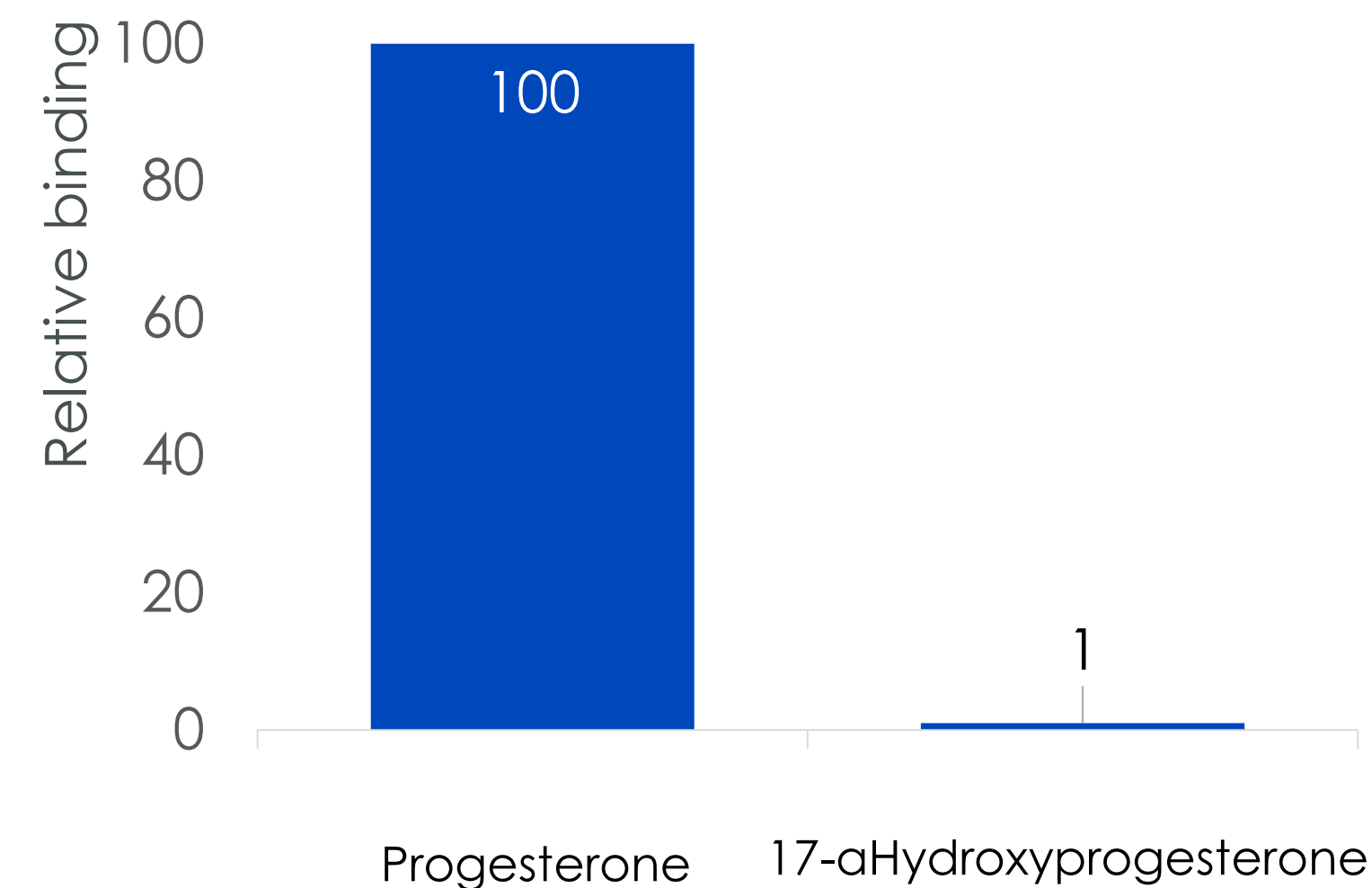
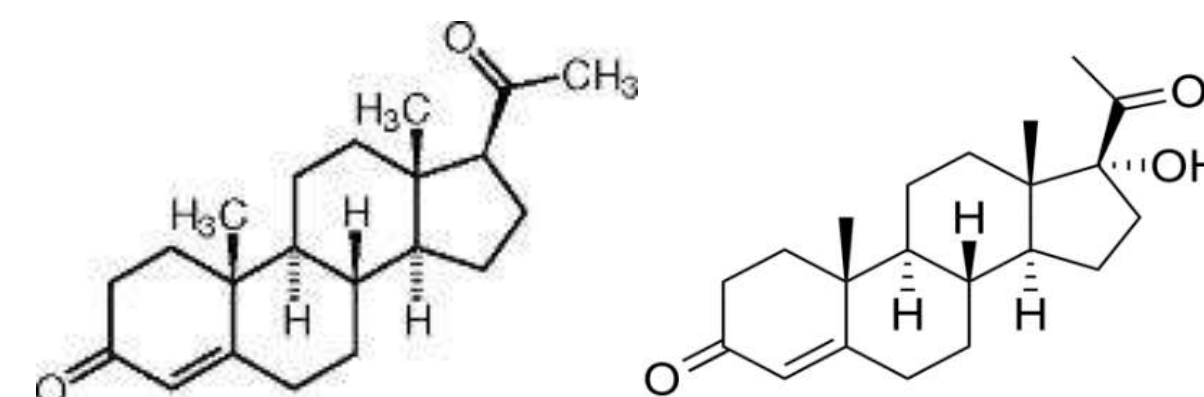


...market leading sensitivity..

Limit of detection (Lower = better)



...and specificity

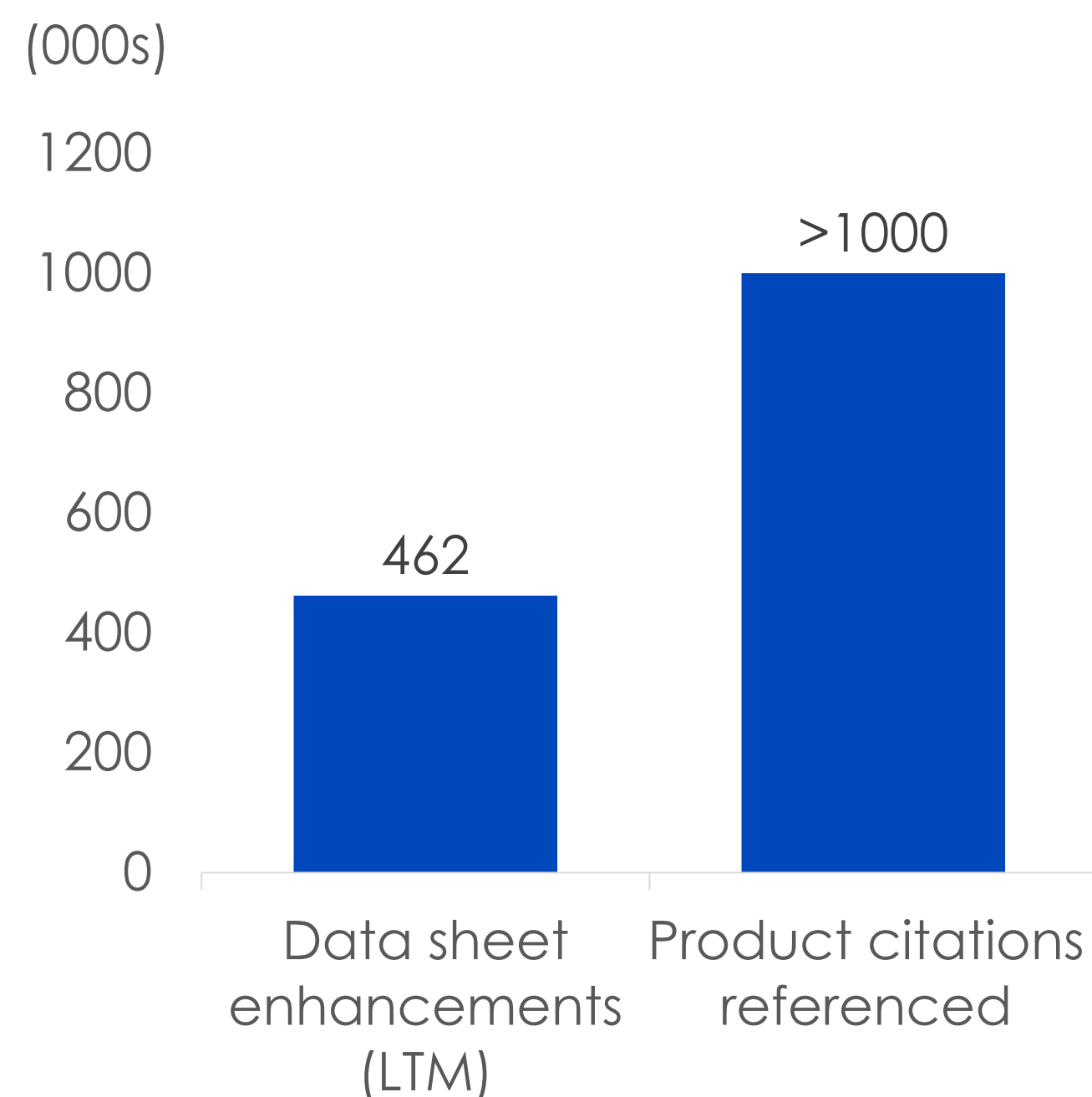




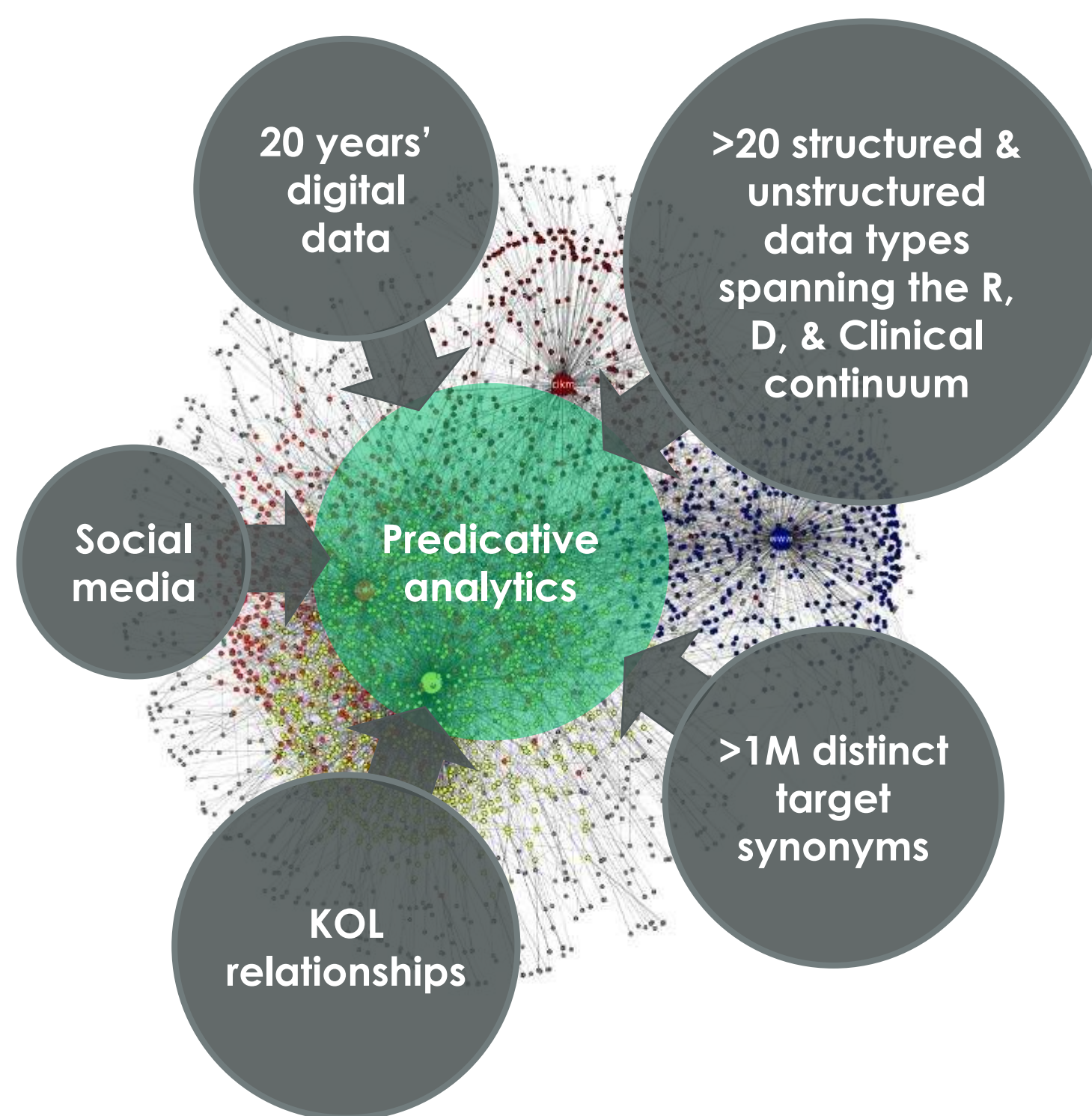
Why our customers trust us

Data, insight, speed

Enriched customer data...



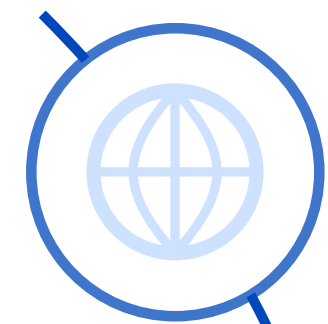
...utilisation of data insights to predict customers' needs



...and delivering at speed



Innovating to enable scientific breakthroughs and expansion in research markets



We have a strong foundation within our markets

- We serve ~70% of life scientists globally
- They value our products as the foundations of their experiments



We have built an industry leading innovation engine



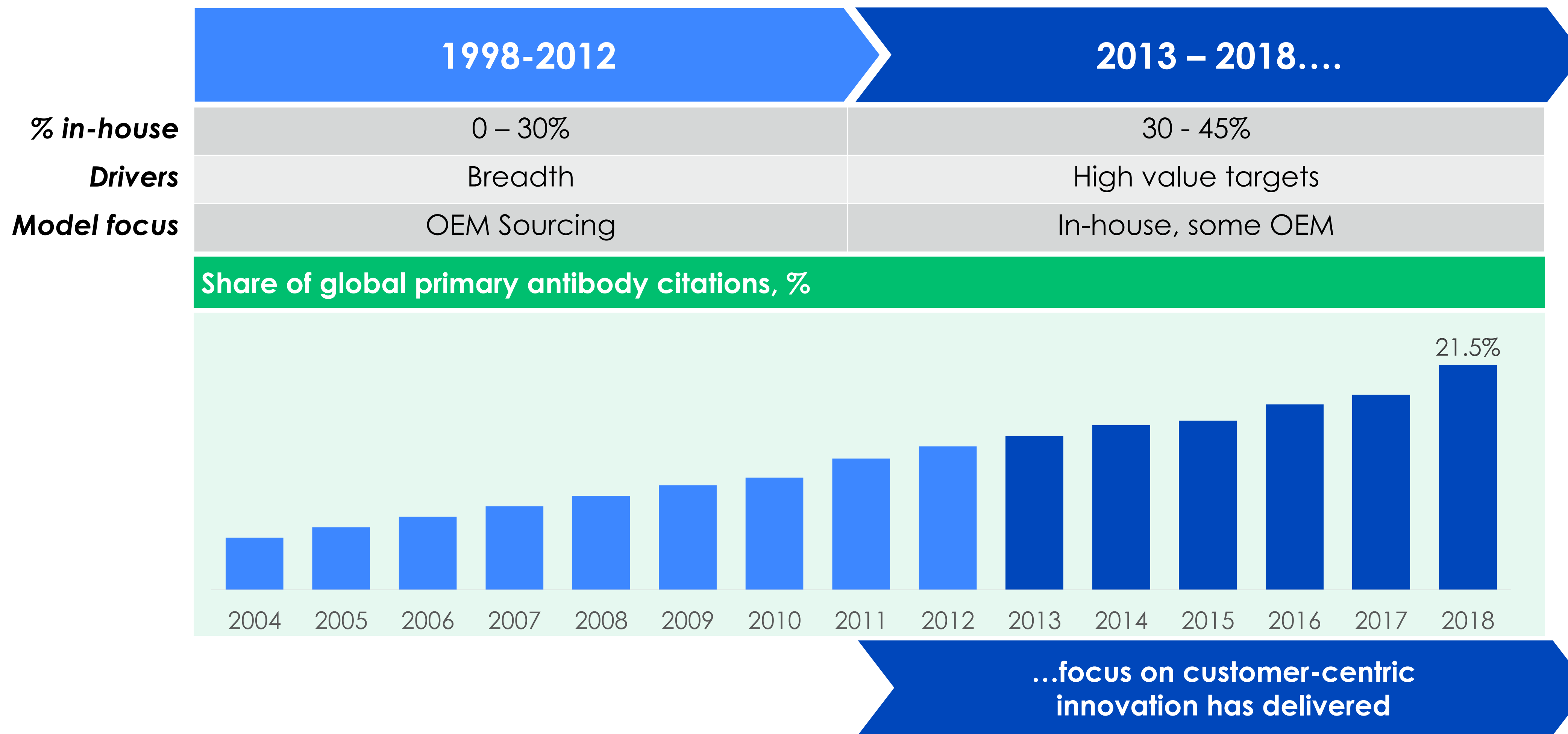
We see compelling opportunities to invest to remove constraints to growth



Our innovation and growth is enabled by a world class team of scientists



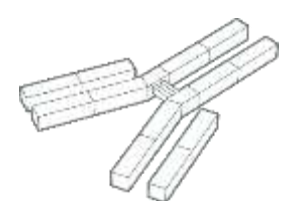
Antibody leadership: Building a foundation



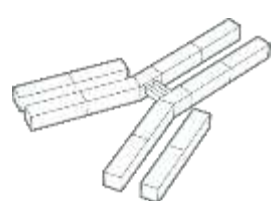


Portfolio of **best in class antibody discovery platforms** supports generation of highest performance antibodies

Antibody discovery driven by a broad range of platforms & screening approaches



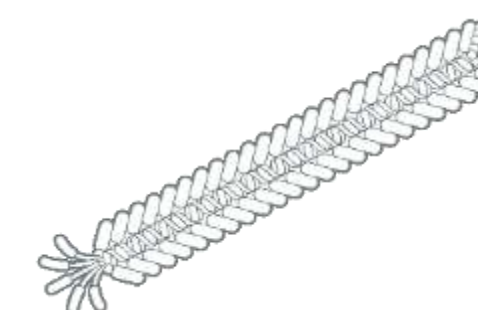
Rapid RabMAb[®]



B Cell Cloning

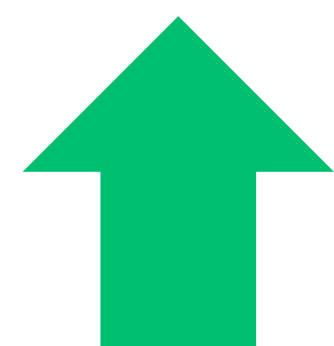


NGS



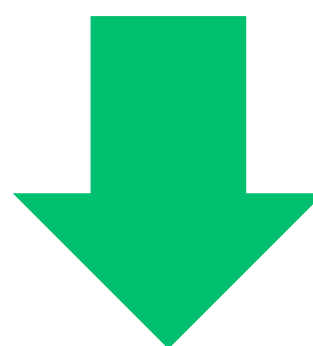
Phage display

...which drives continuous improvement in New Product Development (NPD)



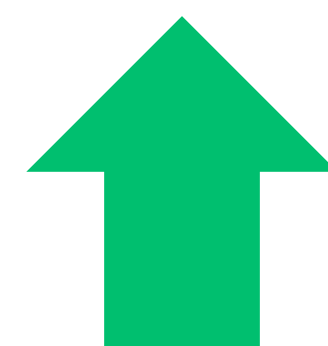
36PPT

Δ in success rate (2015-19)



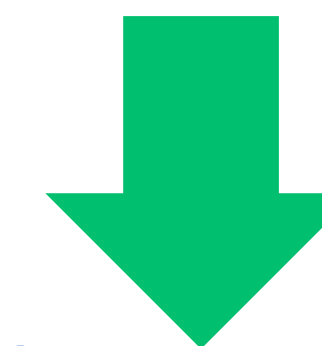
42%

Δ in NPD¹ cycle time (2017-19)



450%

Δ rev. per new clone first 36m (2013-17)



67%

Δ in zeros²

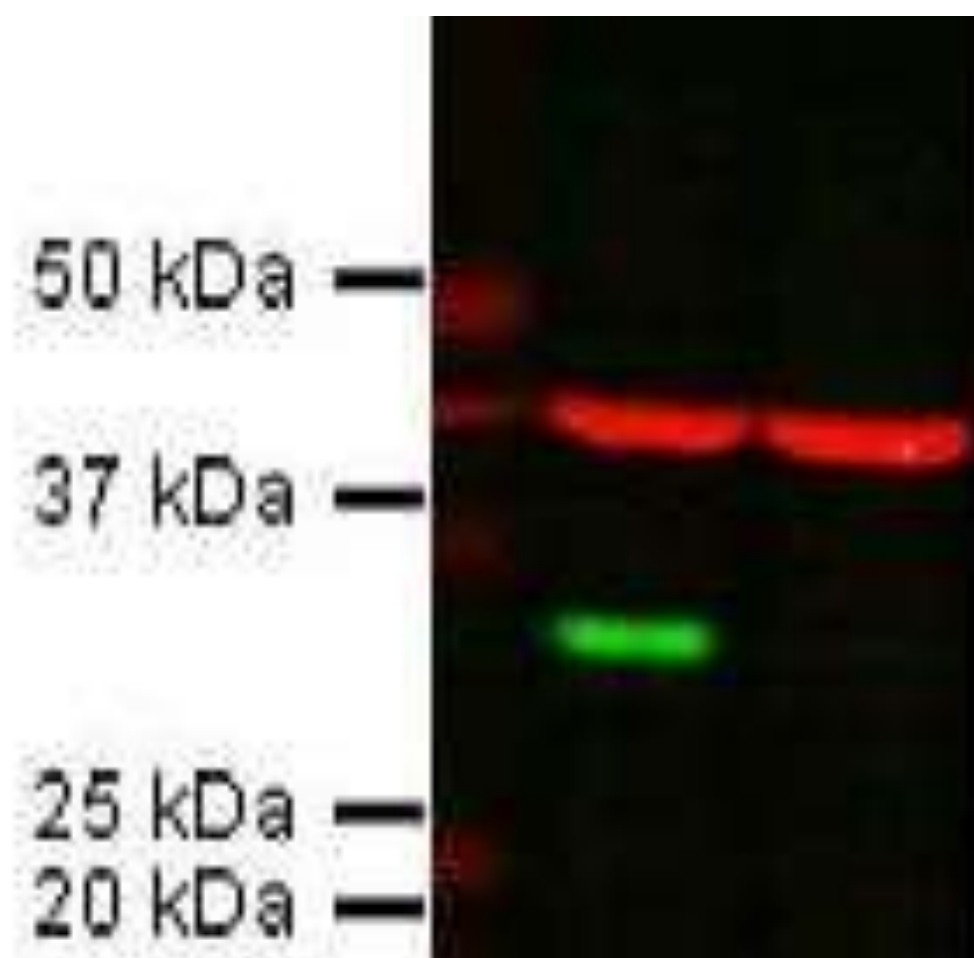


...supported by industry leading antibody validation data

Leading the field in knockout validation

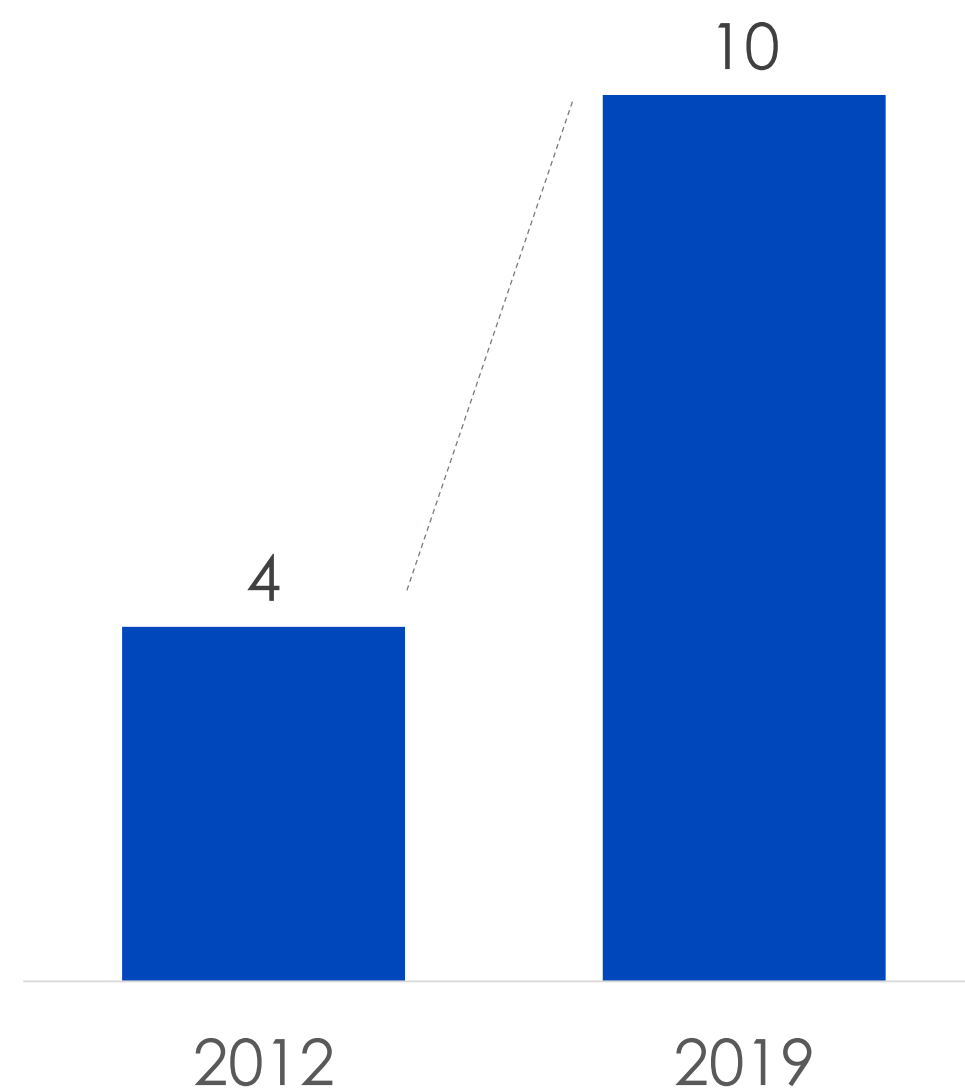
>2,300

Antibodies KO validated to date

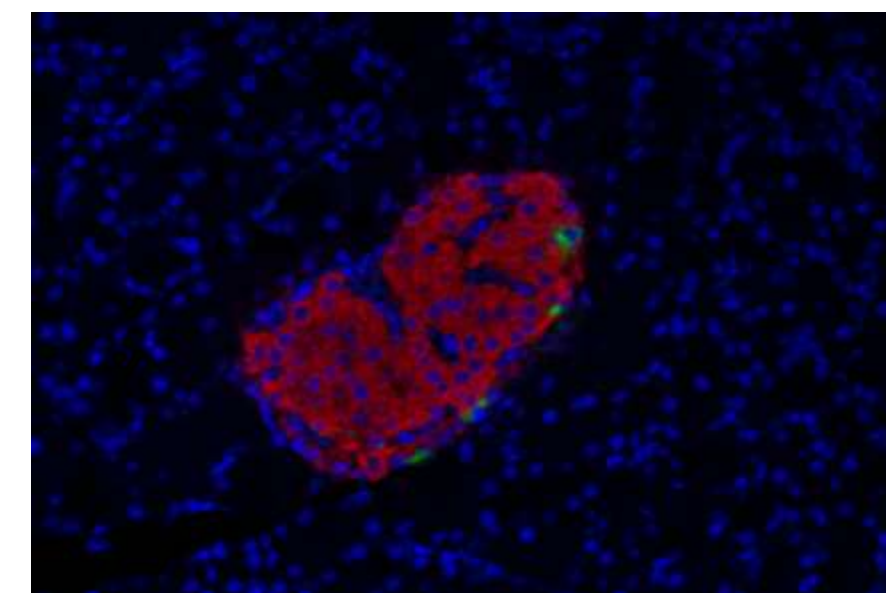


Increasing range of applications validated

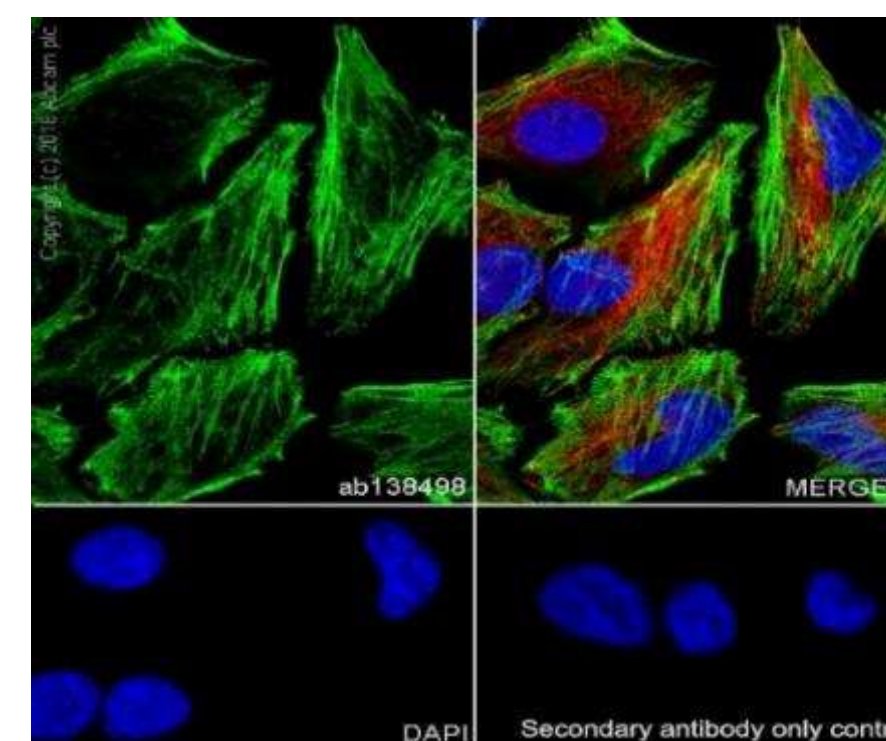
Average number of applications tested per antibody



High quality images



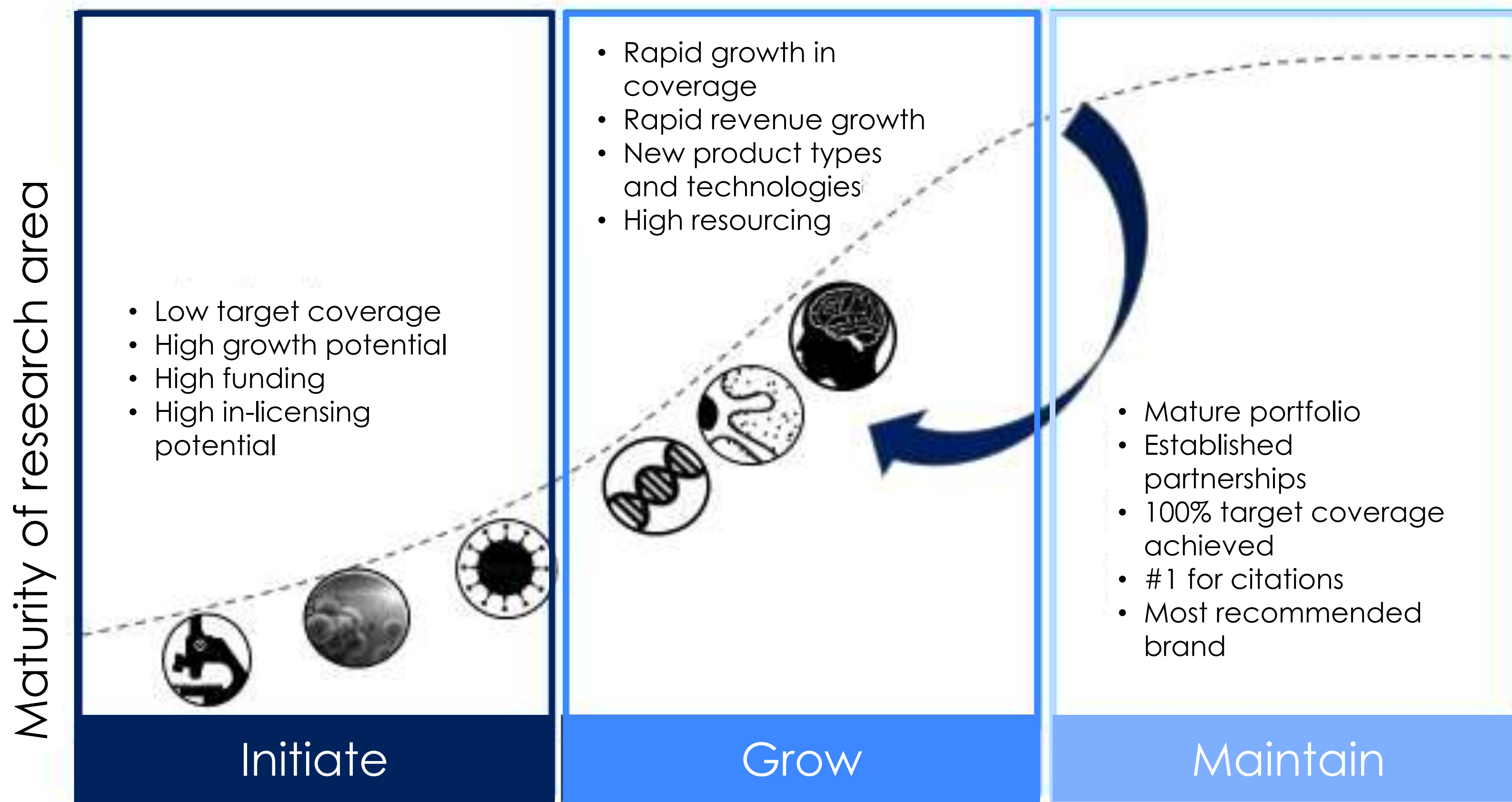
Anti-Insulin antibody [EPR17359] (ab181547) in red, and anti-Somatostatin 28 antibody [EPR3359(2)] (ab111912) in green. Dapi in Blue.



Anti-non-muscle Myosin IIA antibody [EPR8965] (ab138498)



Repeatable and successful model developed for antibody innovation



- **Focus on high value targets in major research fields**
- **Adding products and capabilities to target other areas**



Innovating to enable scientific breakthroughs and expansion in research markets



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We have built an industry leading innovation engine

- Best in class development and validation
- Repeatable model for high value innovation



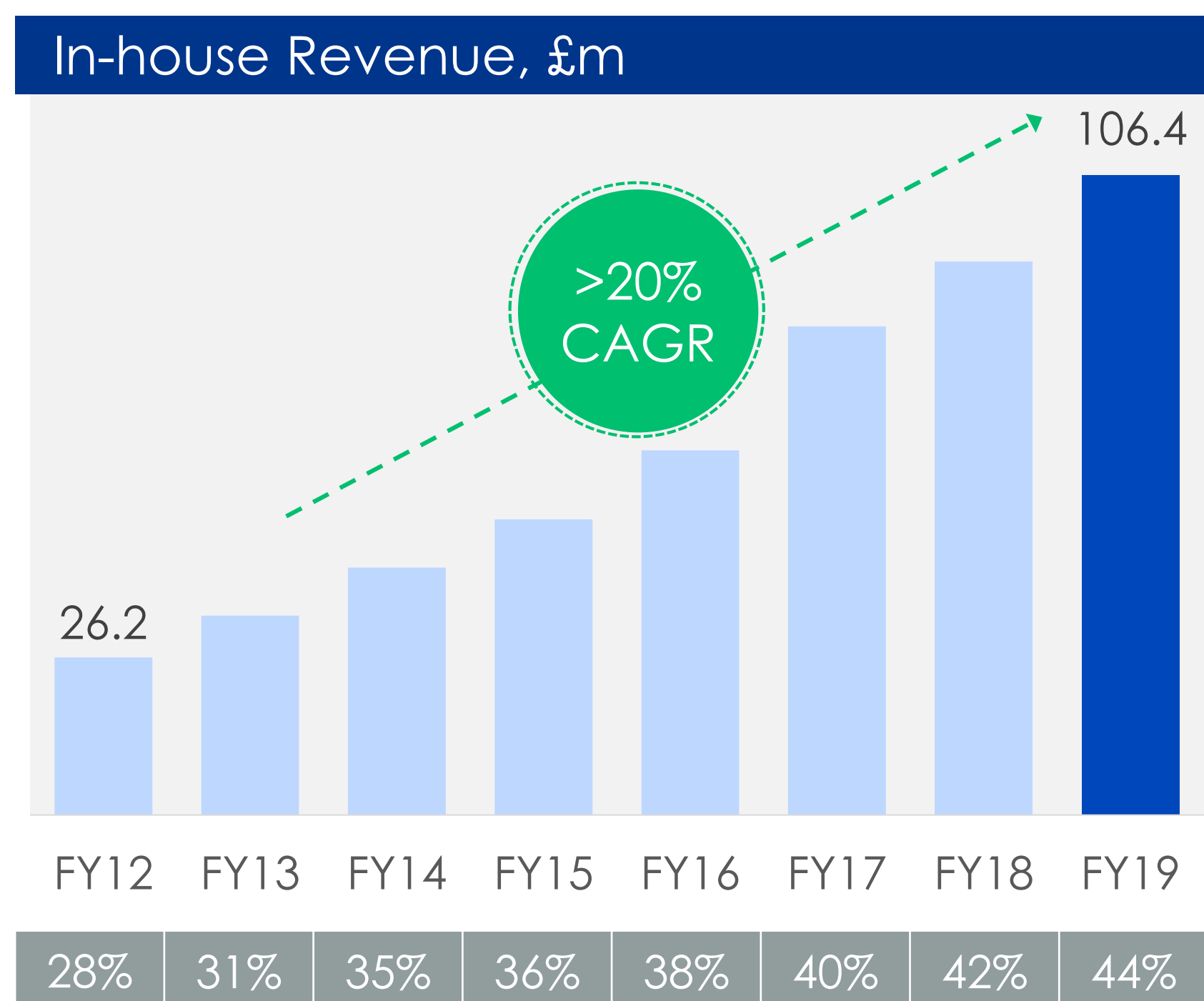
We see compelling opportunities to invest to remove constraints to growth



Our innovation and growth is enabled by a world class team of scientists



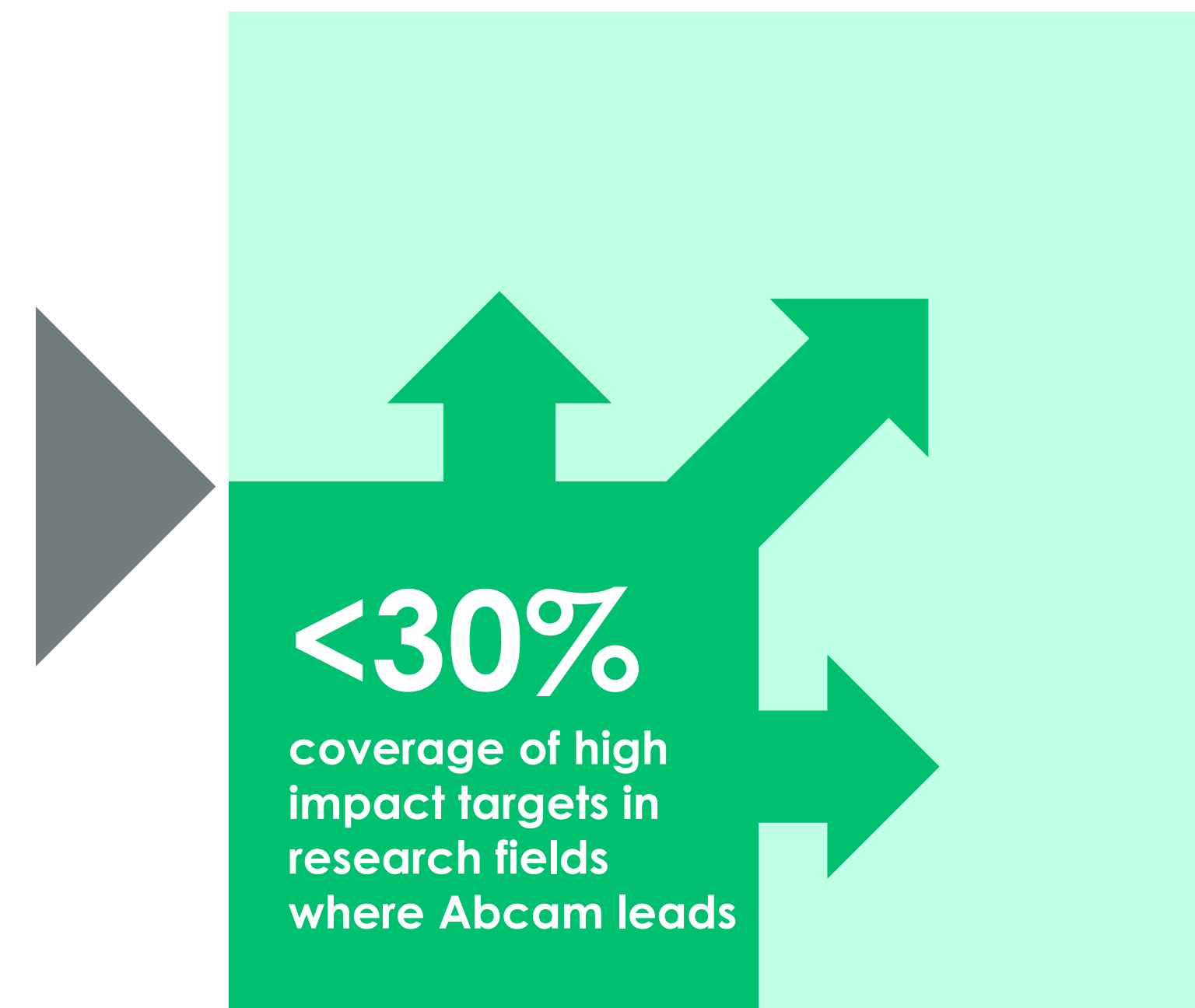
Compelling opportunities to invest to **sustain and extend leadership by removing constraints**



In-house products as proportion of total catalogue revenue

focused on:

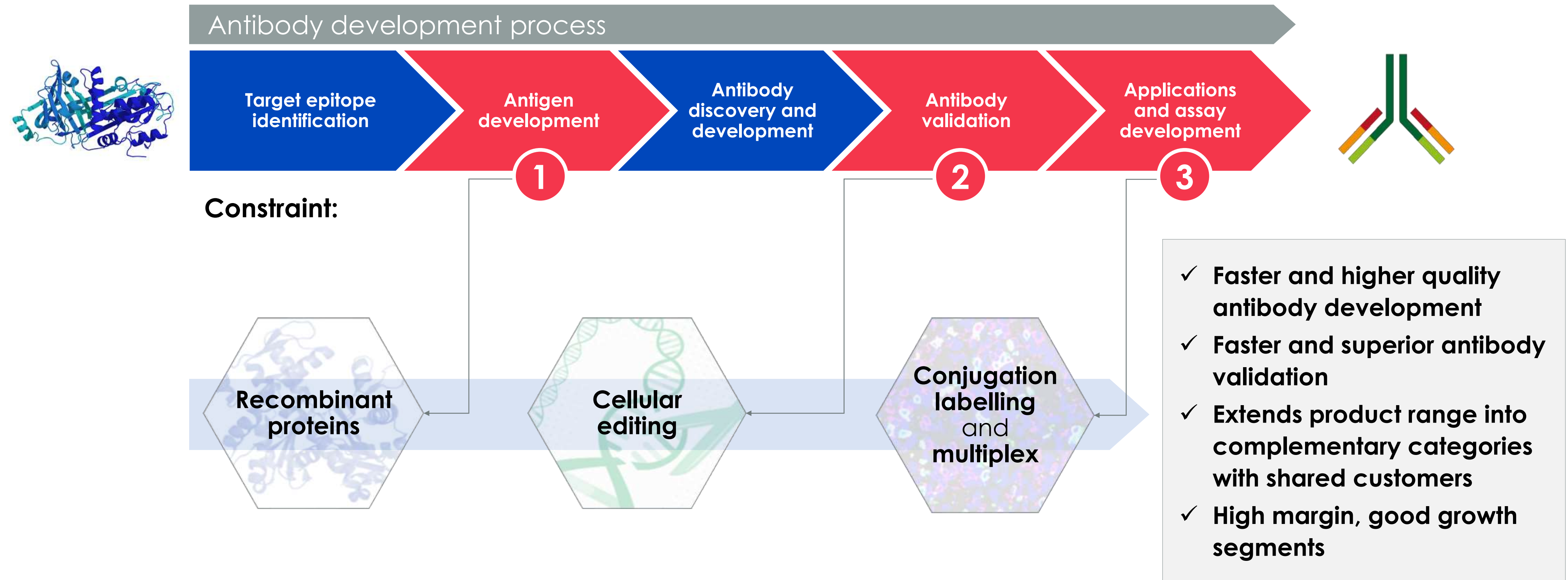
- High impact pathways
- Increased in-house development
- Strategic OEM partnership
- Licensing & growth investment



Ample headroom to grow in existing strongholds...

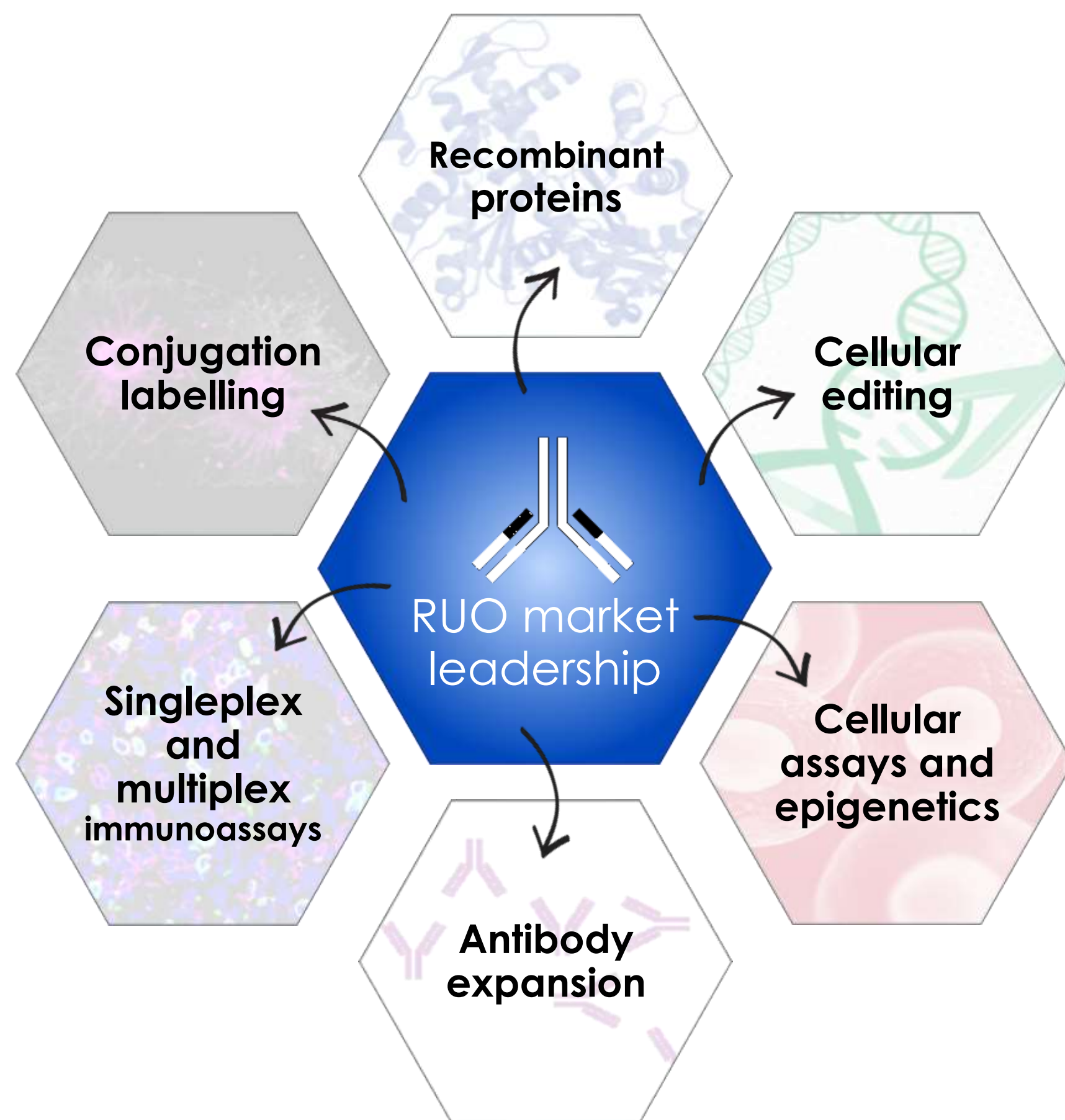


Antibody leadership: removing constraints will unlock superior antibody growth





Removing these constraints will also create **opportunity to follow customers to related markets**

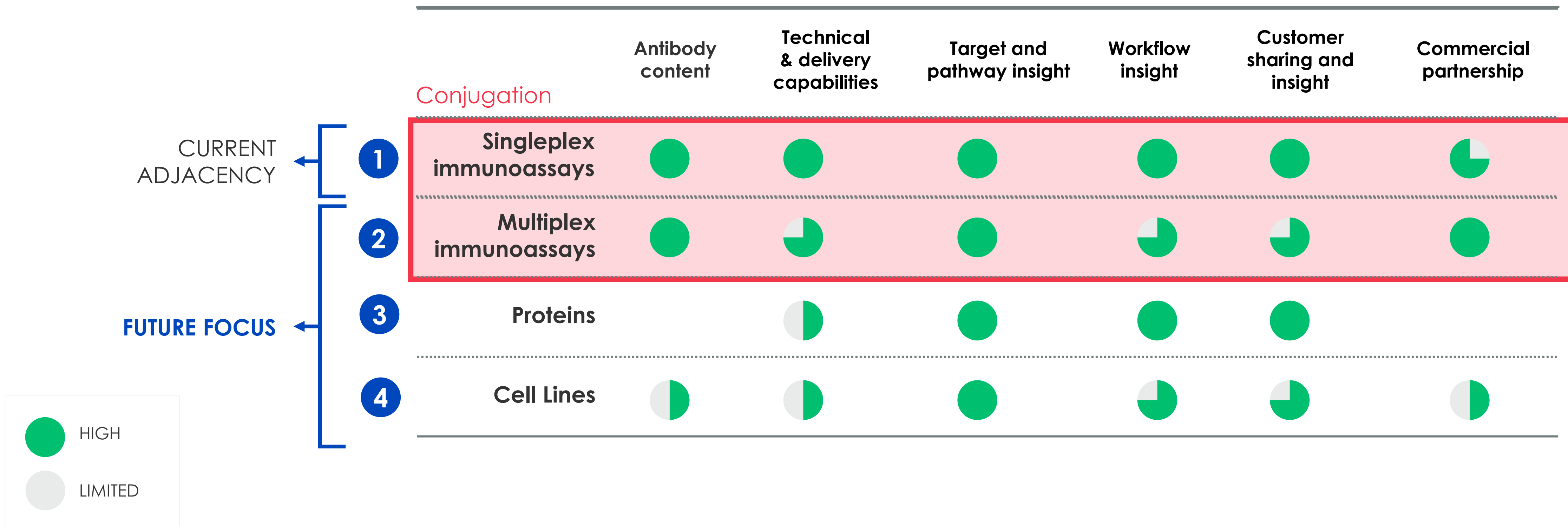


- » High customer overlap and known customer demand
- » Highly complementary product adjacencies – greater ability to support customers with their research needs
- » Ability to leverage antibody assets and capabilities to support market penetration



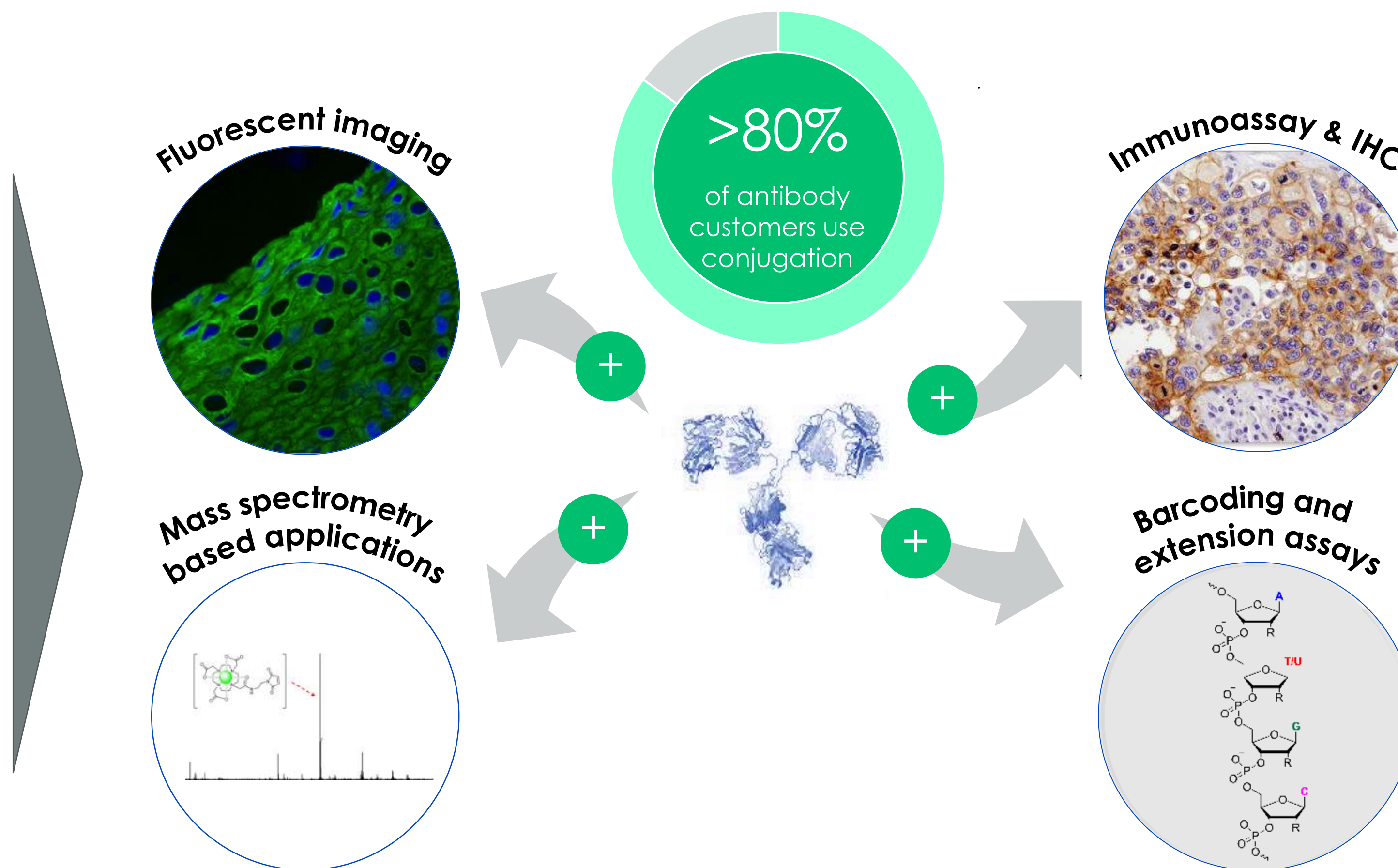
Ability to leverage existing capabilities and assets in market adjacencies important

Ability to use existing capability:





Antibody conjugation: a core workflow enabler for multiple applications

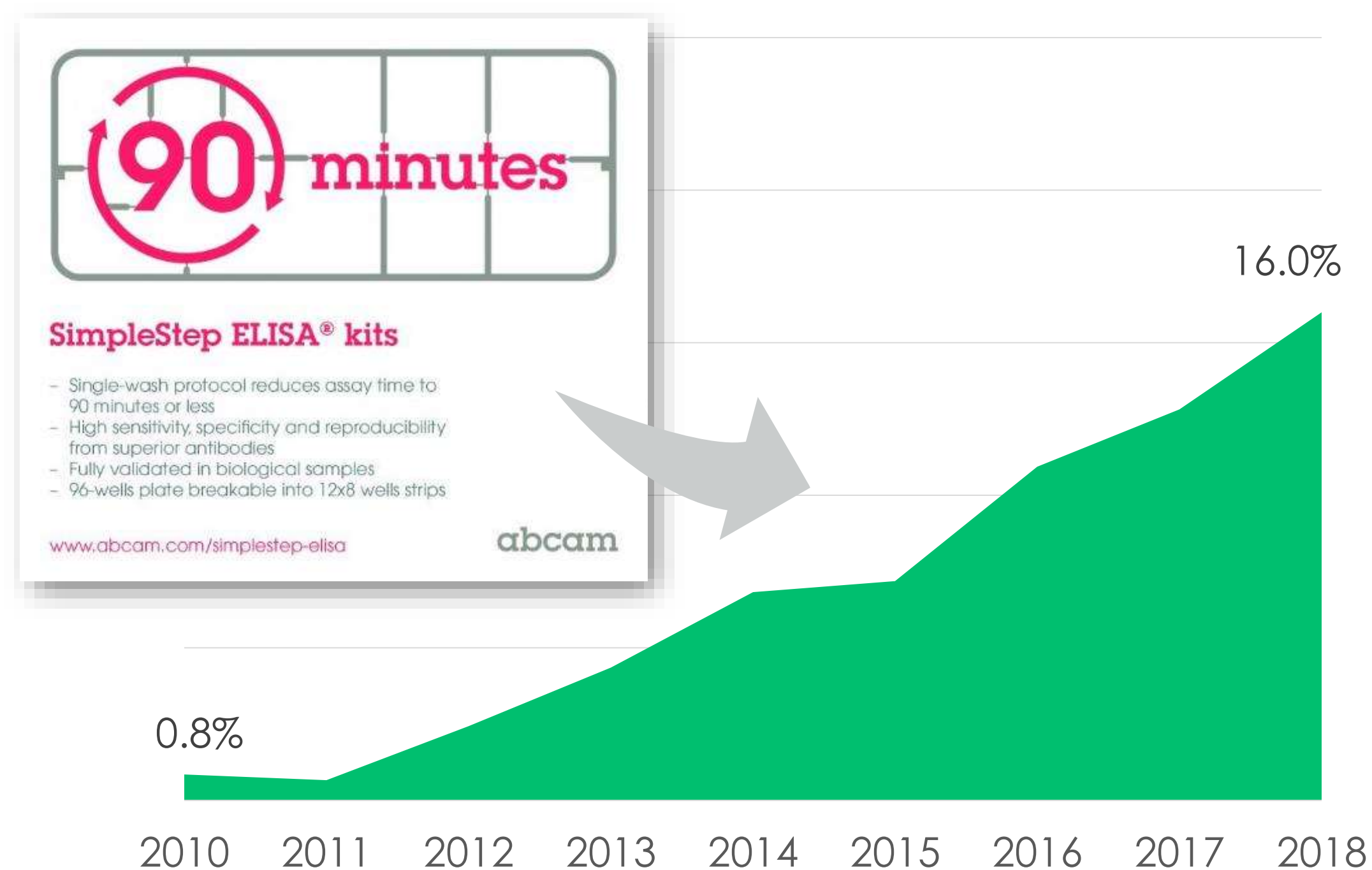




1 Singleplex immunoassays: an adjacency now part of our core

- Launched in-house in 2013
 - >960 SimpleStep ELISA and Matched Antibody Pair products published to date
 - 30% revenue CAGR '13-'19
- Powered by **best in class recombinant antibodies**, driving market leading sensitivity and specificity
- **Homogenous assay format** minimises overall run time and hands on time for customers

Share of global ELISA¹ citations, %



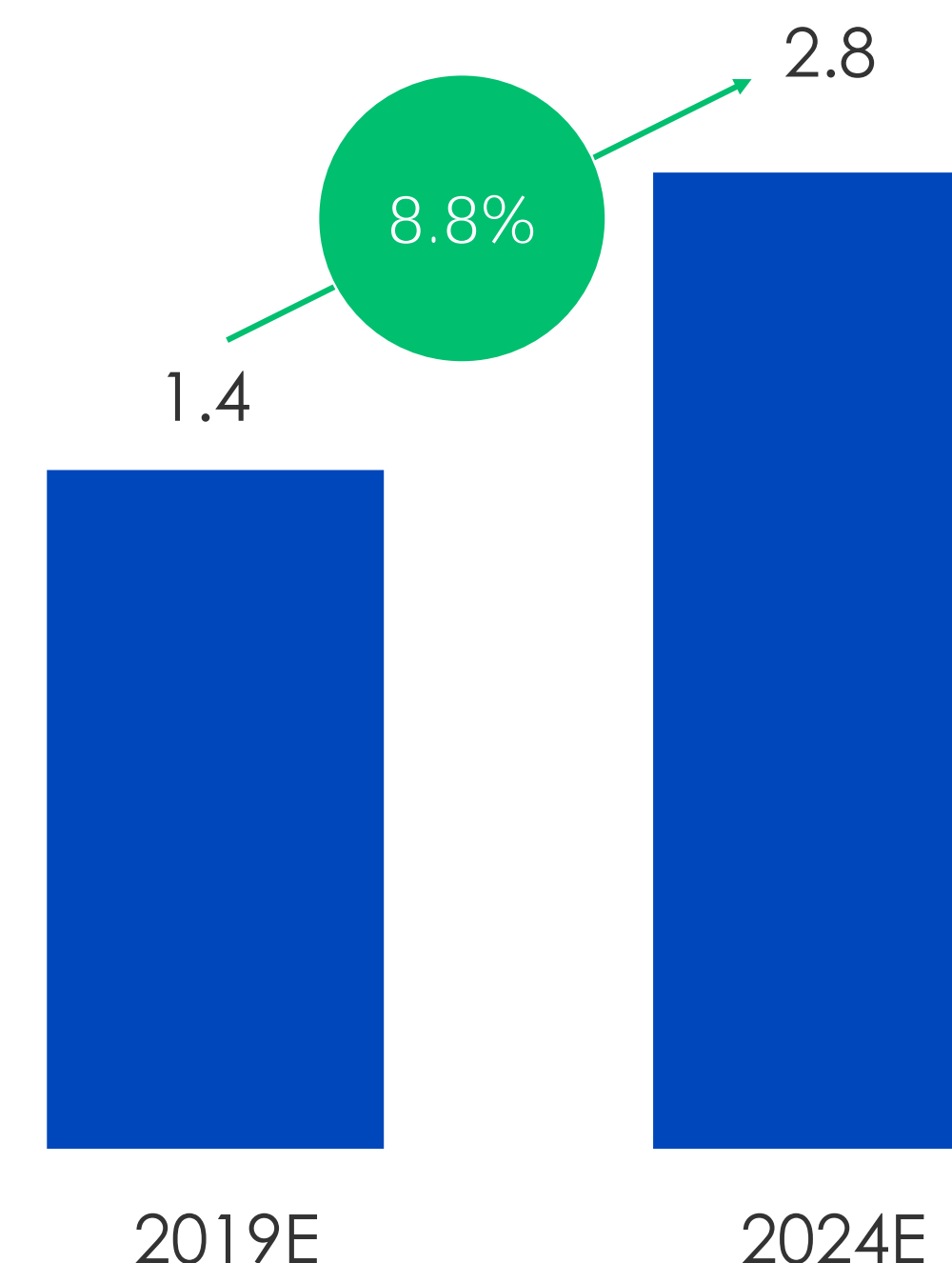


2 **Multiplex immunoassays:** attractive market which enables Abcam to expand in valuable niches

- Large market
- Significant growth potential driven by drug discovery and diagnostics
- Relevant across multiple research areas

Value chain	Research areas
✓ Biomarker discovery	✓ Oncology
✓ Biomarker validation	✓ Immunology
✓ Drug discovery	✓ Regenerative medicine
✓ Drug optimisation	✓ Epigenetics
✓ Diagnostics	✓ Neurology

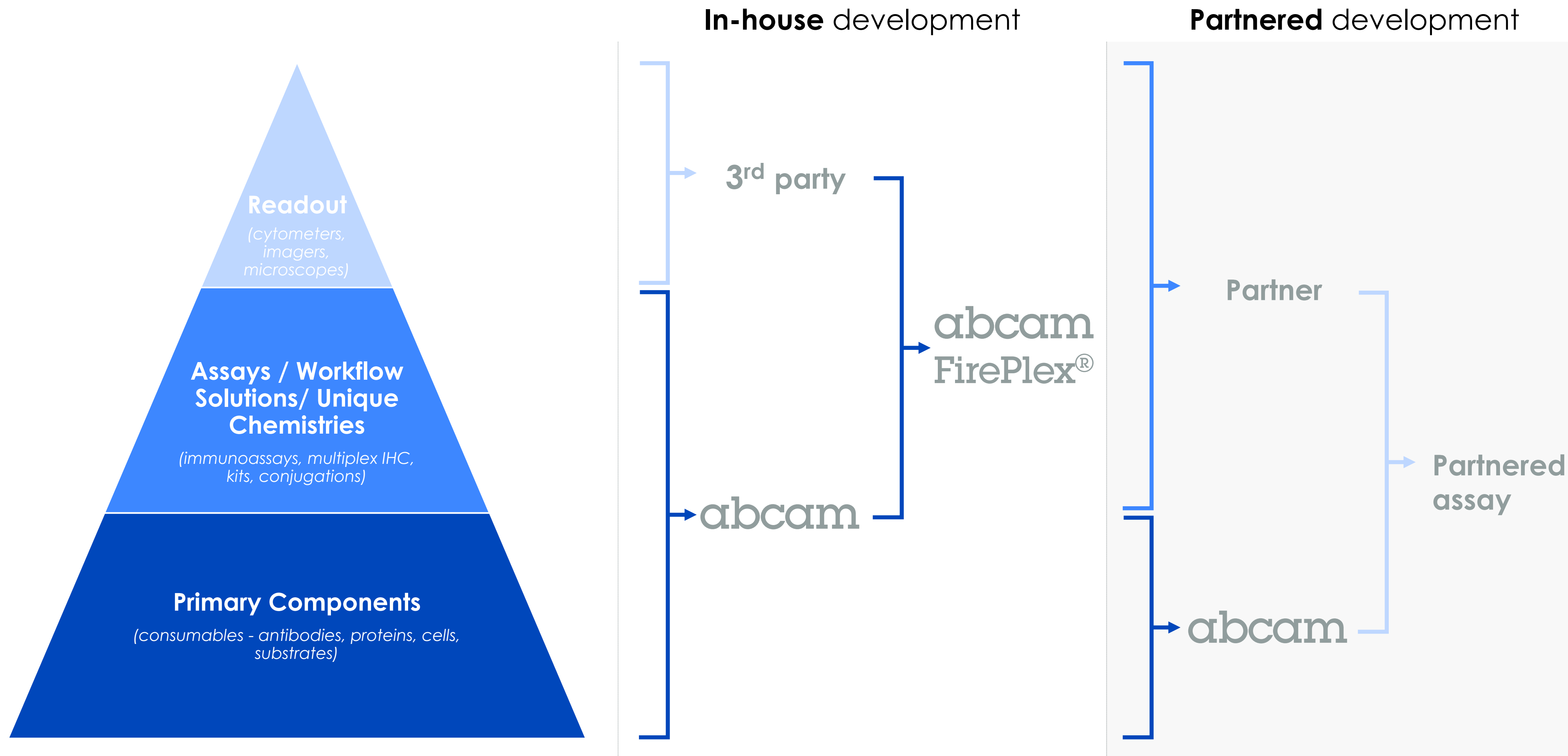
Global multiplex market¹ (£bn)



...supporting continued growth and customer base diversification



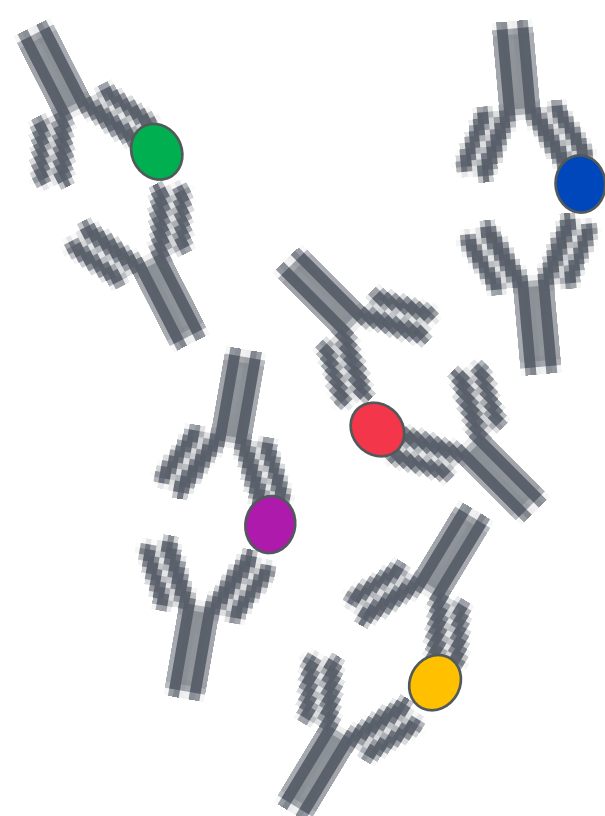
2 Multiplex immunoassays: two strategies to grow



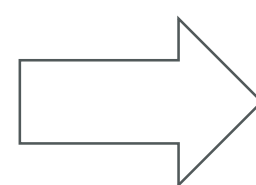


2 In-house Multiplex: Fireplex® – a proprietary, instrument-agnostic assay platform

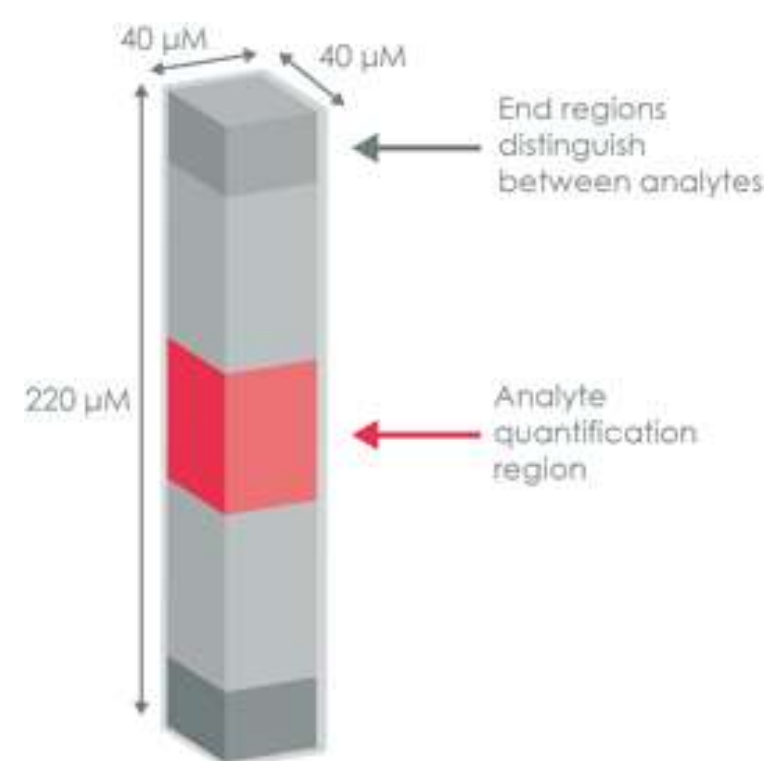
Recombinant pairs



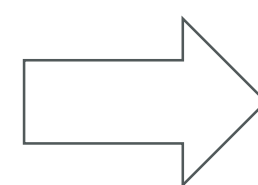
✓ Large content menu



Hydrogel particles



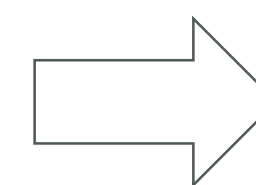
✓ No bleed



Sample



✓ Rapid prep time



Readout on Flow Cytometers or High Content Imagers

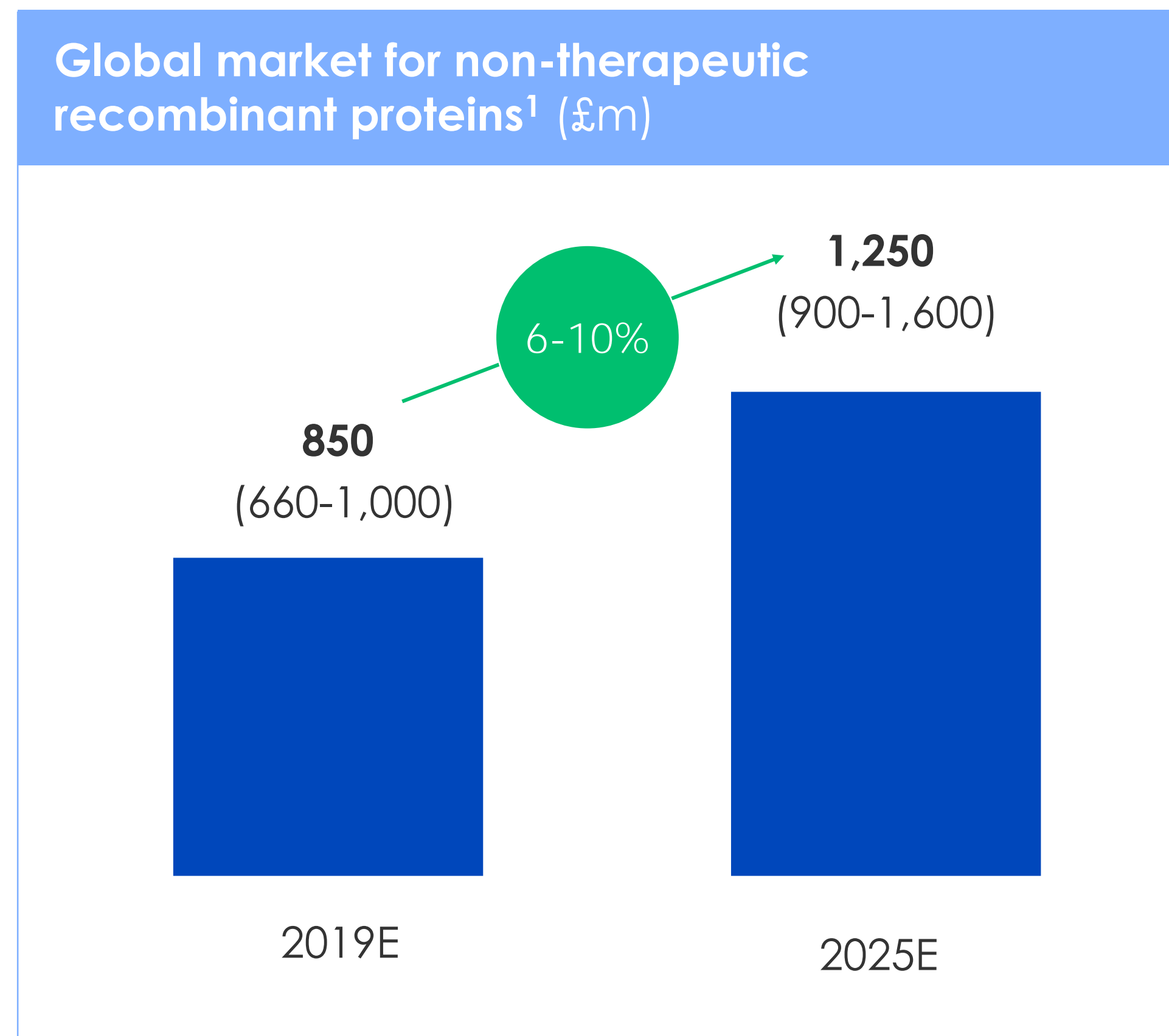


✓ Instrument agnostic



3 **Recombinant proteins:** an internal need and an attractive commercial opportunity

- High quality immunogens are essential to extend antibody leadership
- Increased immunogen productivity will unlock new antibody segments and enhance coverage within critical research areas e.g., Neuroscience
- Significant opportunity to enhance growth in a high margin synergistic market





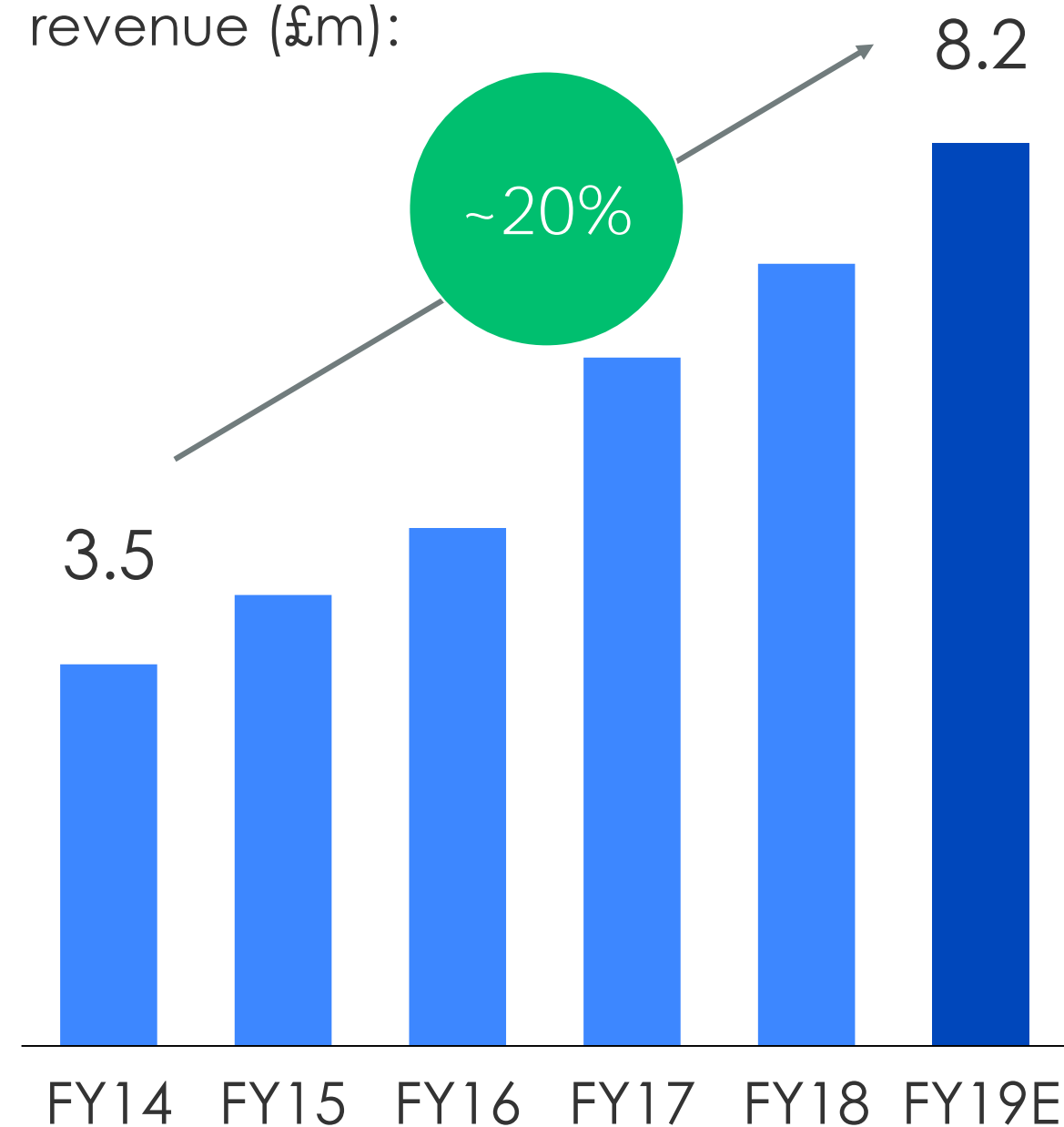
3 **Recombinant proteins:** existing capability and business provides strong foundation; we are investing to scale

- Strong position for commercial launch of Abcam produced proteins
- Opportunity for more control over product quality
- Opportunity to create a comprehensive offering for focus areas



Strong growth trajectory

Abcam proteins and peptides revenue (£m):



Established customer base

- Broad customer set
 - ~50% industry
 - ~25% distributors
 - ~25 % academics
- High value accounts with top 20 biotech / pharma clients



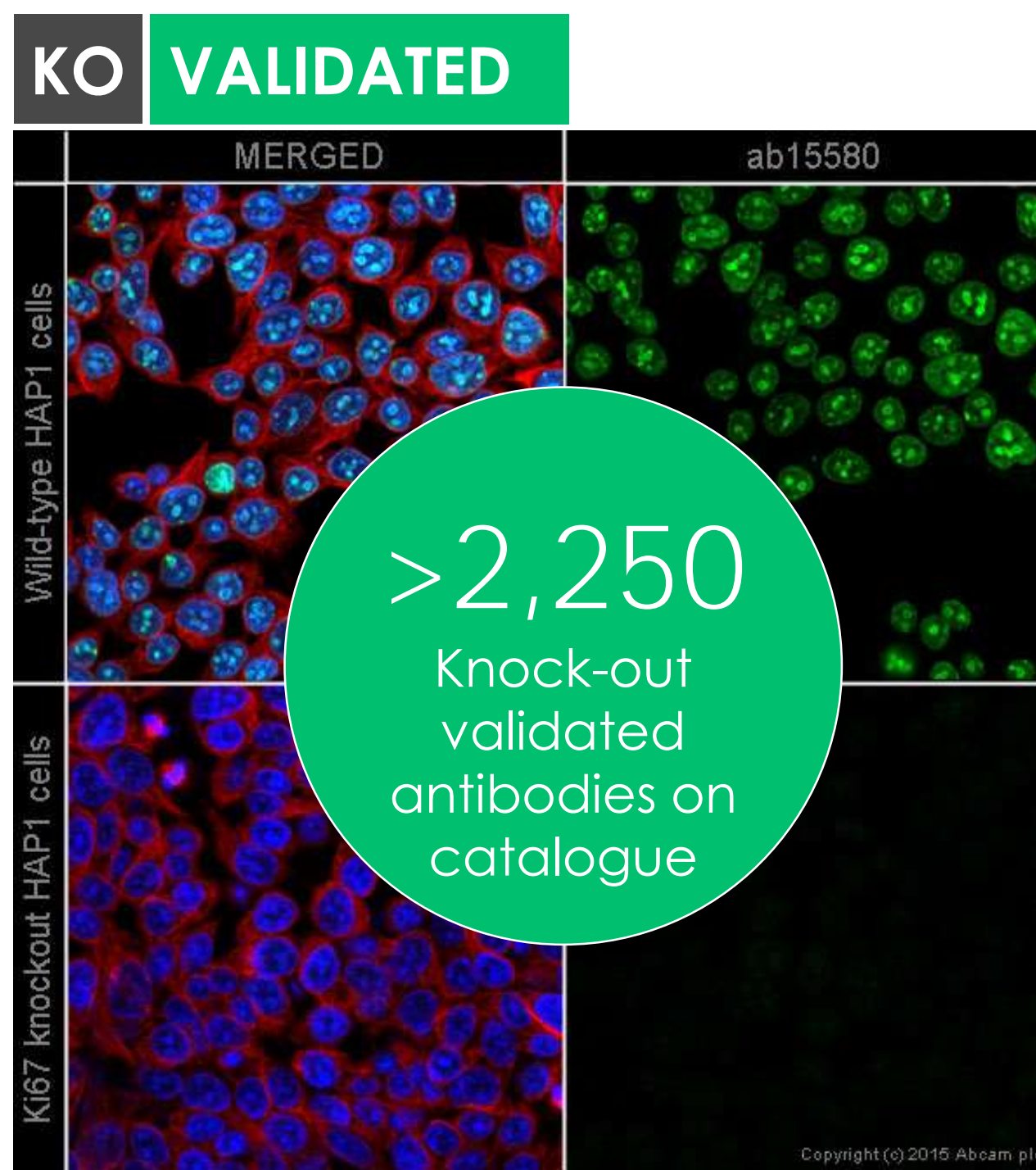
Broad product set

- >1,000 OEM products today
- Diverse coverage across:
 - >5 Protein classes
 - >7 Applications
 - >10 Research areas

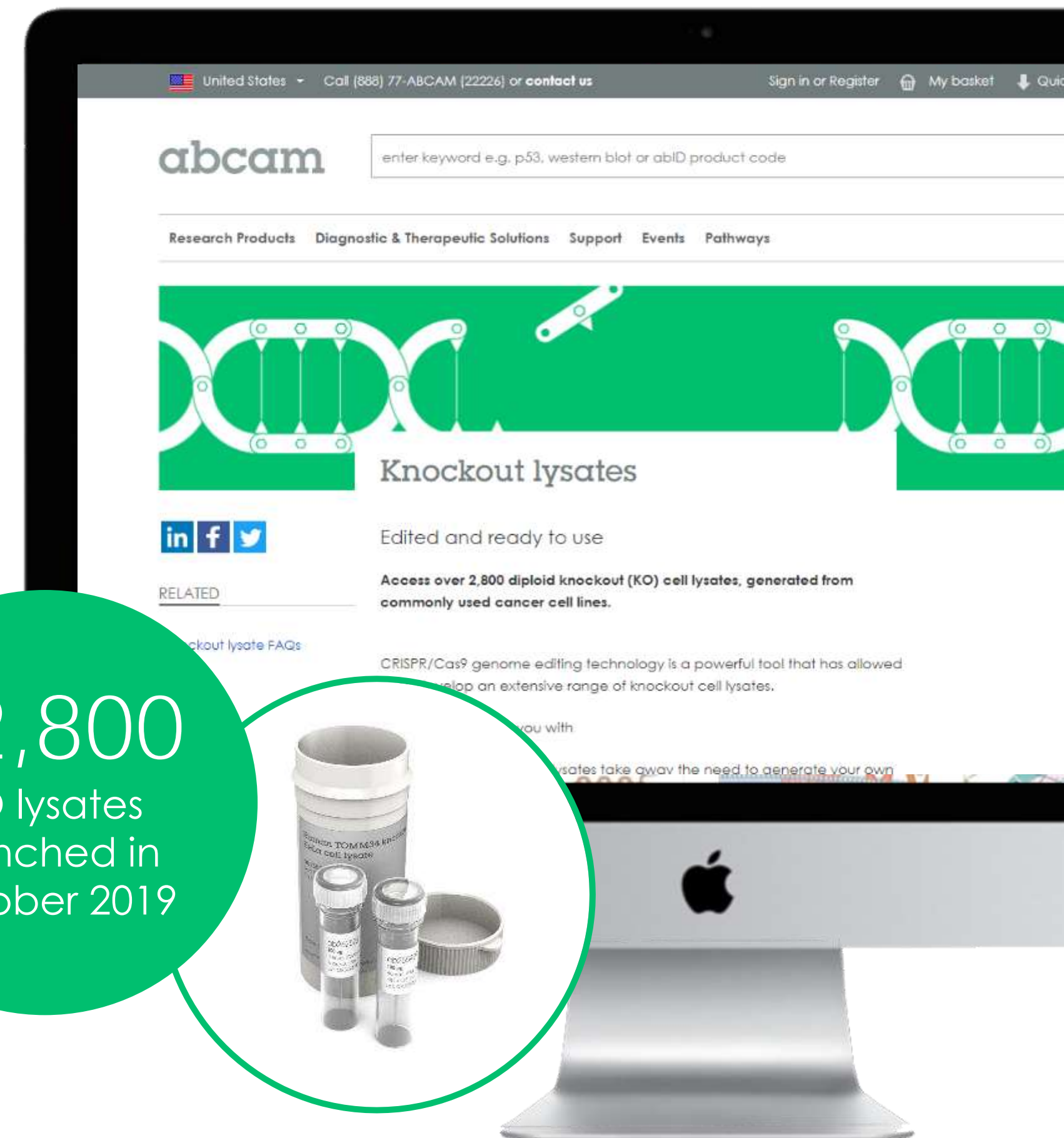


4 Cellular editing: addresses a constraint and creates an adjacent market opportunity

- KO cell lines / lysates are an important tool for antibody validation – both at Abcam and in customer labs
- Adjacent market: 54% of antibody customers would buy cell lines from Abcam today
- Opportunity to develop market, choosing focus areas using proprietary data



Knock-out validation of Anti-Ki67 antibody (ab15580) in Immunocytochemistry / Immunofluorescence



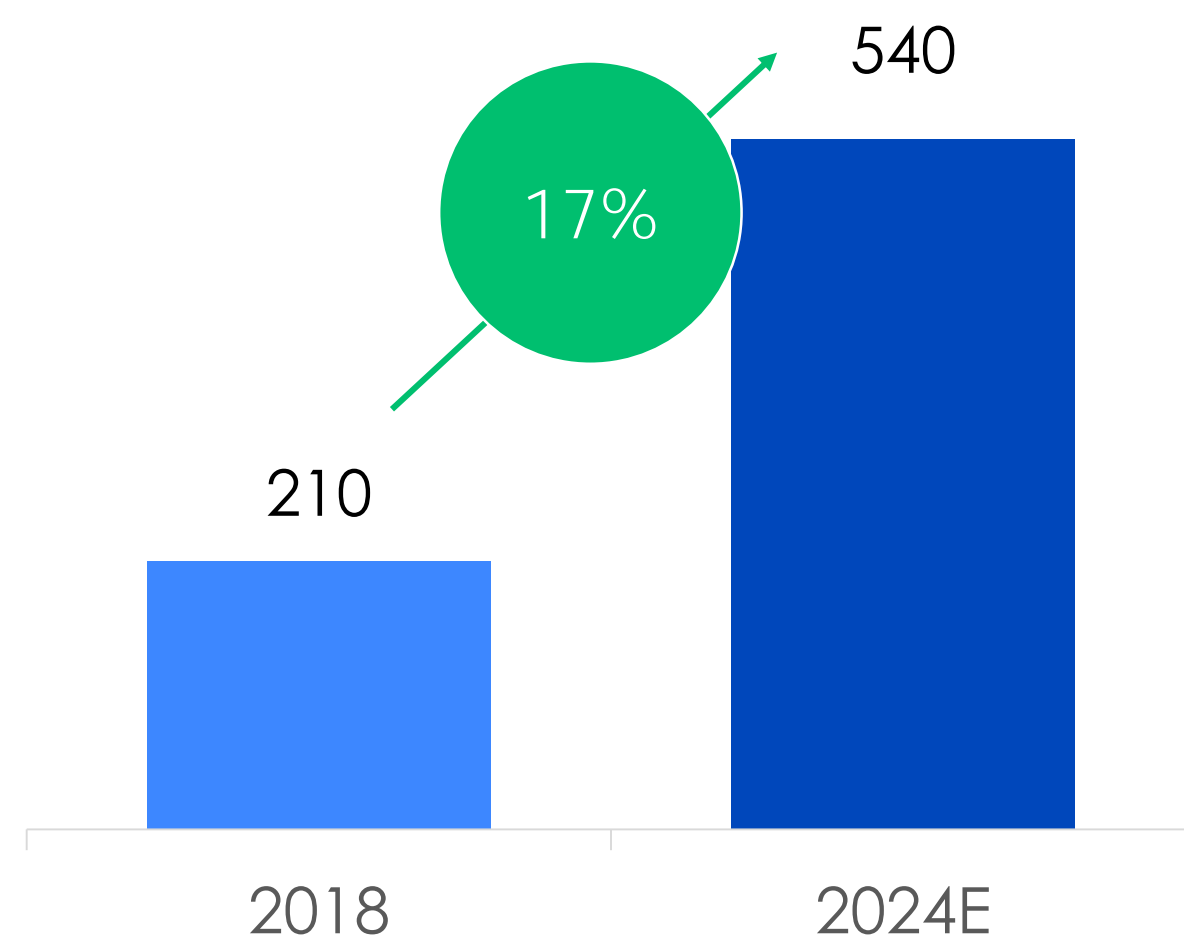


4 Cellular editing: Abcam is well positioned to grow in the cell editing market

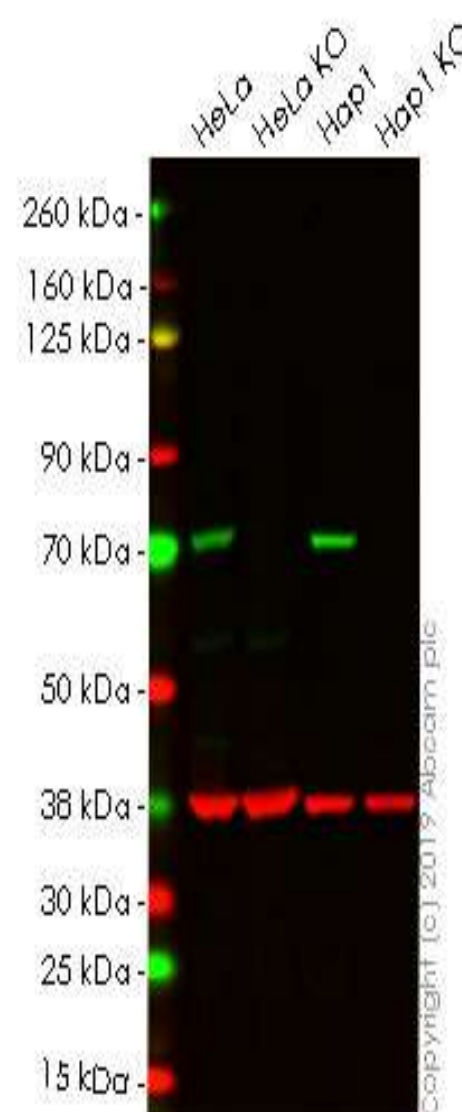
Nascent, but fast growing market



Edited Cell Line Market¹, \$m

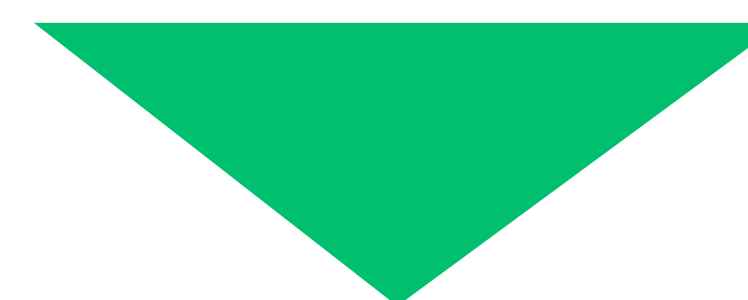


Today: our initial product proposition supports core Abcam values



- **Choice:** 2,800 paired lysates & diploid lines launched
- **Quality:** Extensive genomic and proteomic validation
- **Speed:** Immediate use, saving 12-16 weeks

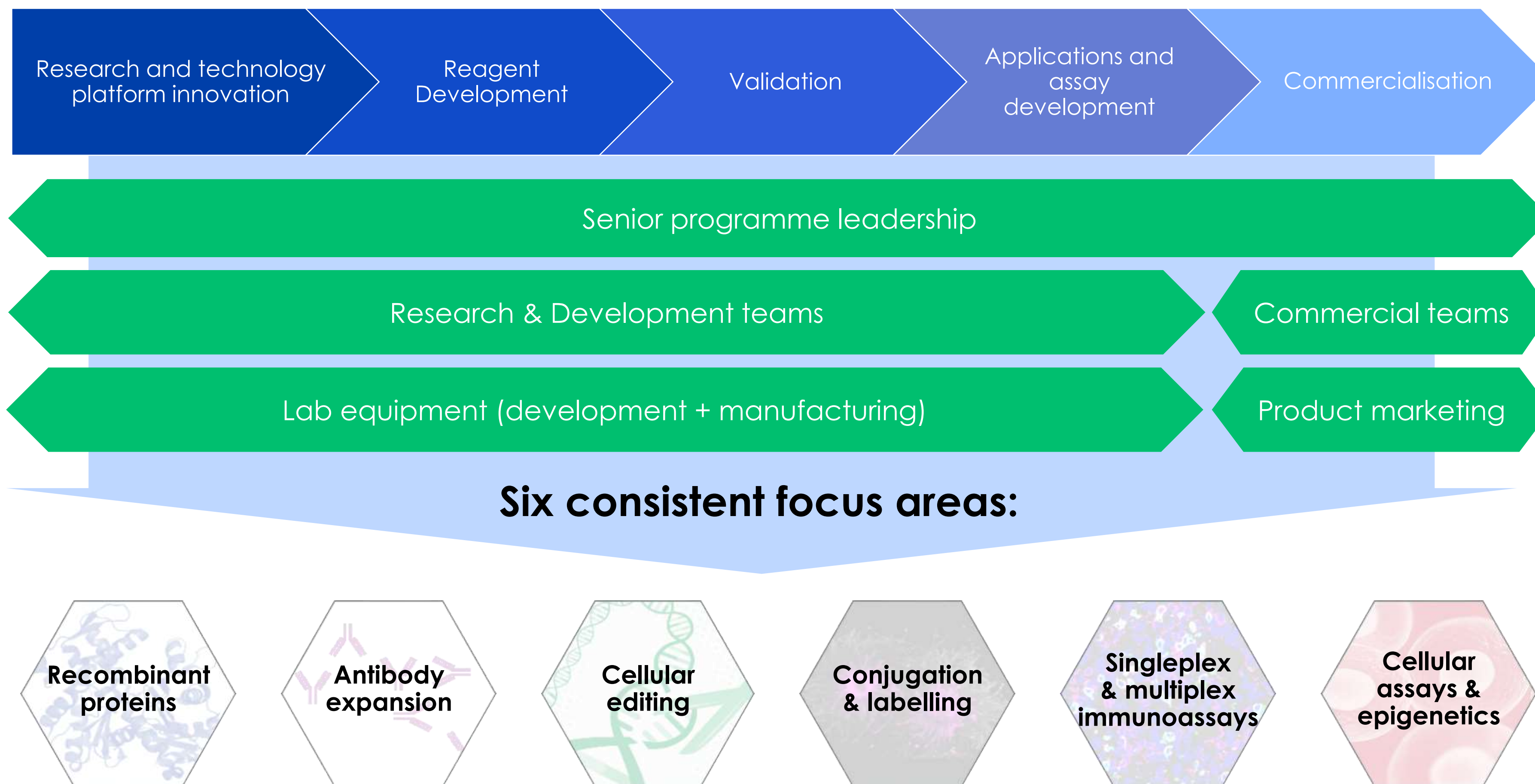
Future plans to further develop offering



- Experienced team leader hired
- Building out team capabilities
- CRISPR licences signed
- Evaluating inorganic levers alongside organic build



Areas of investment





Innovating to enable scientific breakthroughs and expansion in research markets



We have a strong foundation within our markets

- We serve ~70% of life scientists globally
- They value our products as the foundations of their research



We have built an industry leading innovation engine

- Best in class development and validation
- Repeatable model for high value innovation



We see compelling opportunities to invest to remove constraints to growth

- In our core: RUO antibodies and immunoassays
- In selected adjacencies that leverage our existing assets: conjugation/multiplex, proteins, cell lines



Our innovation and growth is enabled by a world class team of scientists



INNOVATION TO ENABLE SCIENTIFIC BREAKTHROUGHS AND EXPANSION INTO RESEARCH MARKETS

World class team

None of this would be possible without
Abcam's World-Class Team

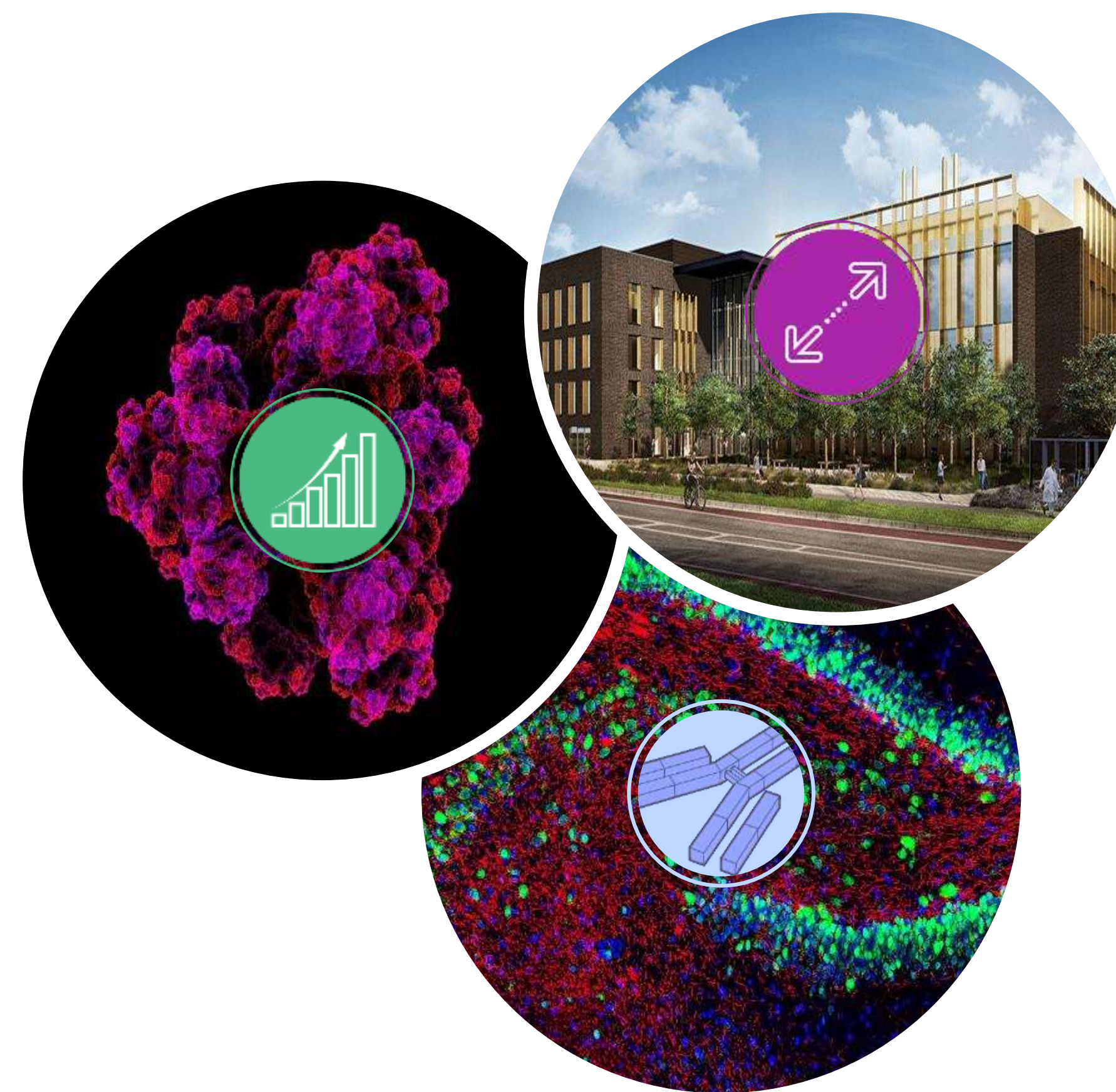
Global team of **>200 PhD scientists,**
>300 associates, across **7 locations**



Innovating to enable scientific breakthroughs and expansion in research markets

Key takeaways:

- Track record of quality and innovation has built customers' trust
- Focus on enhancing and extending product base
- Investment in technology and team to support customer needs
- Expansion opportunities in well-positioned adjacencies



Empowering researchers through an unparalleled digital and customer experience

Yvonne Chien
SVP, Customer Experience

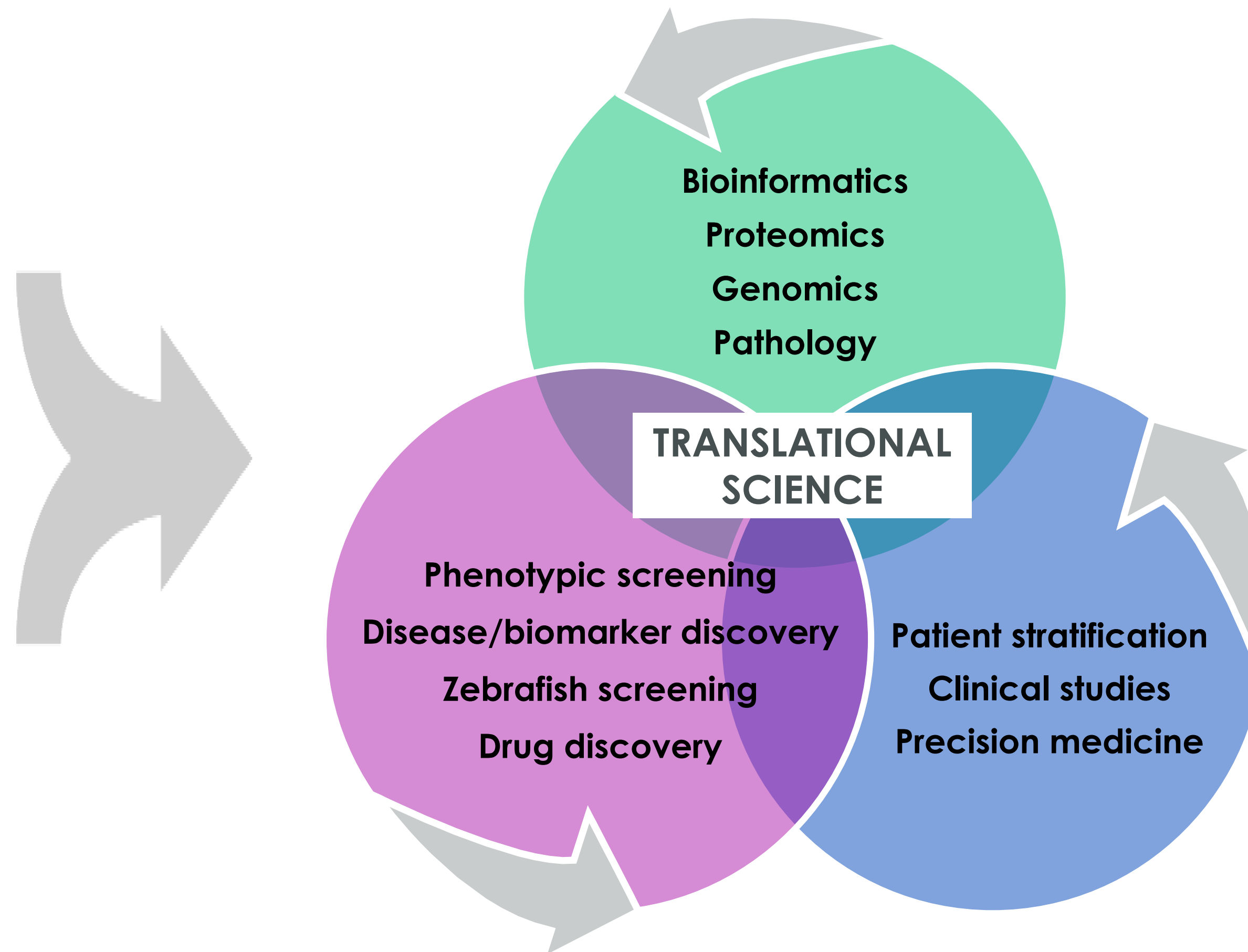
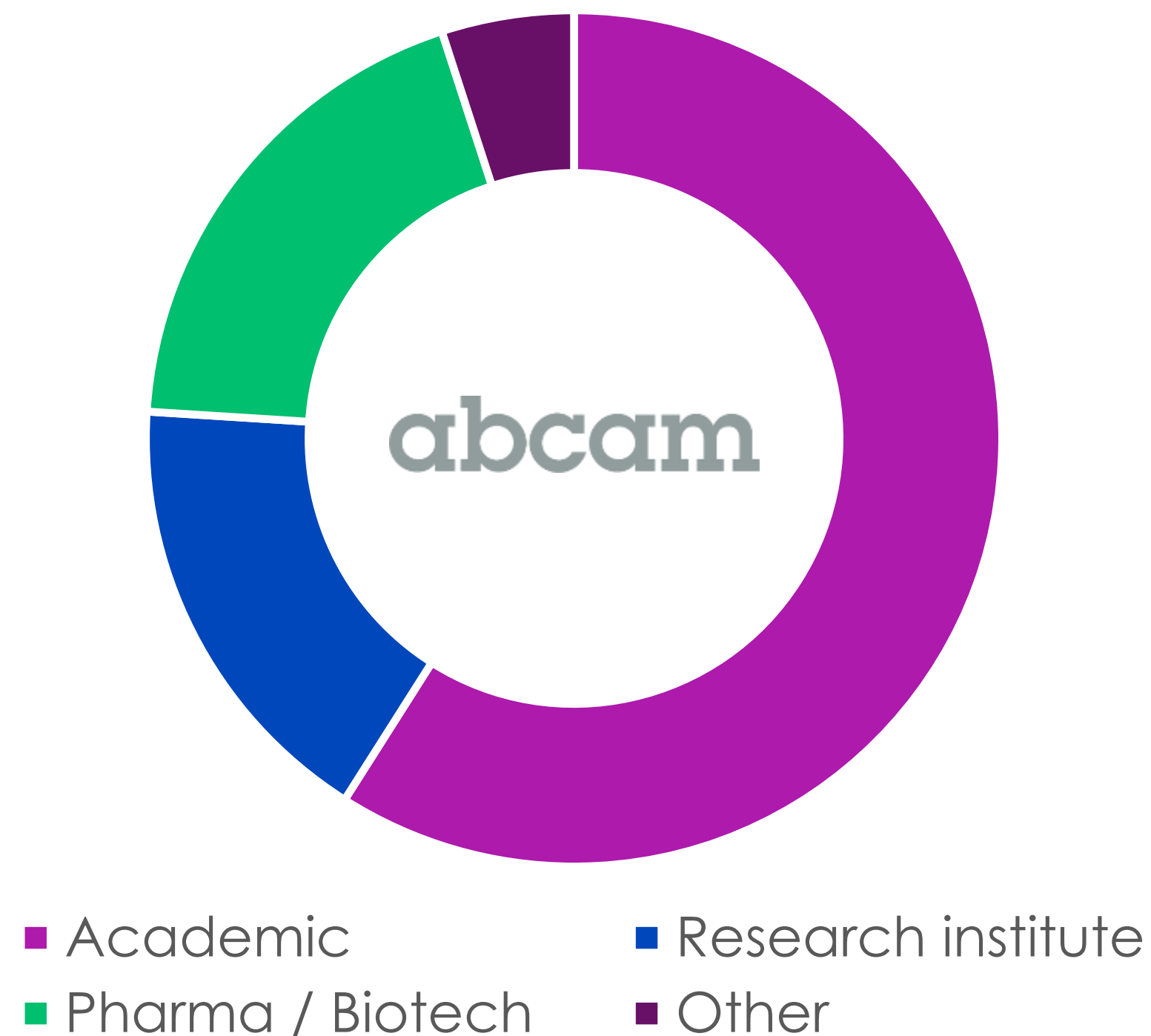


Empowering researchers through an unparalleled digital and customer experience



Our customers are scientists across the translational research continuum

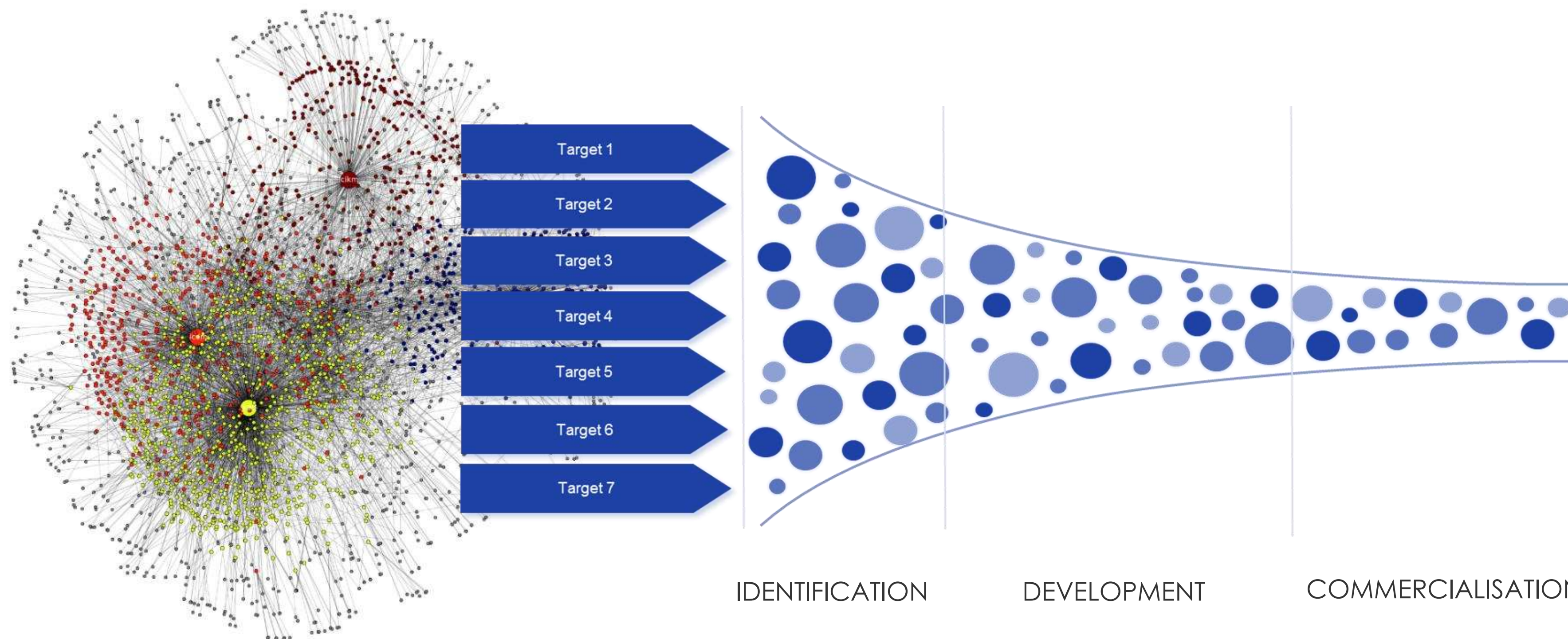
Abcam customer profile:





Growing data analytics capabilities is improving ability to predict needs and market more effectively

Millions of possible combinations of targets, modifications, and applications



Δ in revenue per new clone – first 36m

(FY17 vs. FY13)



Using data to add value to our customers Increasing product utility

4 product results for Antibodies to Protein X

Filters: Clear all | Filtered by: More primary antibodies

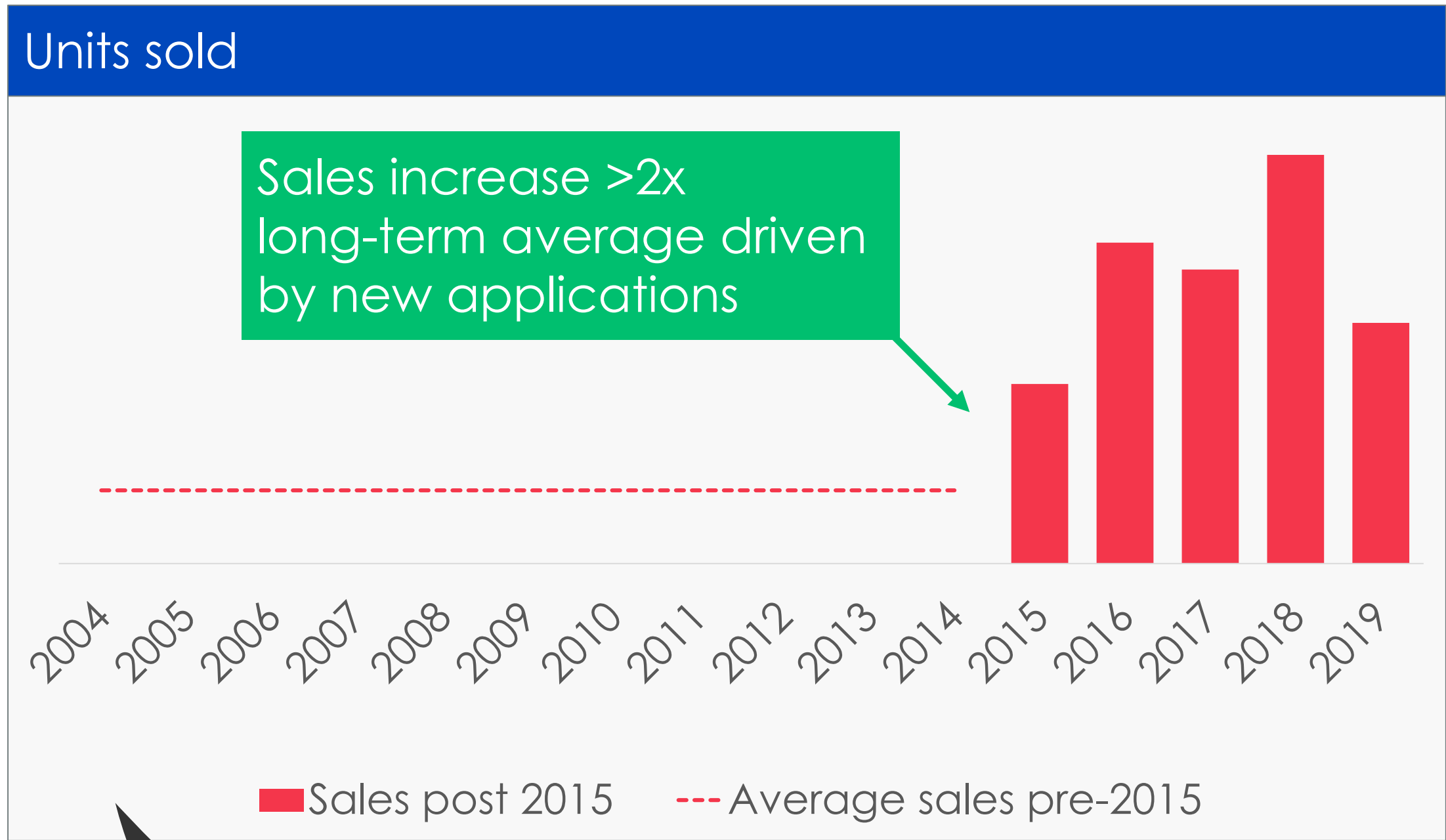
Antibody A to protein X
 Abreviews (1)
 Description: Rabbit polyclonal
 Application: ChIP, IHC-P, WB
 Reactivity: Mouse, Rat, Human
 Conjugate: Unconjugated

Antibody B to protein X
 Specific References (1)
 Description: Goat polyclonal
 Application: WB
 Reactivity: Human (predicted: Mouse, Rat, Cow, Dog, Pig, Xenopus laevis)
 Conjugate: Unconjugated

Antibody C to protein X
 Description: ...
 Application: ...
 Reactivity: ...
 Conjugate: Unconjugated

Antibody D to protein X
 Description: ...
 Application: ...
 Reactivity: ...
 Conjugate: Unconjugated

Product published in Apr-15 with additional research applications



... product enters pipeline for ChIP and IHC-P and specifications in 2017



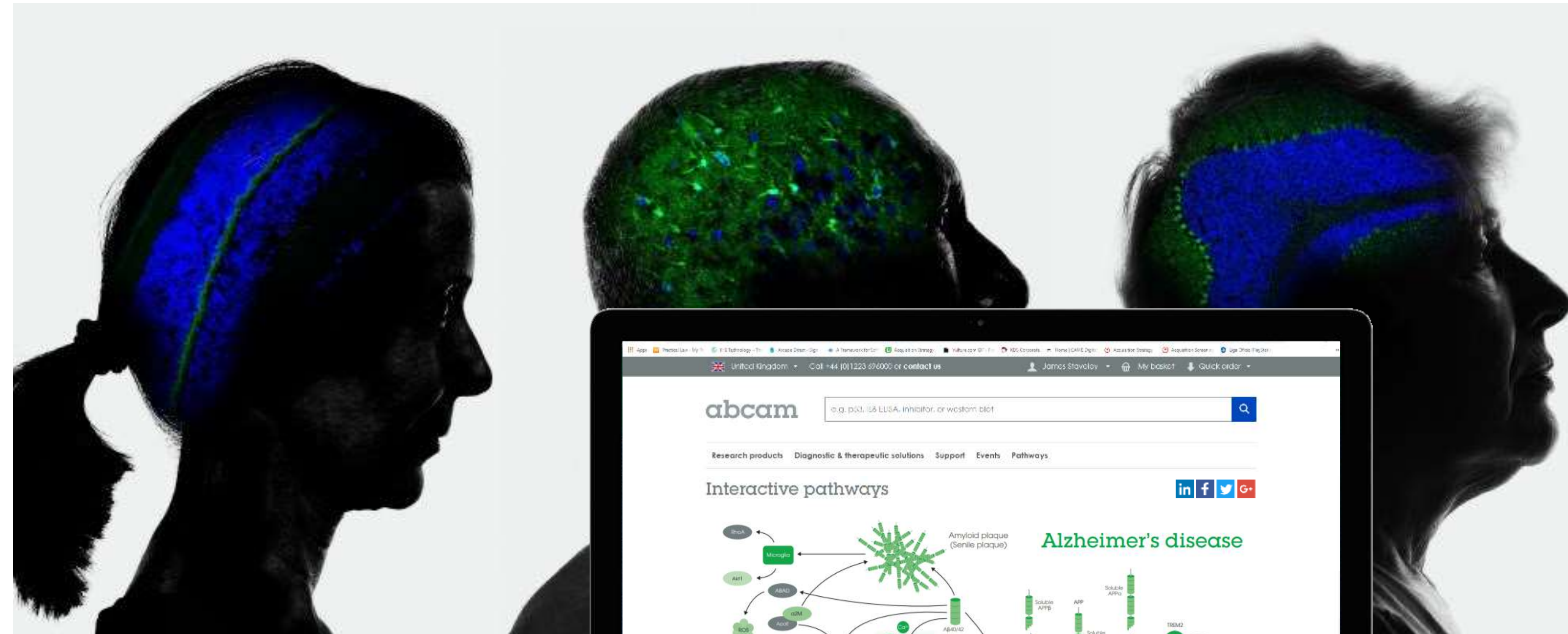
Using data to add value to our customers

Making recommendations more relevant

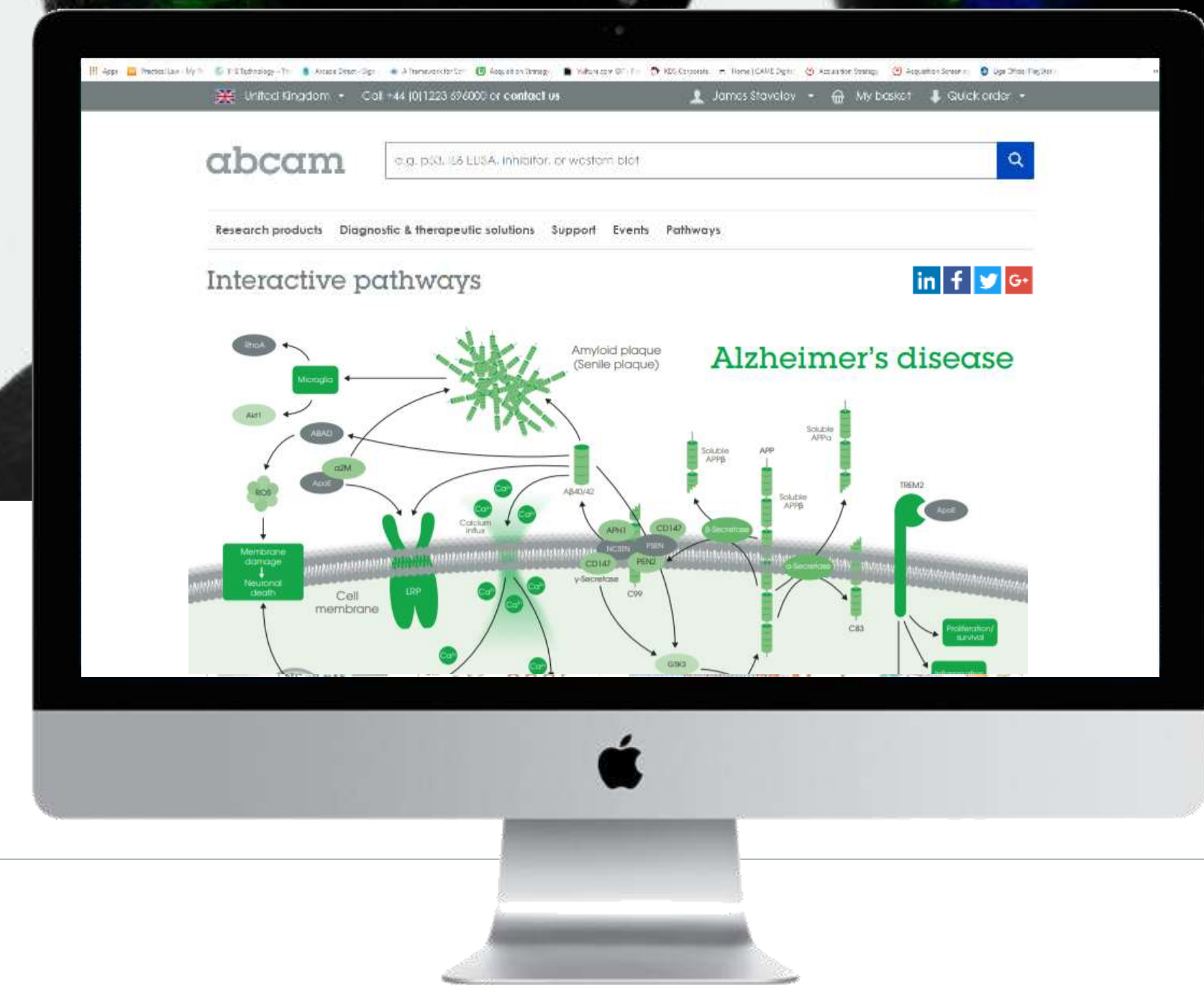
It's not easy for scientists to find the right tools

Focused on finding ways to get the right tools into the hands of the right scientists, faster

- Identify the best products for key targets and biomarkers across specific disease areas
- Highlight and recommend complementary product groups to further support their research
- Drive higher engagement and conversion

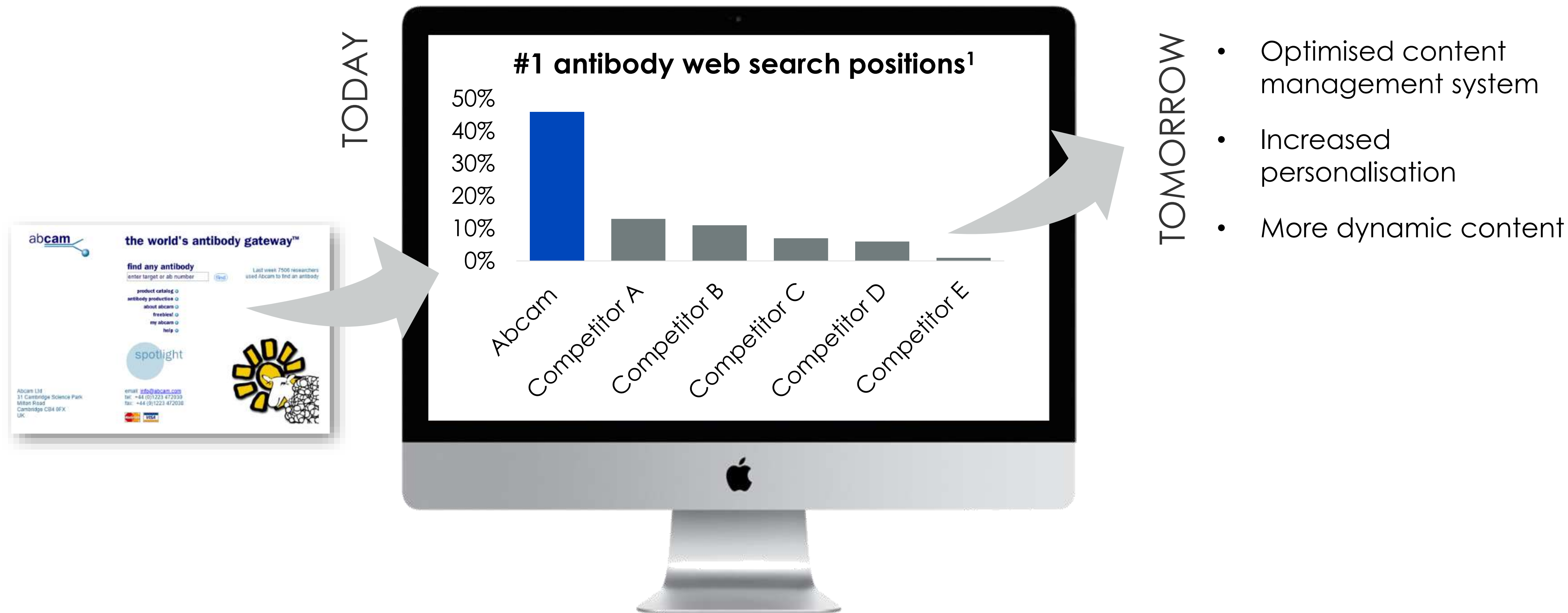


Neuroscience awareness campaign





Our website, search engine optimisation and data have been a major strategic advantage...

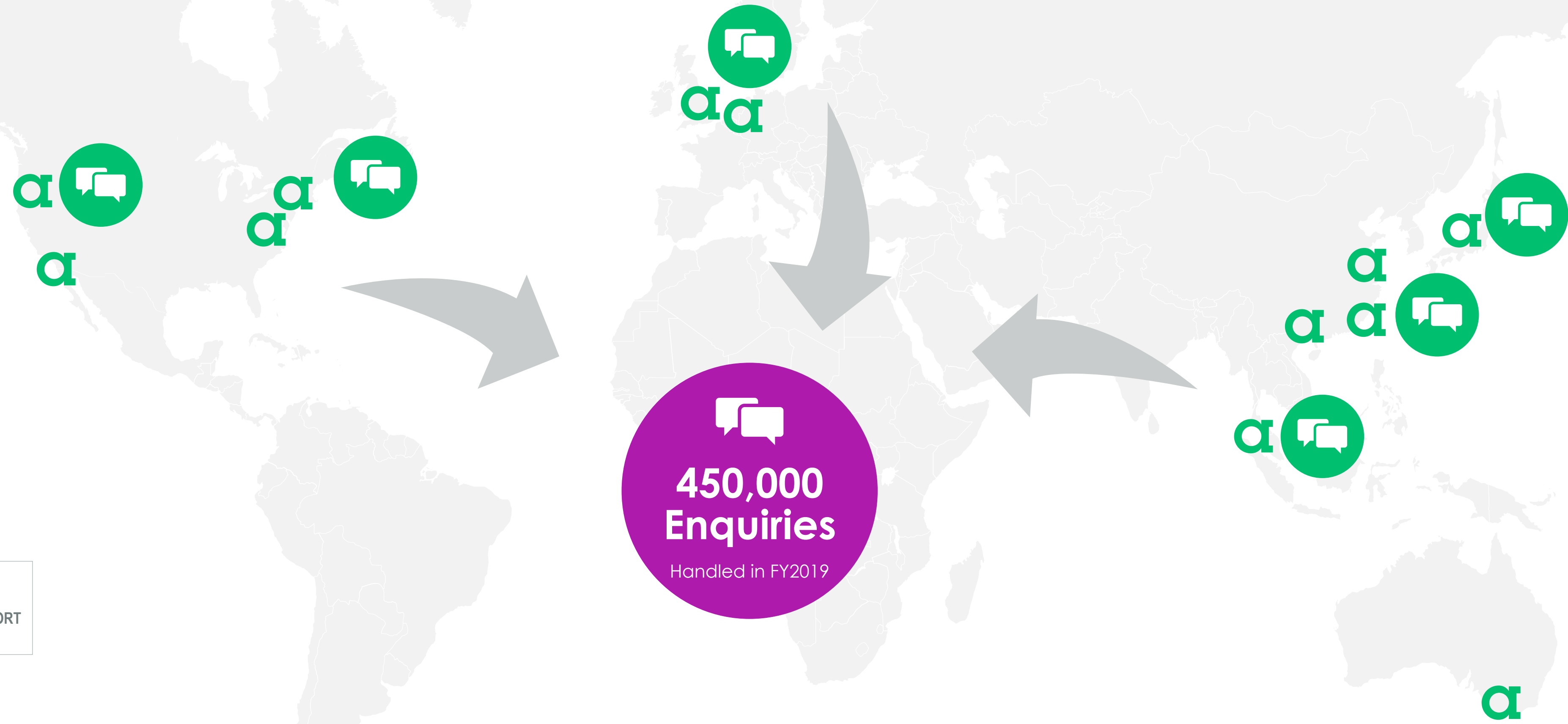




EMPOWERING RESEARCHERS THROUGH AN UNPARALLELED DIGITAL AND CUSTOMER EXPERIENCE

Continuous improvement of customer touchpoints and experience

Supported by an exceptional global scientific and customer service team



 CUSTOMER & SCIENTIFIC SUPPORT



Dedicated to serving customers



Delivery was within 24 hours, we are very appreciative, **I feel we can rely on your service.**



I am a purchaser and am happy with the ETA. **The web is very user friendly**



Huge choice of antibodies, almost all of them with references or reviews. If an antibody does not work, you get replacements or refund. **I almost exclusively buy my antibodies from Abcam :-)**



I have always been happy with the quality and customer service that Abcam provides..



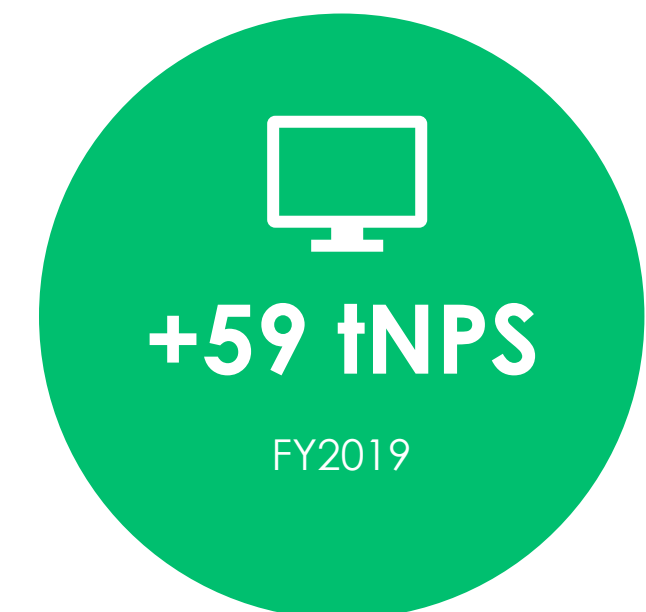
quick replies, technical detailed answers that offered options to perceived problems. Pre-analysing antigen identity before being asked, **just awesome overall!**



I appreciate the agent taking their time to find the answer rather than just saying "I don't know". **I also appreciated the additional resources they sent in addition to the link to the product**



The person replying was very knowledgeable. She gave some suggestions to help solve the problem but immediately offered to substitute the product of the query to solve the problem. **I did not have to spend time, materials or energy trying to troubleshoot and was able to continue my research.**

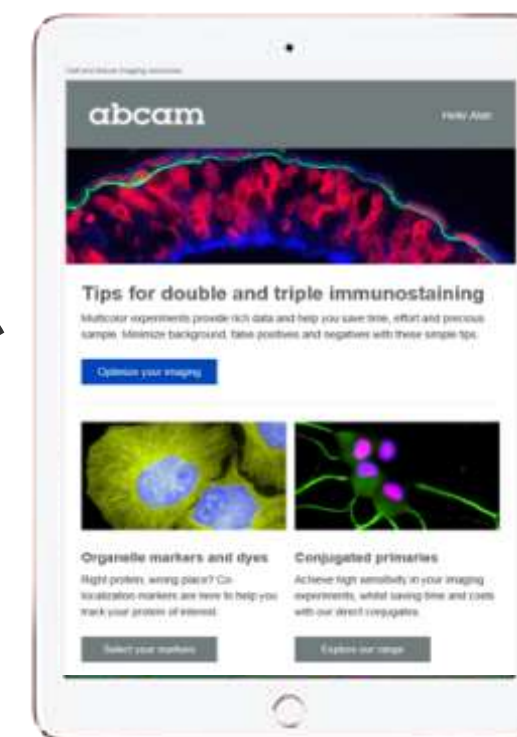
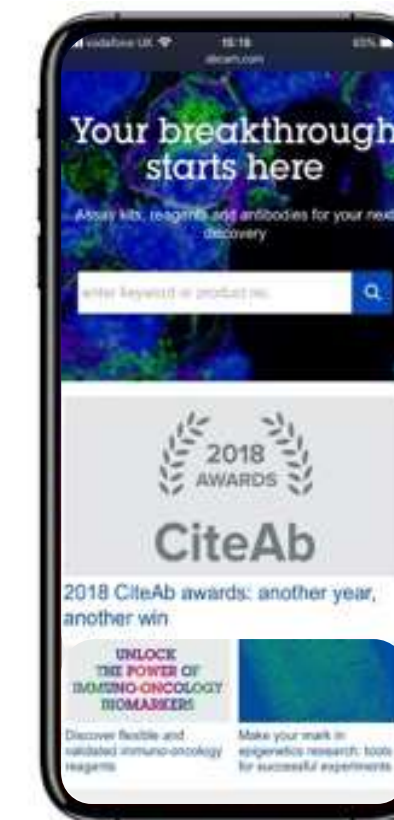
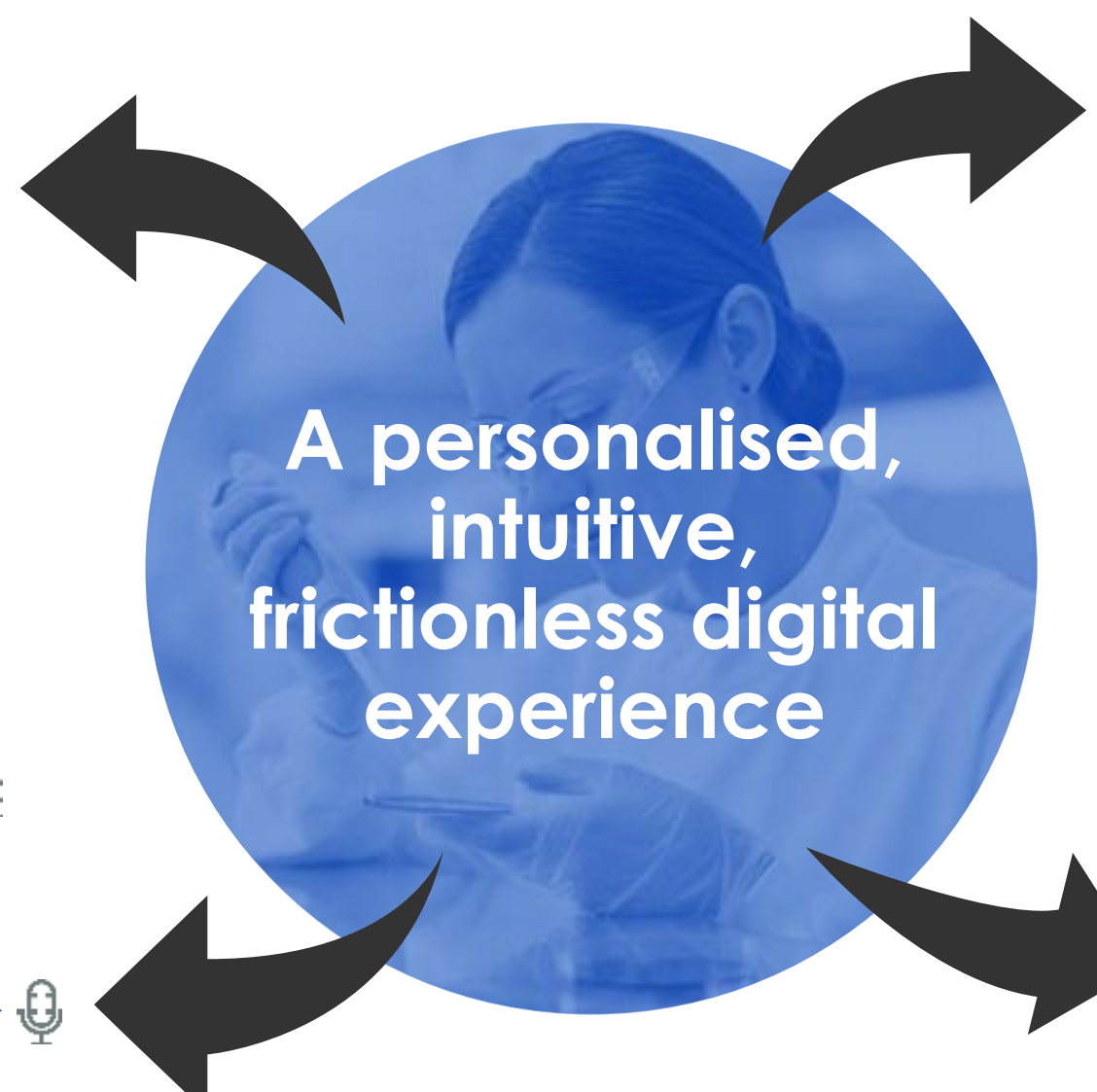
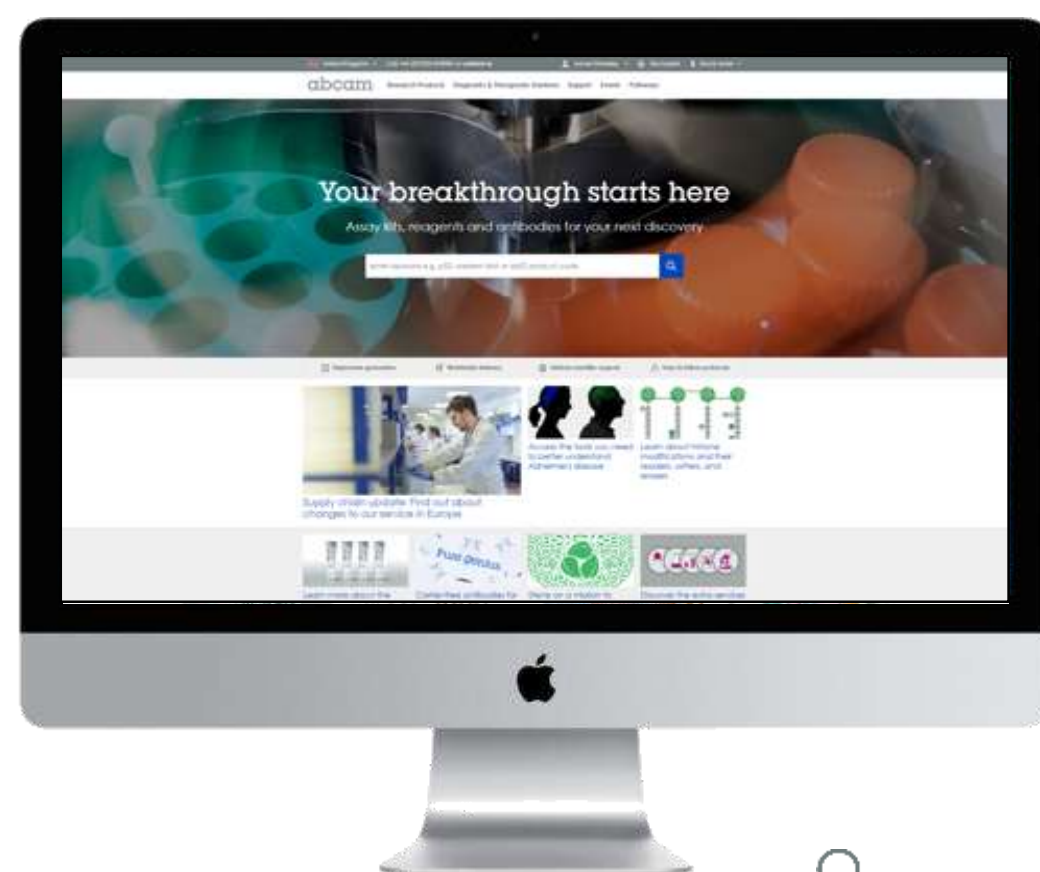




Opportunity to invest to make step changes to the customer experience

- Indispensable resource for research scientists, embedded in workflows
- Relevant, personalised and frictionless customer journey
- Consistent digital connections; mobile, phone, web, social
- Feature rich, more dynamic experience
- Superior and timely product knowledge and insights

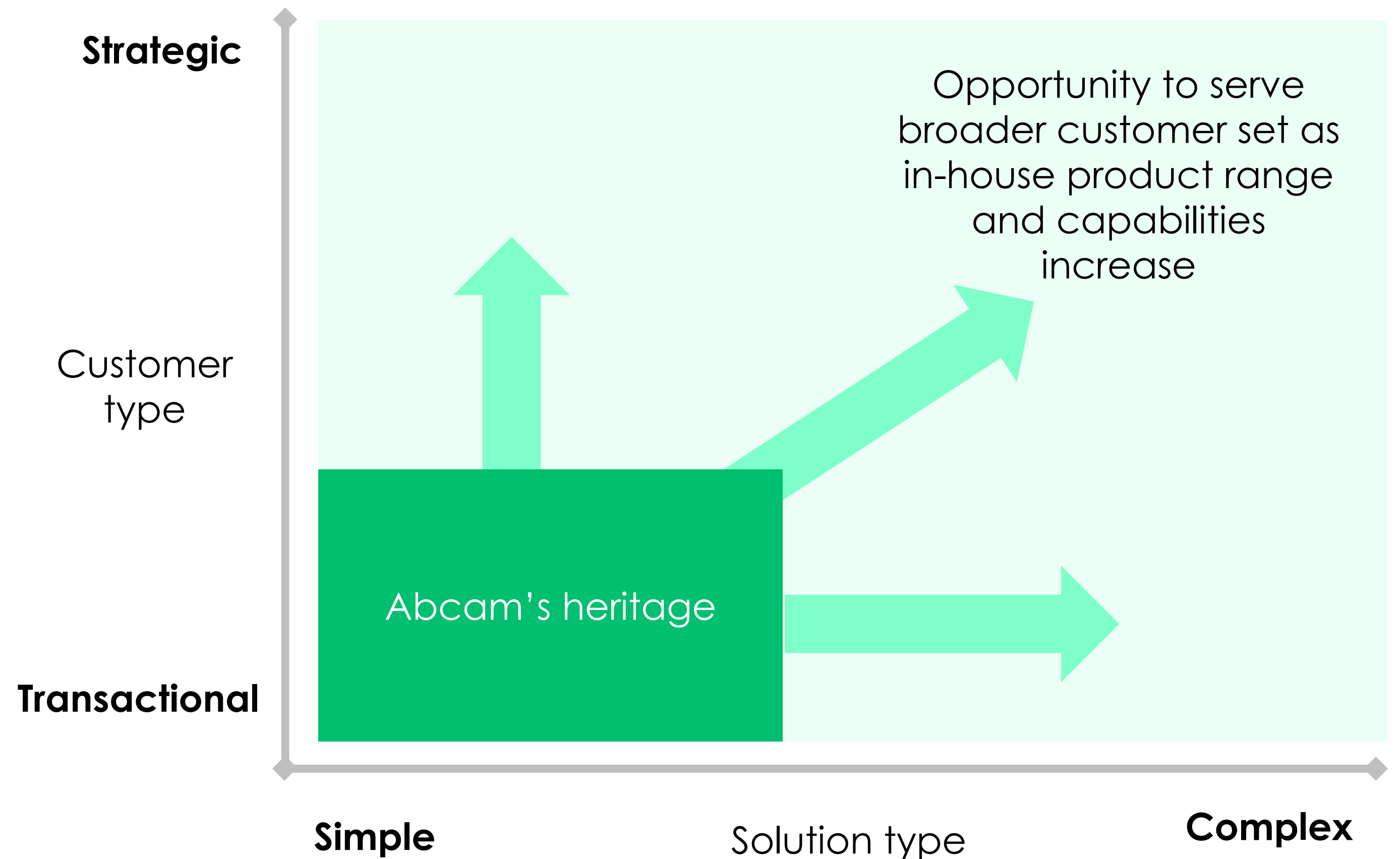
Improved customer experience, driving increased conversion and sales





Planned investment to optimise customer offering to best serve the needs and workflows of customers

- Gaining share in biotech/biopharma through strategic sales capability and in-house innovation
- Selected investment to support growth opportunity



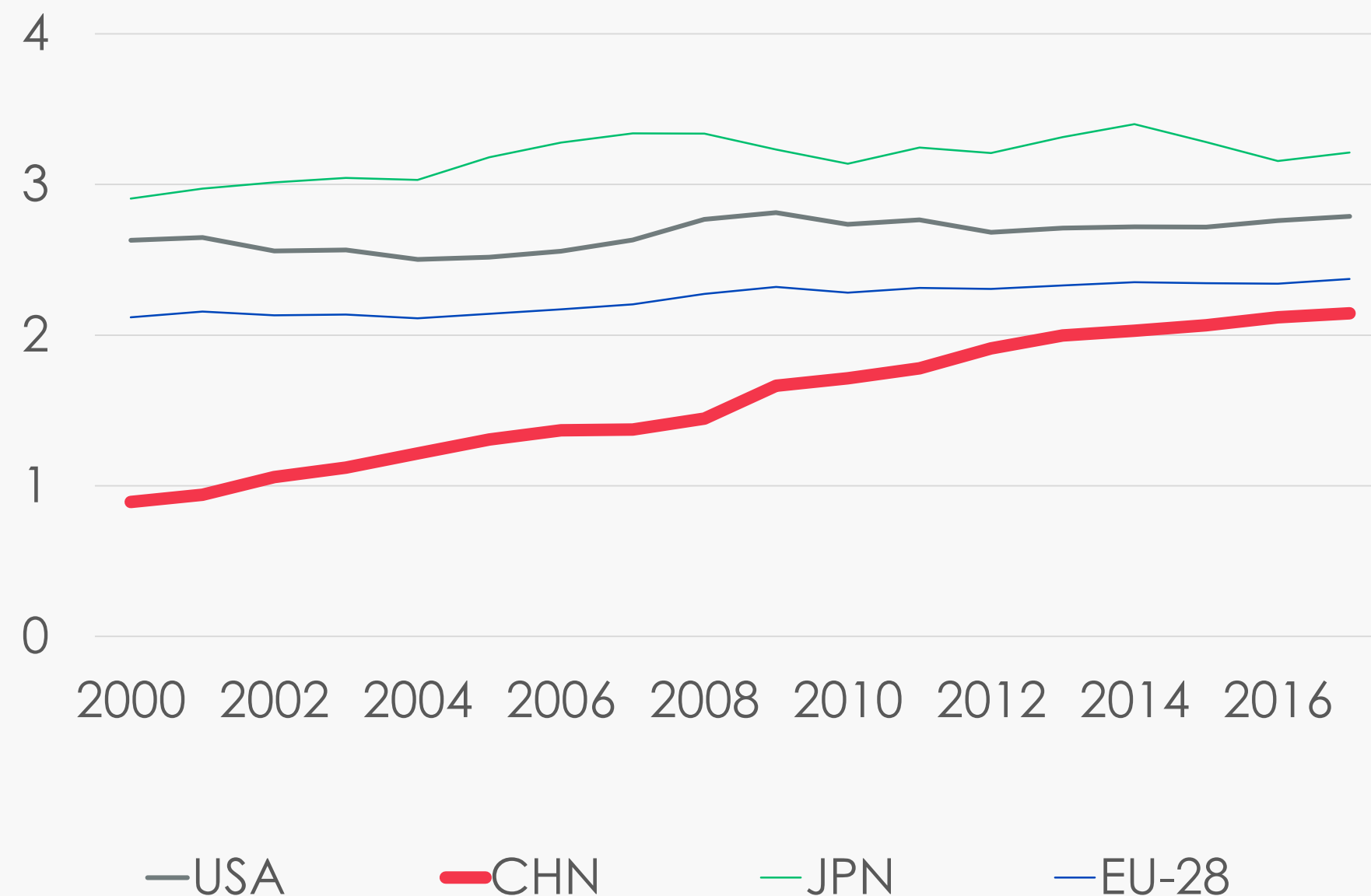


China market context

Once in a generation opportunity

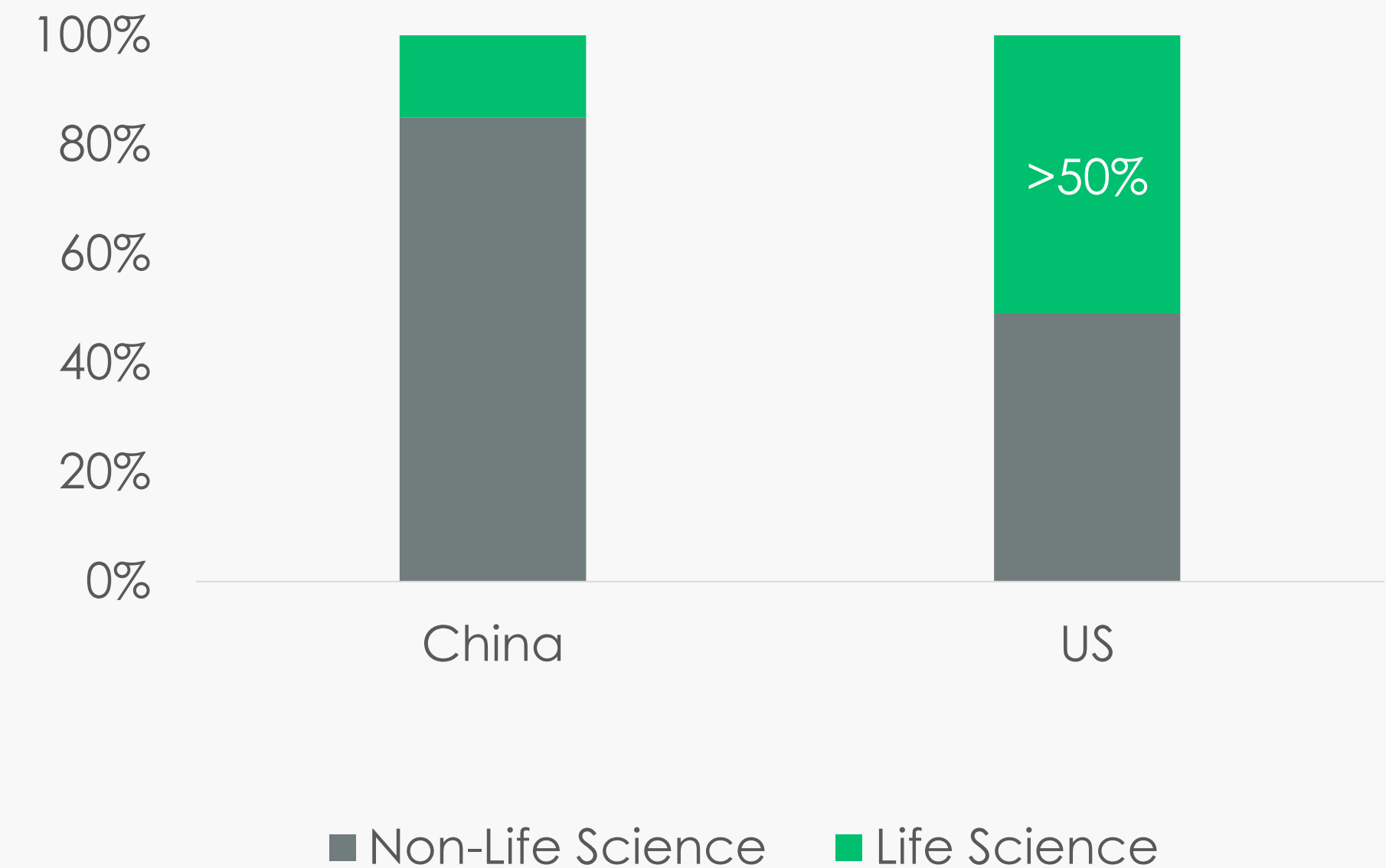
China R&D expenditure has risen rapidly in recent years...

Total R&D expense as % of GDP¹



... with further potential as proportion of life science research continues to increase

Life-science funding out of total R&D expense¹, %



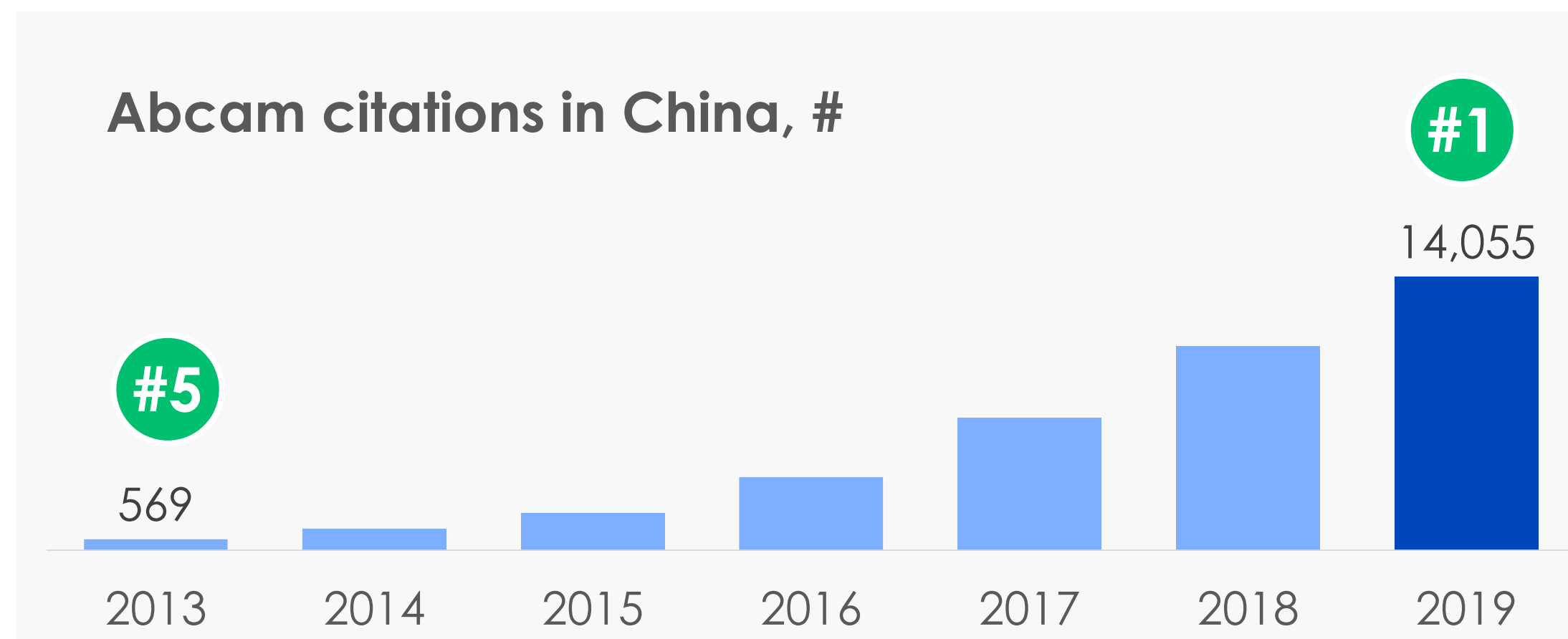


Investing to extend our leadership in China

- More opportunities to get closer to customers
- Enhanced content localisation
- Improved digital experience
- Complex sales enablement

50% INCREASE
WeChat followers in 2019

WeChat Educational Series

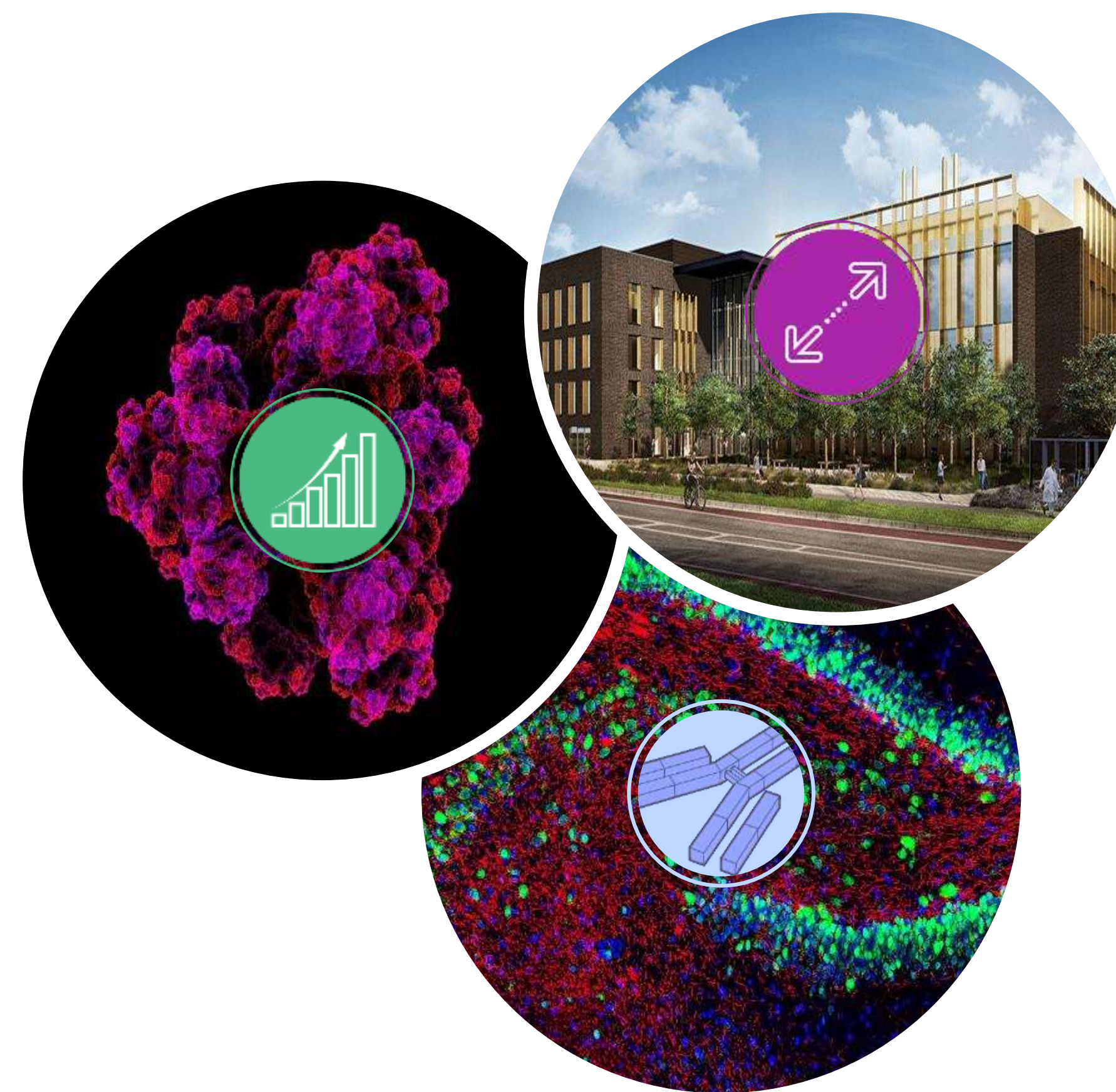




Empowering researchers through an unparalleled digital and customer experience

Key takeaways:

- Investment focused on four key areas to sustain growth:
 - Data science
 - Digital customer experience
 - B2B sales for biopharma and complex solutions
 - China growth

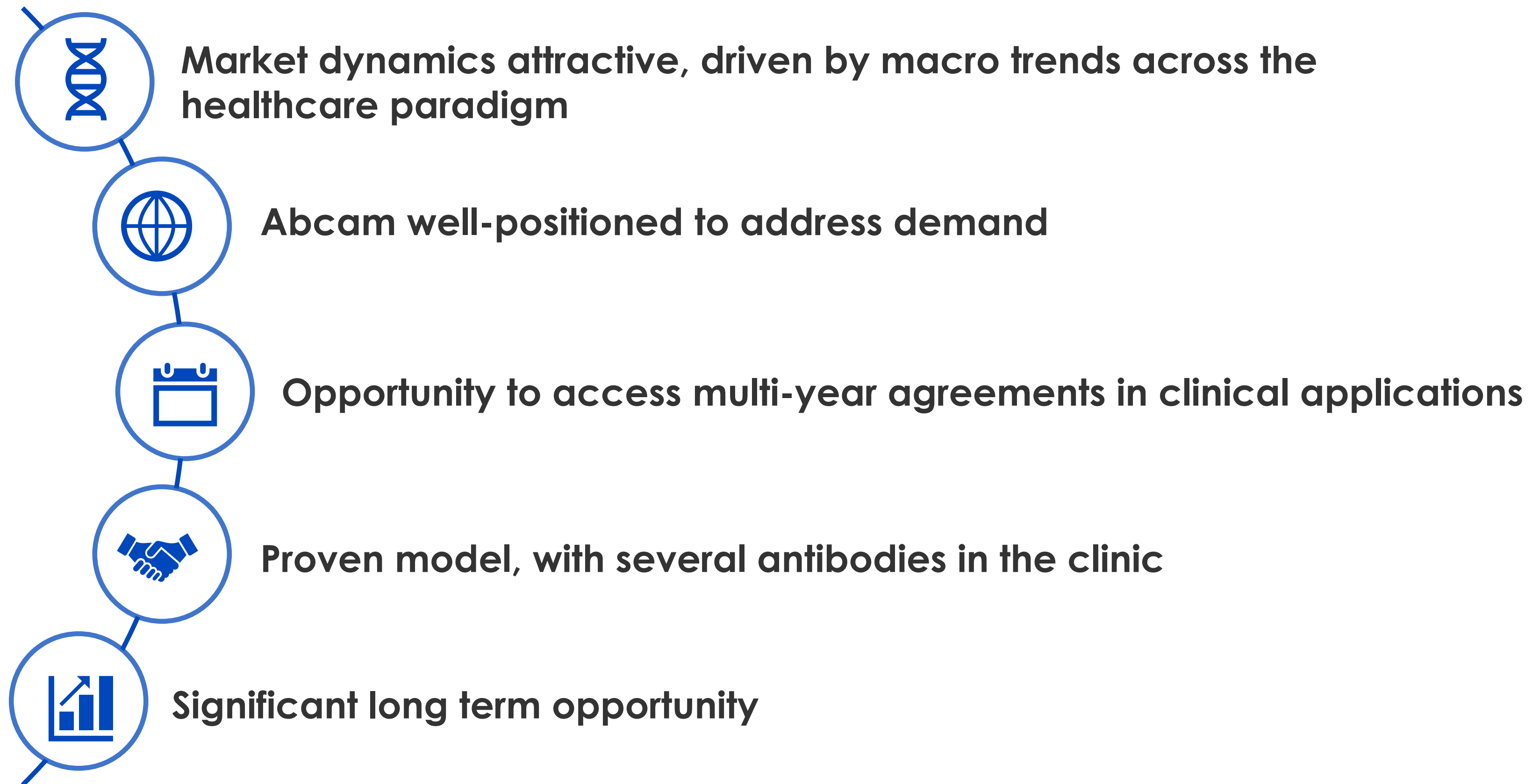


'Abcam Inside' and the opportunity beyond research

John Baker
SVP, Product Portfolio & Innovation

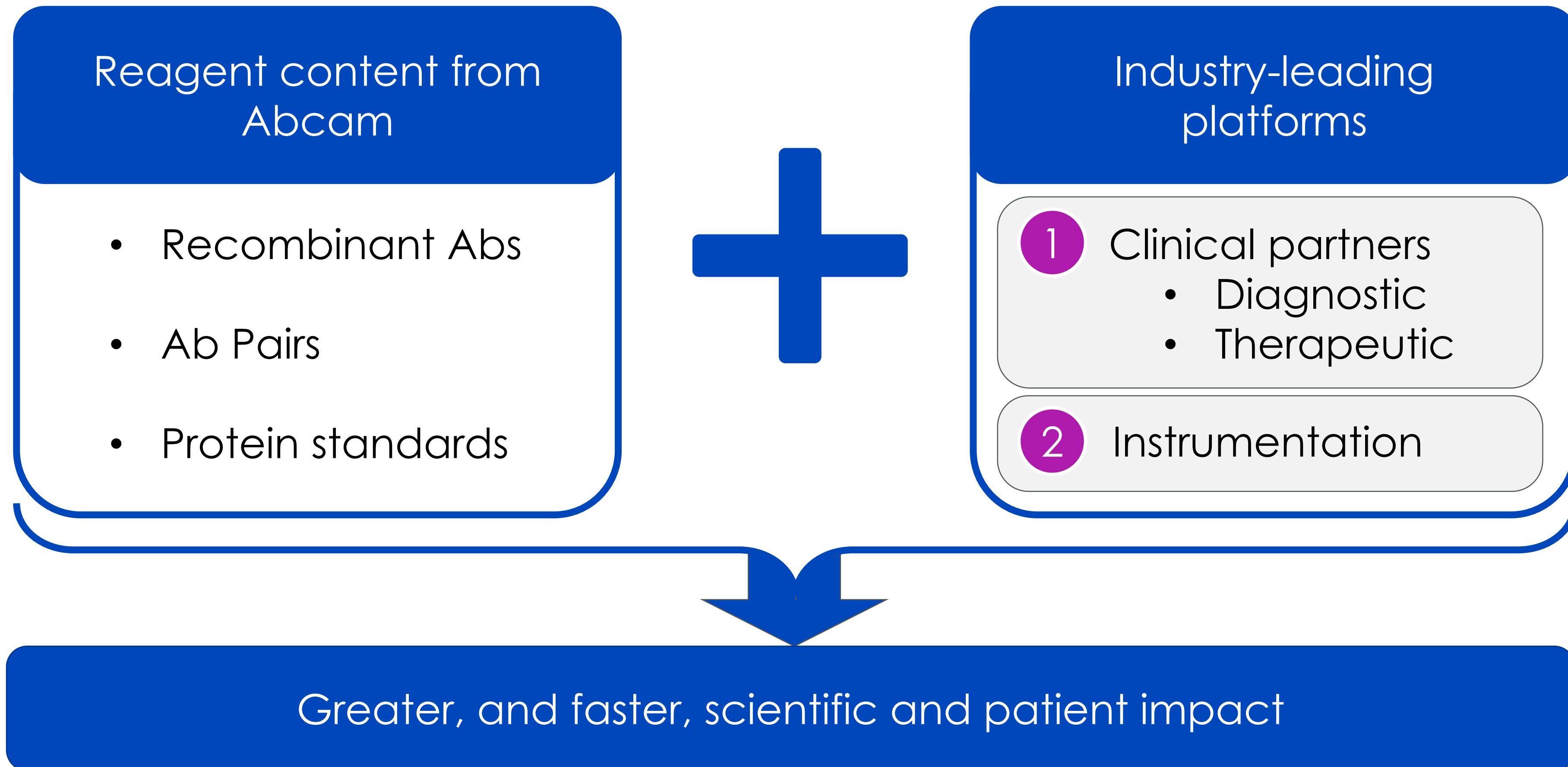


'Abcam Inside' and the opportunity beyond research





Abcam Inside: leveraging Abcam's great antibody content to support clinical and instrument platforms





Market dynamics attractive, driven by macro trends across the healthcare paradigm

Where we play: Antibody development partner for diagnostic and biopharma organisations

Estimated Total Addressable Market¹

\$5bn+ **5 – 8%** pa growth

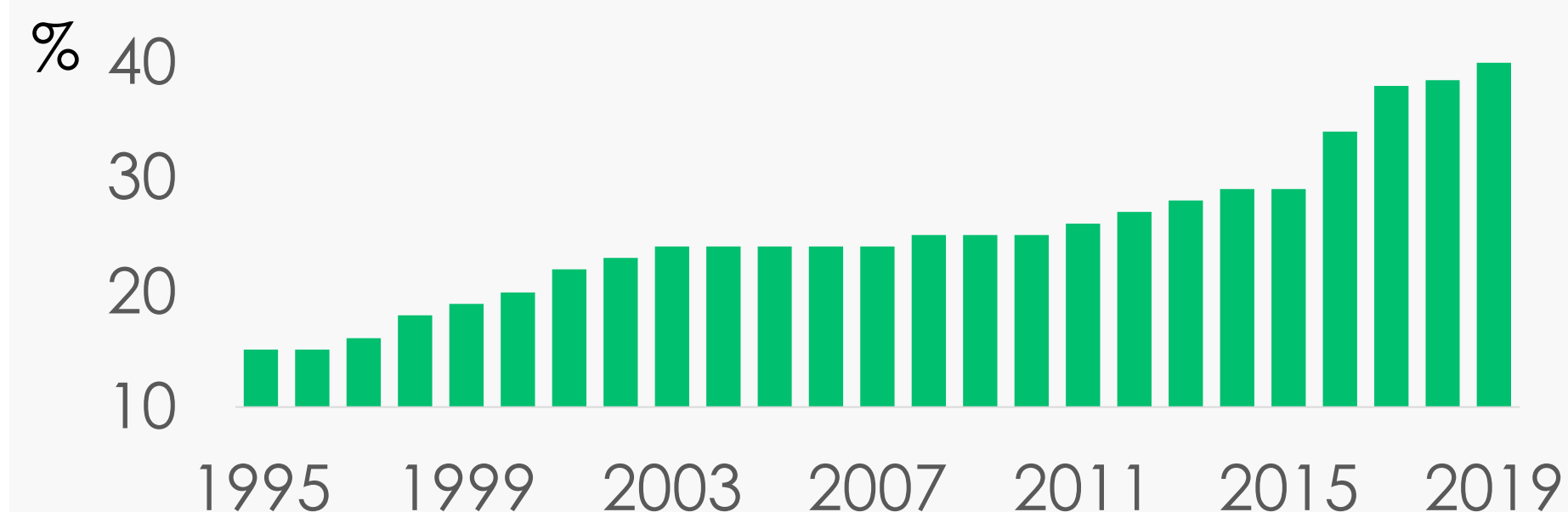
Diagnostic applications

Disease treatment

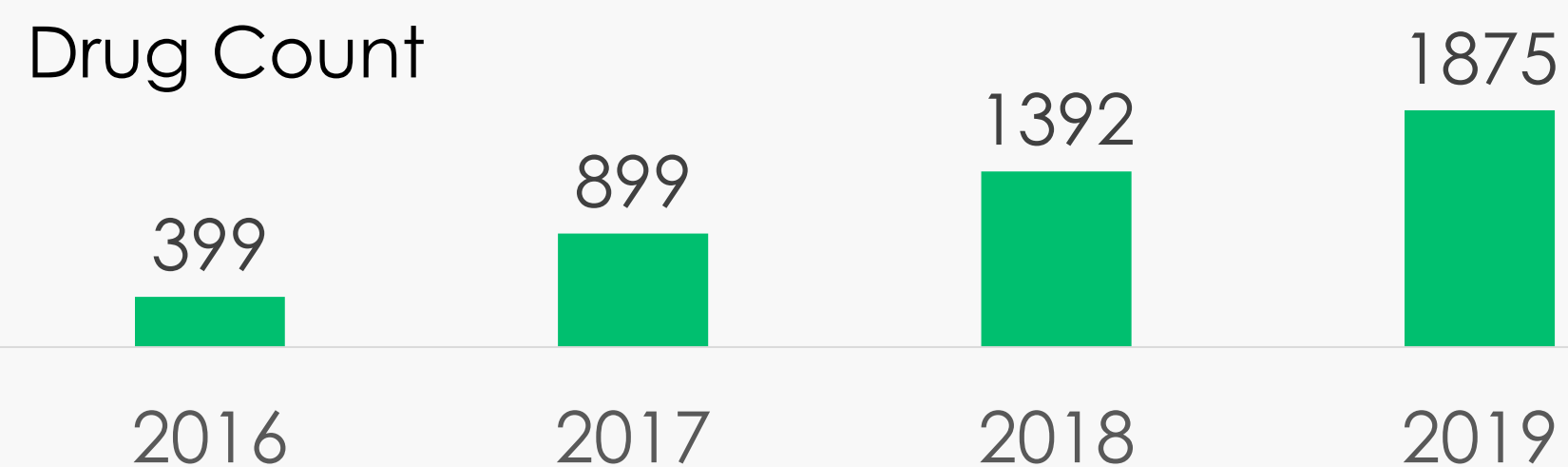
Companion Diagnostics (CDx)
In-vitro diagnostics (IVD)
Point of Care diagnostics

Biological therapeutics

Biological drugs as a percentage of global drugs pipeline, 1995–2019²



Rise of immuno-oncology as a therapeutic strategy for cancer²



1) Total Addressable Market relates to the potential value attributable to the initial antibody development for use by diagnostic and biopharmaceutical partner organisations which result in clinical products, including in-vitro diagnostics (IVD), companion diagnostics, immunoassays and biological therapeutics

2) Source: Pharmaprojects, January 2019



Clinical partners increasingly reliant on antibodies and proteomic tools as therapies & biomarker assays

✓ Abs and derivatives continue to represent a growing proportion of development pipelines

✓ Targeted therapeutics with biomarkers now represent an increasing portion of trial pipelines
– Oncology leading area of focus today

✓ Biomarker associated trials show higher rates of success at all phases
✓ Actively encouraged by regulatory authorities

✓ Shift to value-based pricing makes prices and margins from targeted treatment attractive to Pharma Co

Drug development value chain



Diagnostic test development value chain

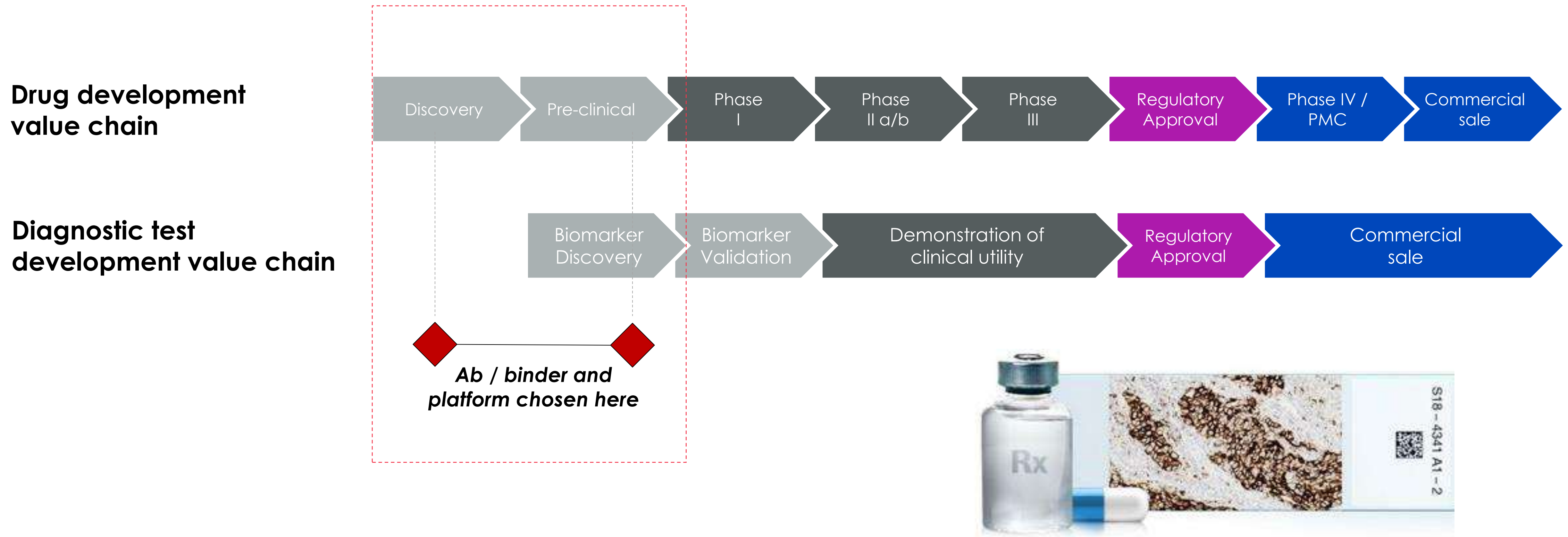


✓ Advances in biomarker technology, and cost efficiencies are enabling better disease identification at the bench
– Over **150K** publications have identified **1000s** of potential biomarkers...

• ...though to date only **c.100** fully validated and in routine clinical use



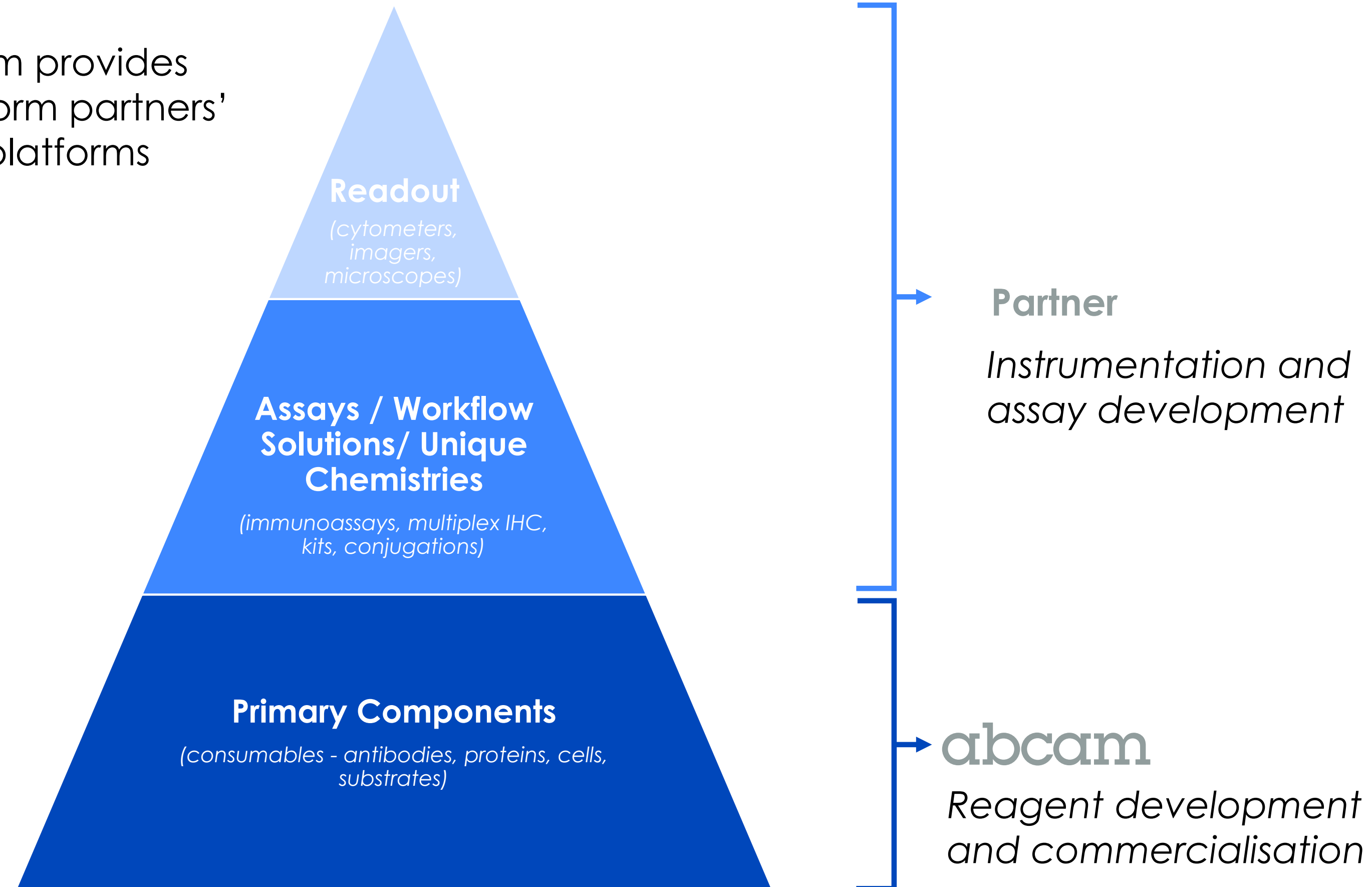
Clinical partners choose tools and platforms early: Long lead times for long term opportunity





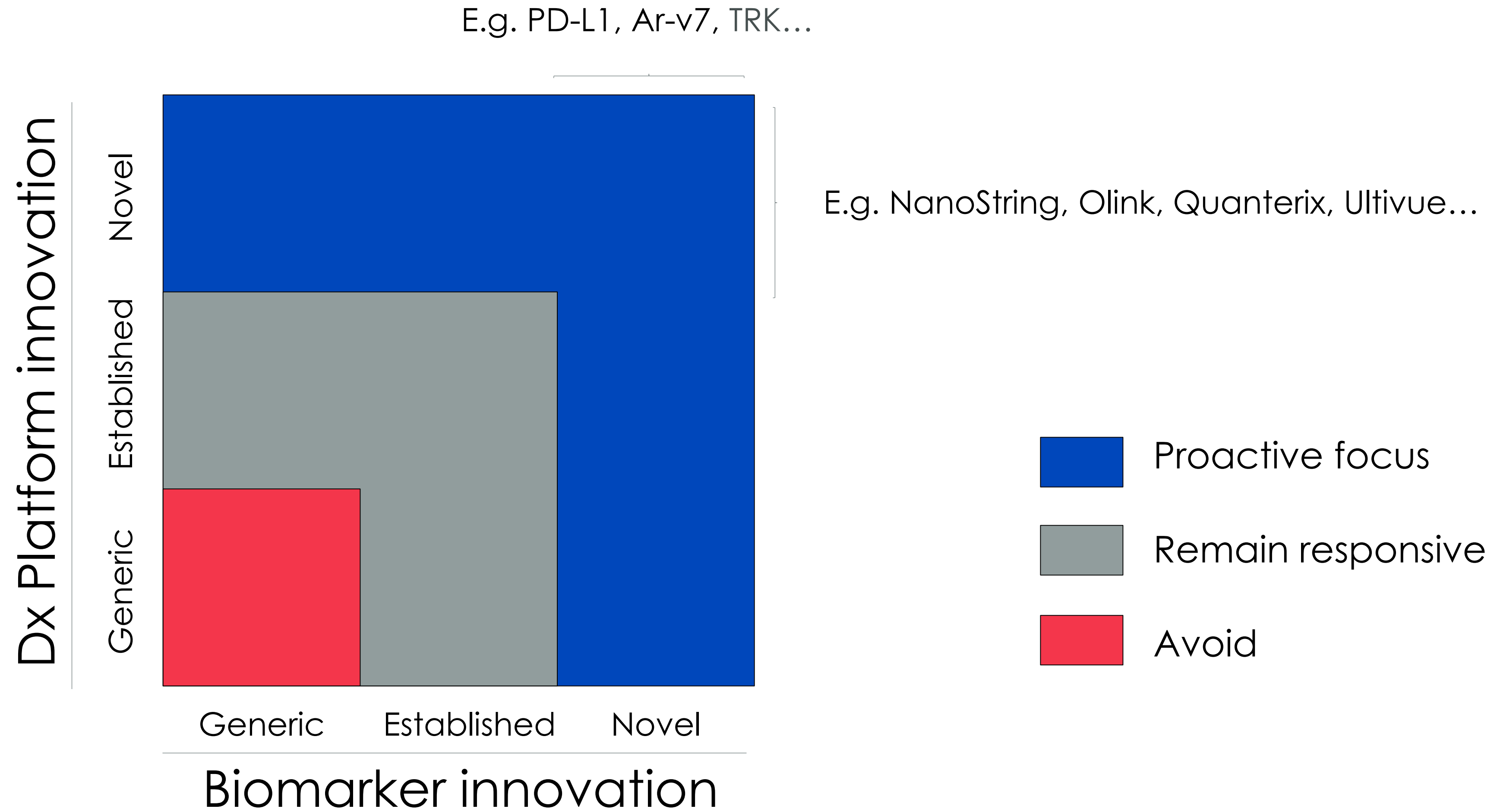
Platform partnership:

Reminder: Abcam provides content for platform partners' instrumentation platforms





Our focus is on differentiated platforms and biomarkers





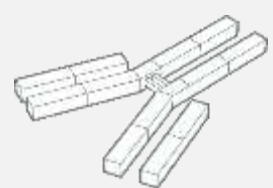
Why do industry partners choose Abcam?

Multiple routes to access best in class reagent content

Off the shelf

- 8000+ Recombinant Abs
- 700+ Recombinant Pairs

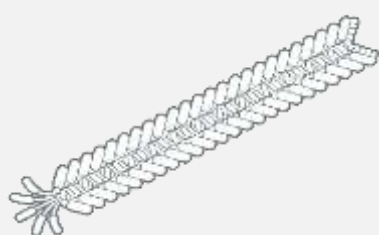
Custom developed



RabMAb[®]/BCC



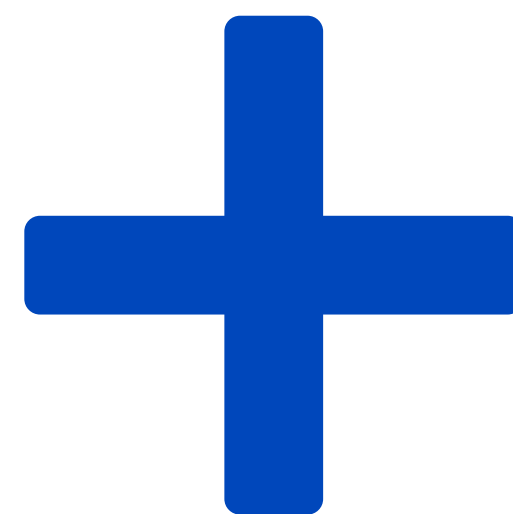
NGS



Phage

Licensed / Engineered

- Specifically sourced / licensed for partner use
- Engineered from existing clone



Flexible approaches to supply or licensing for long term security

Long term, secure supply

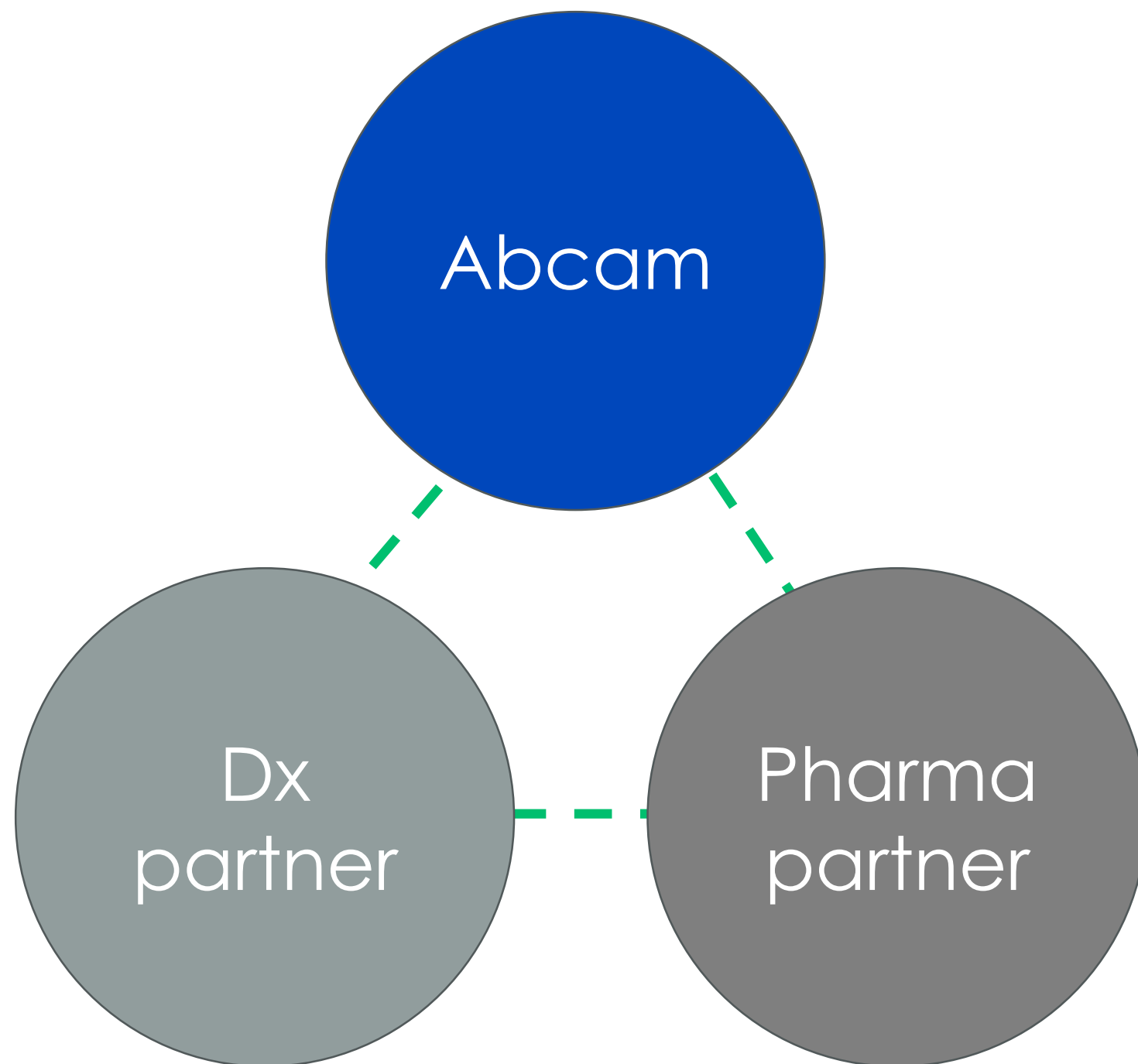
- Multiple sites
- ISO9001 or ISO13485
- Standard or custom formulations

License out for partner's own manufacturing

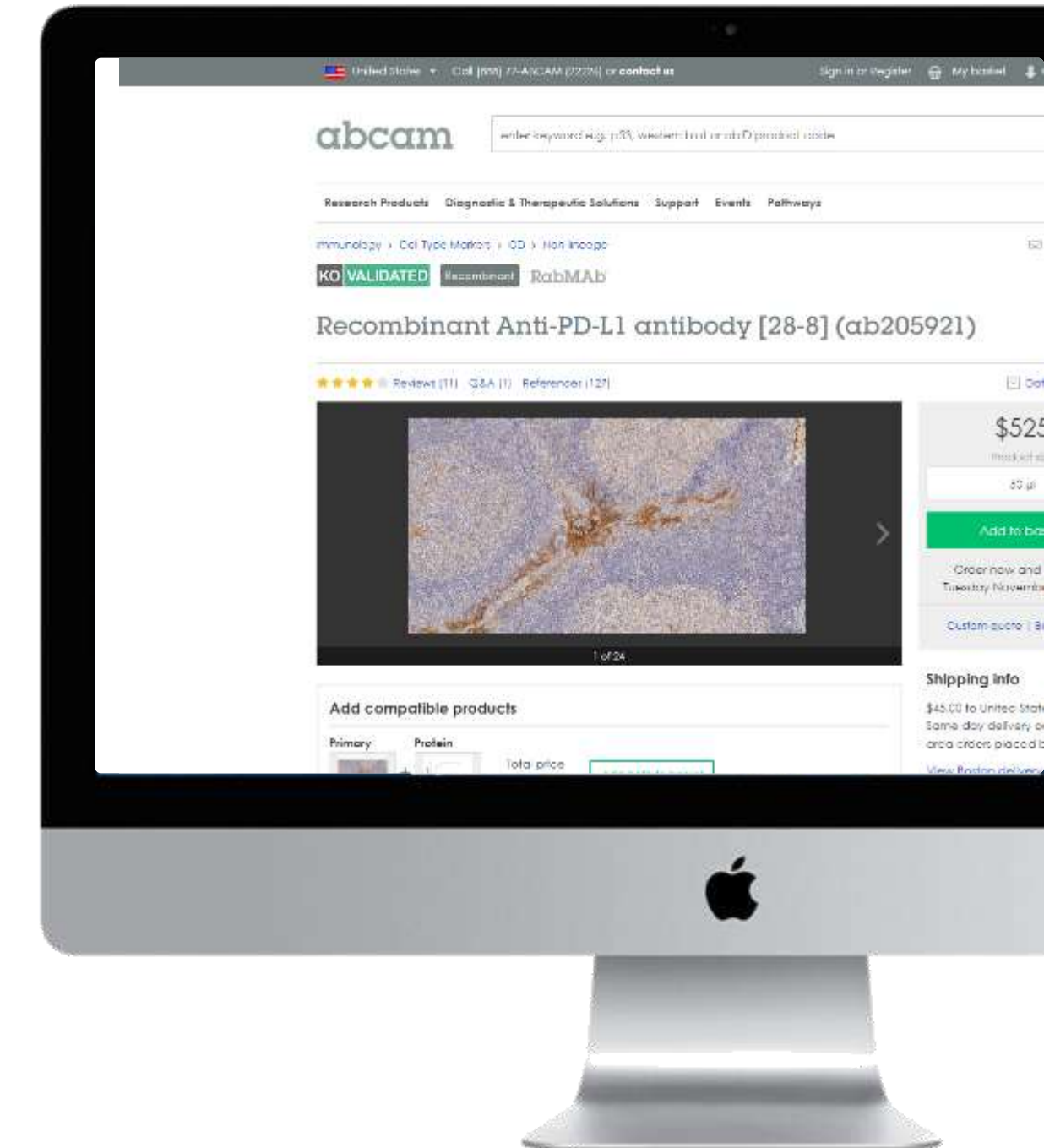


Why do industry partners choose Abcam?

Commercial development relationships
to give smooth route to clinic

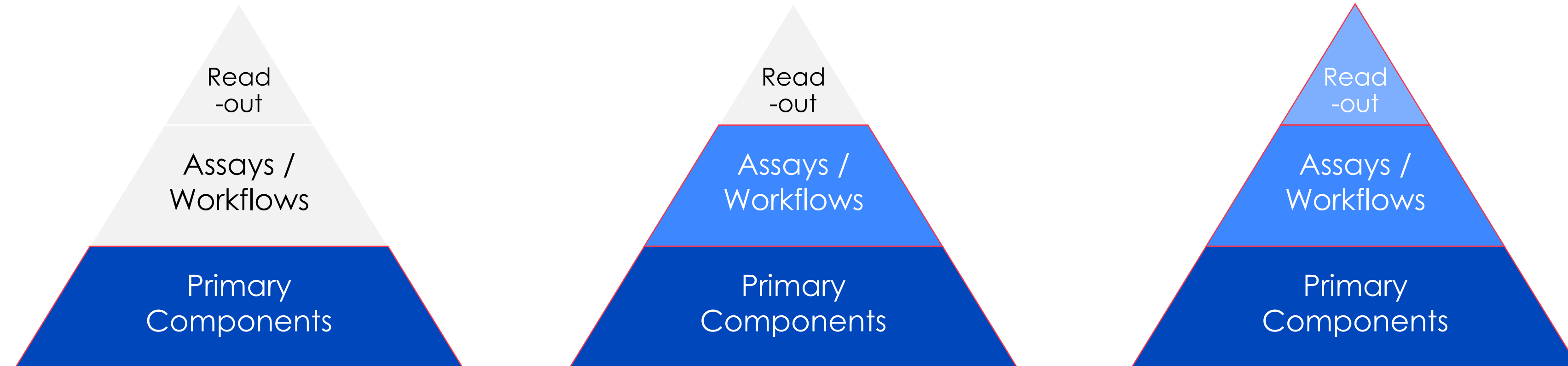


Ability to access the basic and research community for validation





Platform partnership: evolution of relationships



What we do:

- Provide **Abs** and protein standards ready for inclusion in assays
- Provide **validated Abs ready-conjugated / in partner's assay format** for use on partner's multiplex platform
- **Co-develop menu of validated assays** with platform partner
- **Manufacture and distribute** co-branded assays
- Potential to invest

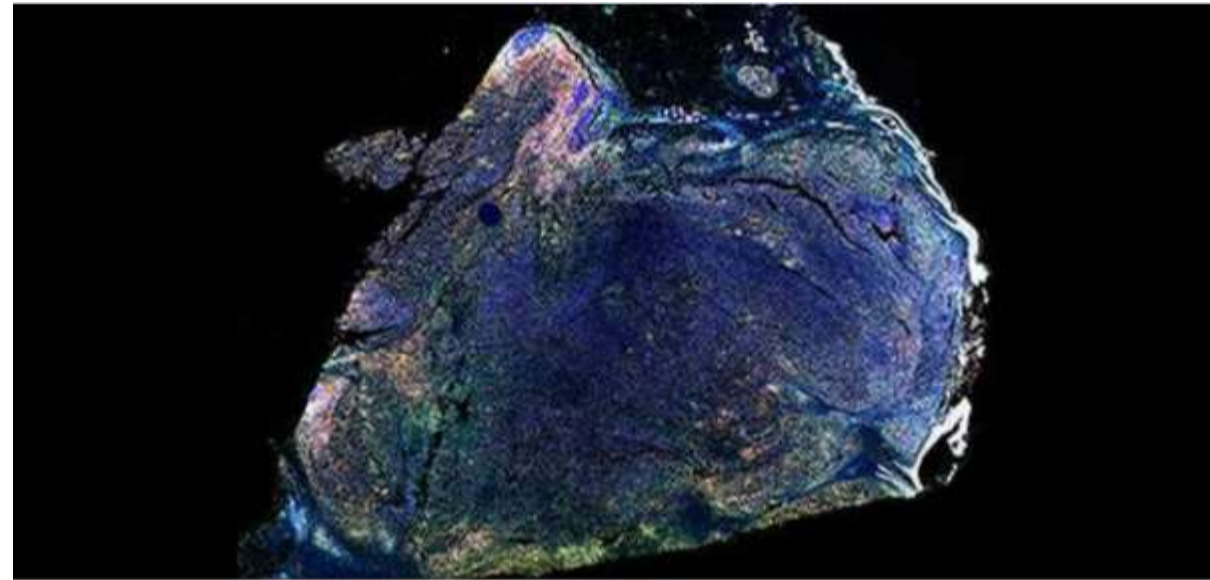
Our customer:

- Instrument companies under **non-exclusive** supply agreement, or
- End users for 'home brew'
- Instrument company under **non-exclusive** supply agreement, or
- End user to run on multiplex platform
- Sell **co-branded assays to end user with co-marketing** and support from instrument partner



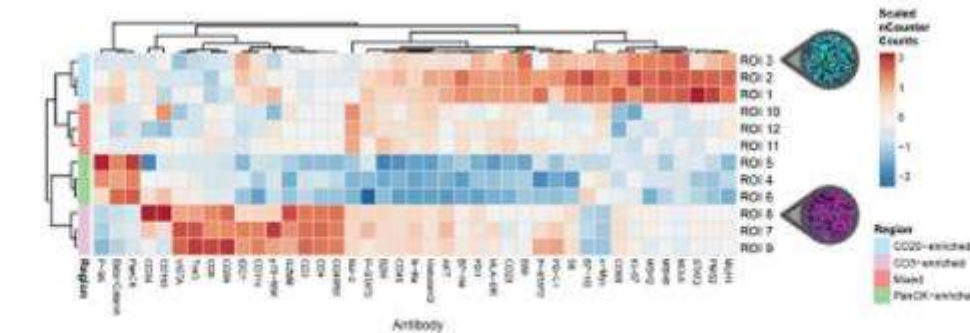
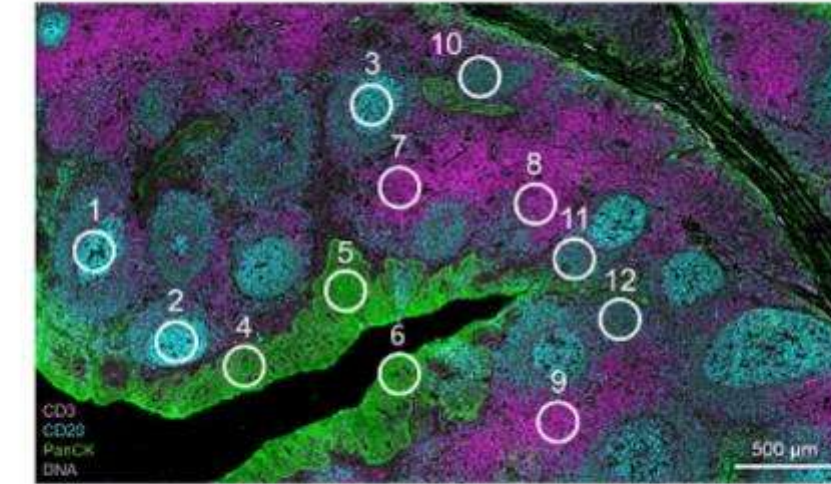
Successful **novel platform** partnership development

Ultivue

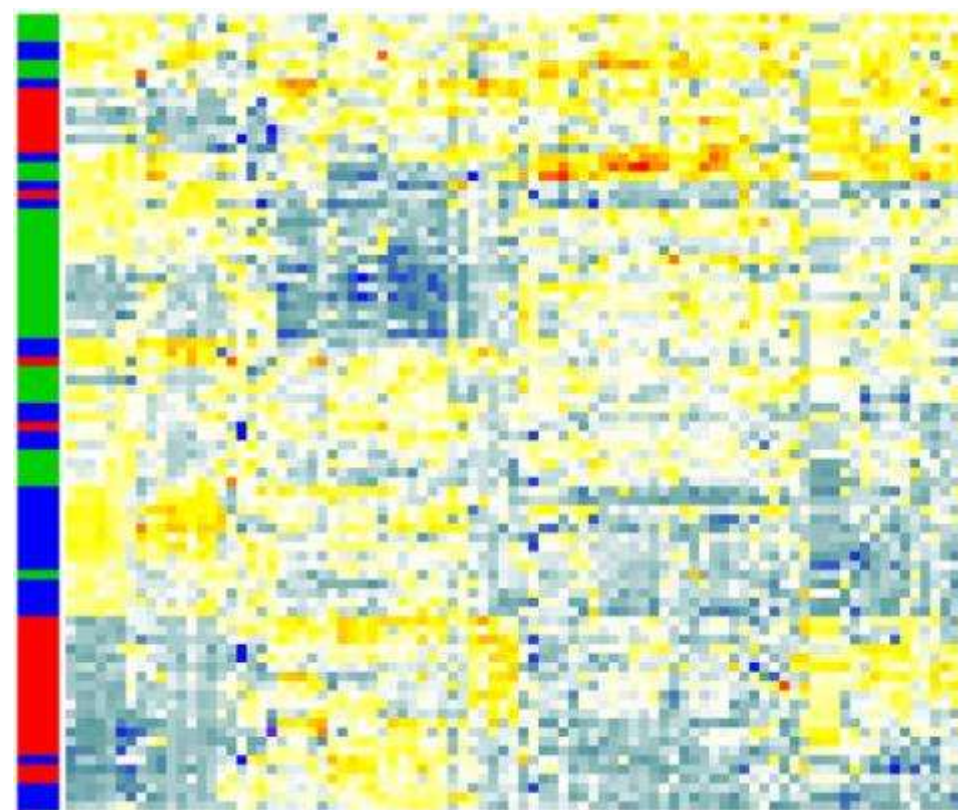


UltiMapper I/O PD-1

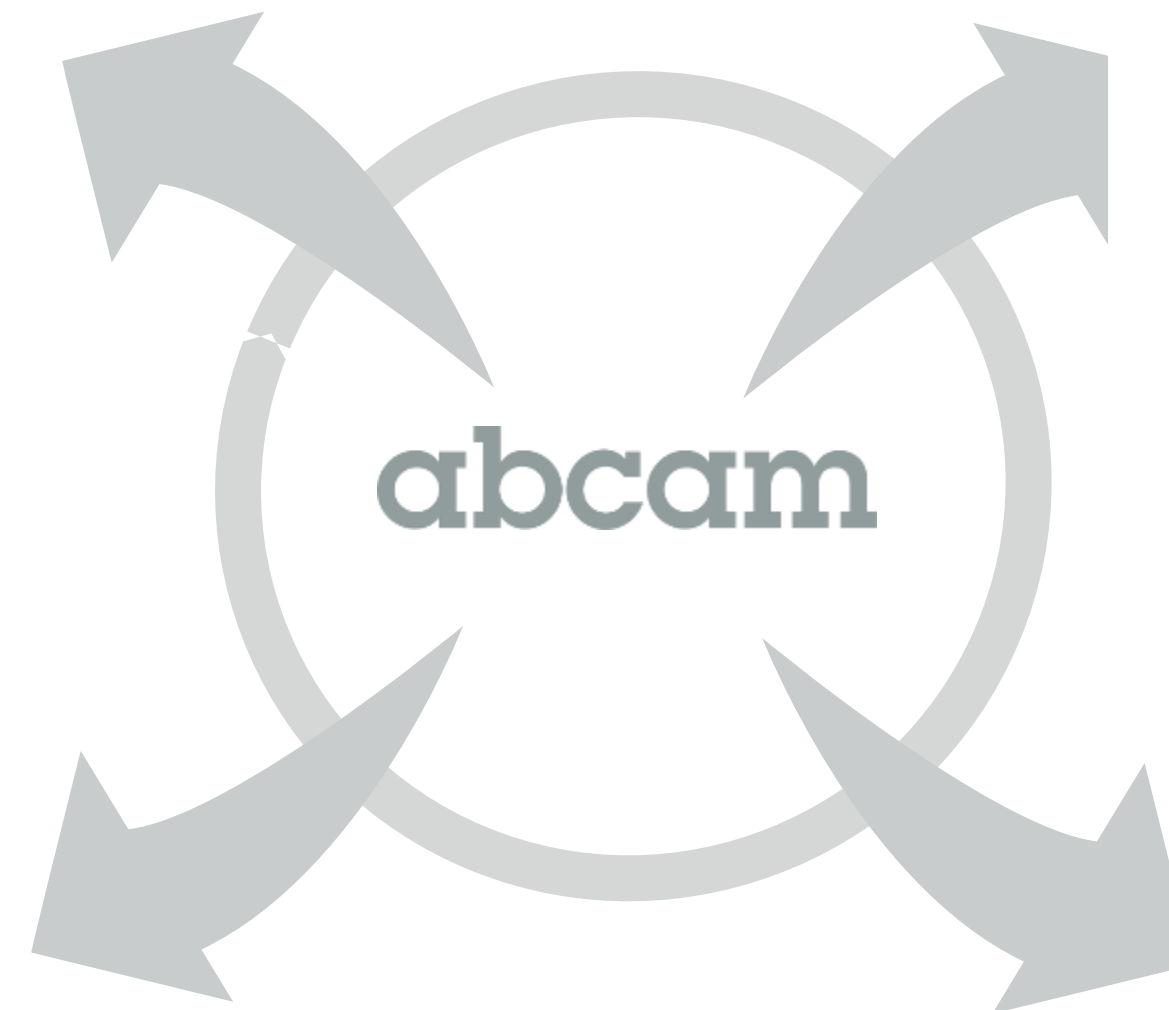
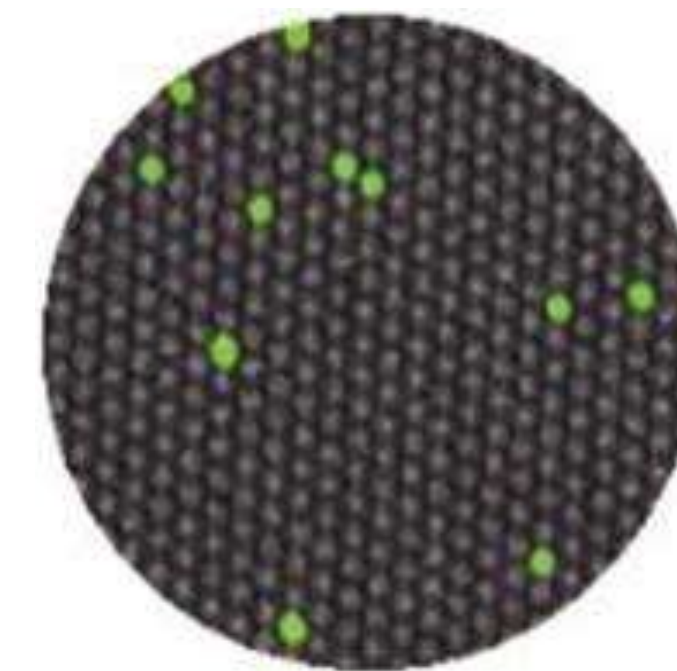
NanoString



Olink Proteomics



Quanterix





Early examples of Abcam Inside projects to reach downstream milestones

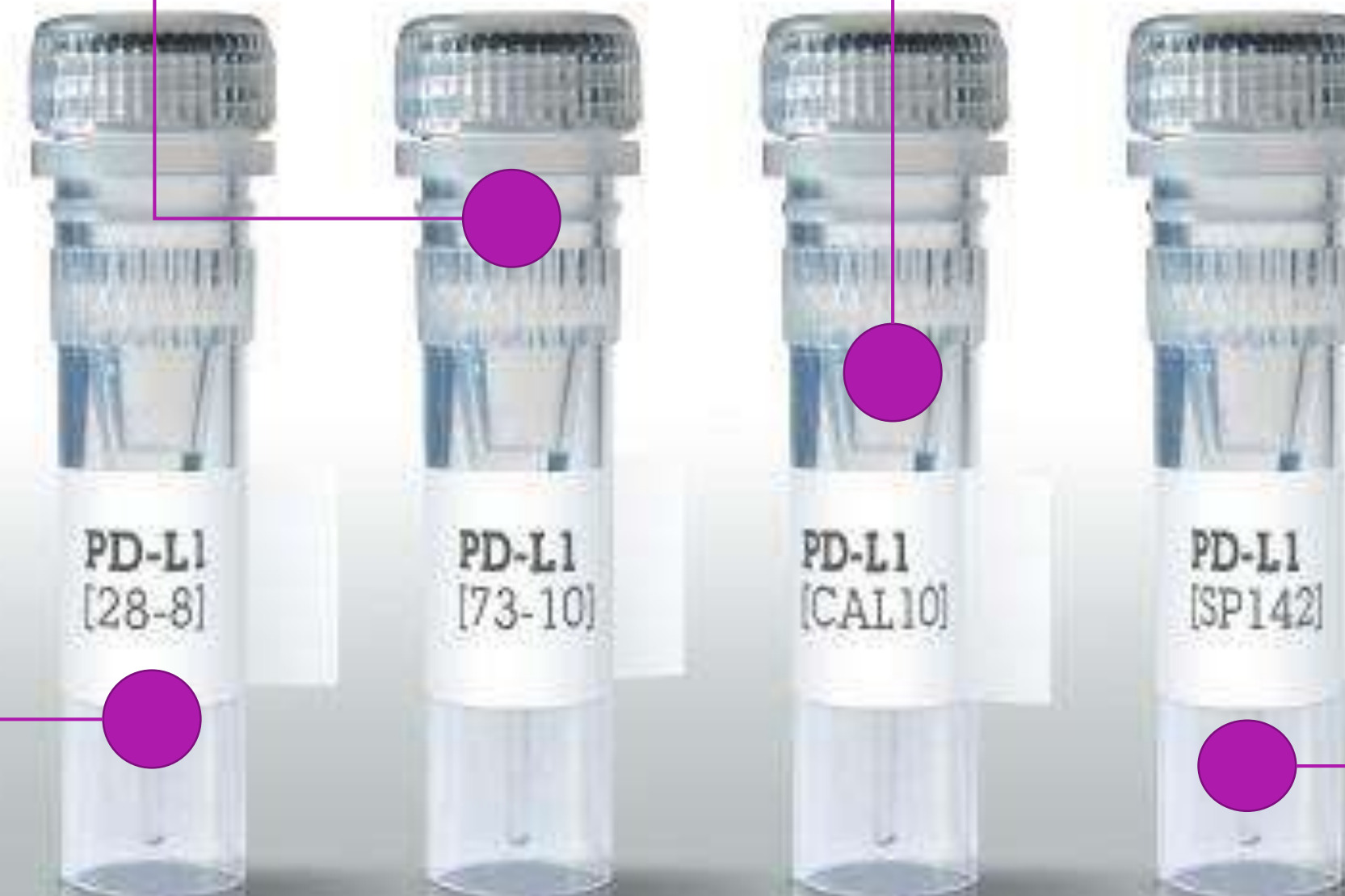
Therapeutic area / project	Target	Partner	Stage	Revenue sources	
				CP&L	Available for research
Oncology	CD40	Multiple	FDA Phase 2	<ul style="list-style-type: none"> • Milestones • Royalty 	-
Oncology	PD-L1	BMS / Dako Merck / Leica	Multiple cDx (510k) approvals	<ul style="list-style-type: none"> • Project fee • Supply • Royalty 	✓
Oncology	ARv7	Epic / Genomic Heath	Dx w/CLIA	<ul style="list-style-type: none"> • Milestones • Supply 	✓
Infectious diseases	Viral infection	Not disclosed	Early Dx development	<ul style="list-style-type: none"> • Project fee • Supply • Milestones 	Under review
Neuroscience	Neurodegeneration	Not disclosed	Dx development	<ul style="list-style-type: none"> • Project fee • Milestones 	✓
Oncology	Pan-TRK	Roche	FDA US CE 1 approved	<ul style="list-style-type: none"> • Supply • Royalty 	✓
Ocular	Undisclosed	Undisclosed	FDA approved	<ul style="list-style-type: none"> • Milestone 	-



Access PD-L1: Abcam's PD-L1 panel includes four of the most relevant clones, optimised for use in IHC

- Developed as custom programme for Merck
- Now on Leica Dx platform, catalogue, and platform partner development

- Developed in biotech partnership
- Now in catalogue, platform partner, and Dx development



- Developed as custom programme for BMS
- Now on Dako FDA approved Dx, InCell Dx novel Dx modality, and catalogue

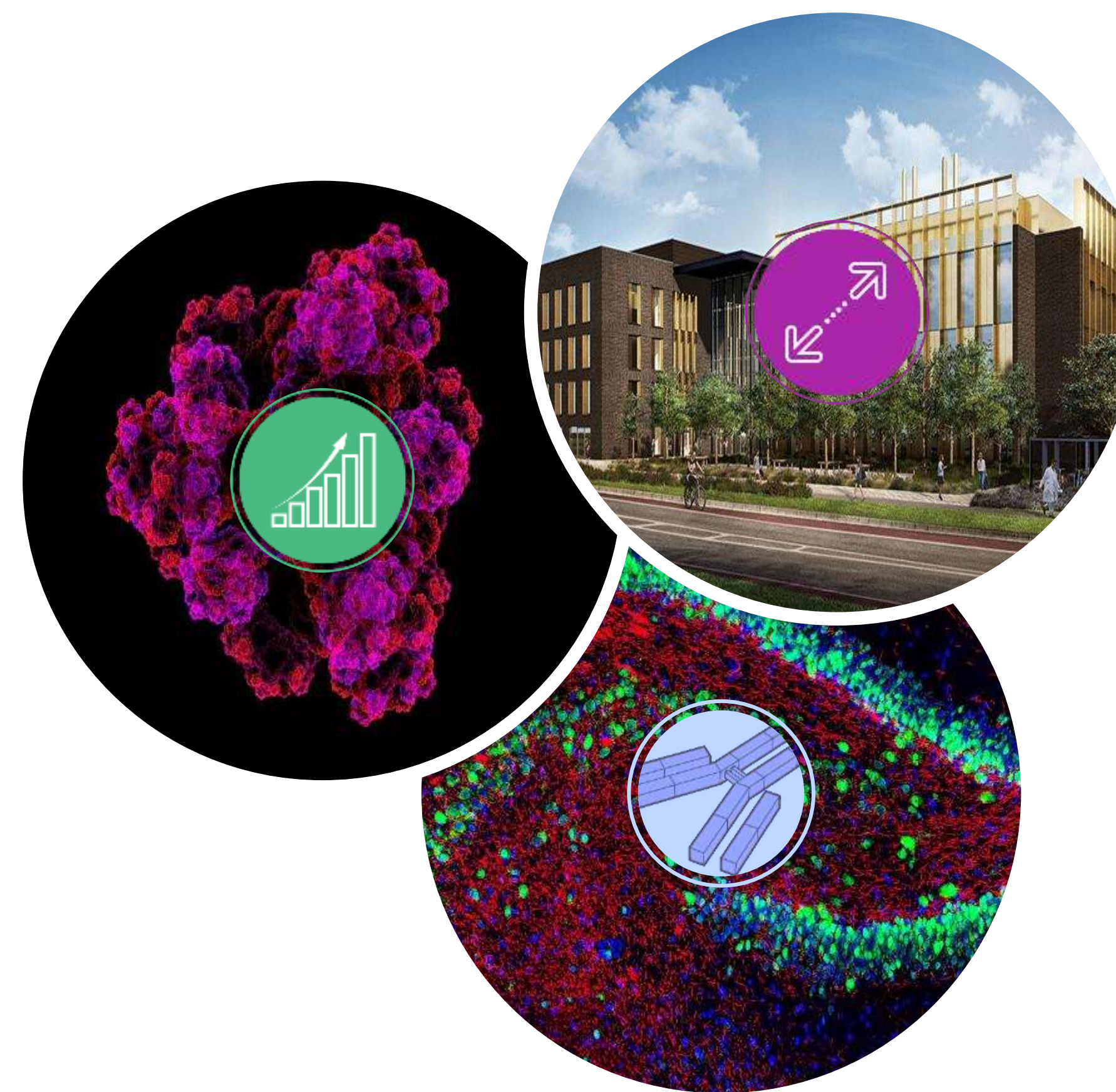
- Licensed from platform and development partner, Roche Ventana, to enable access to research community



'Abcam Inside' and the opportunity beyond research

Key takeaways:

- Diagnostic and therapeutic development large market opportunity
- Abcam Inside a differentiated approach in delivering proprietary content
- While early stage, several successful project milestones achieved
- Limited further investment required whilst project capacity held





Q&A

abcam
336

Building a scalable, efficient global organisation

Jac Price
SVP, Supply Chain & Manufacturing



Building a scalable, efficient global organisation



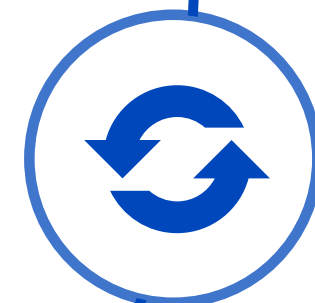
Global platform capable of accurately delivering for customers rapidly

- We work in core global biotech hubs with the requisite skills and knowledge



Demonstrated ability to grow to market needs and scale to opportunities

- Deployed technologies and processes to improve product offerings
- Completed projects that deliver capacity, scale and yields



Future focus on delivering scaled growth with efficient economics

- Investing in necessary people and projects to remove constraints



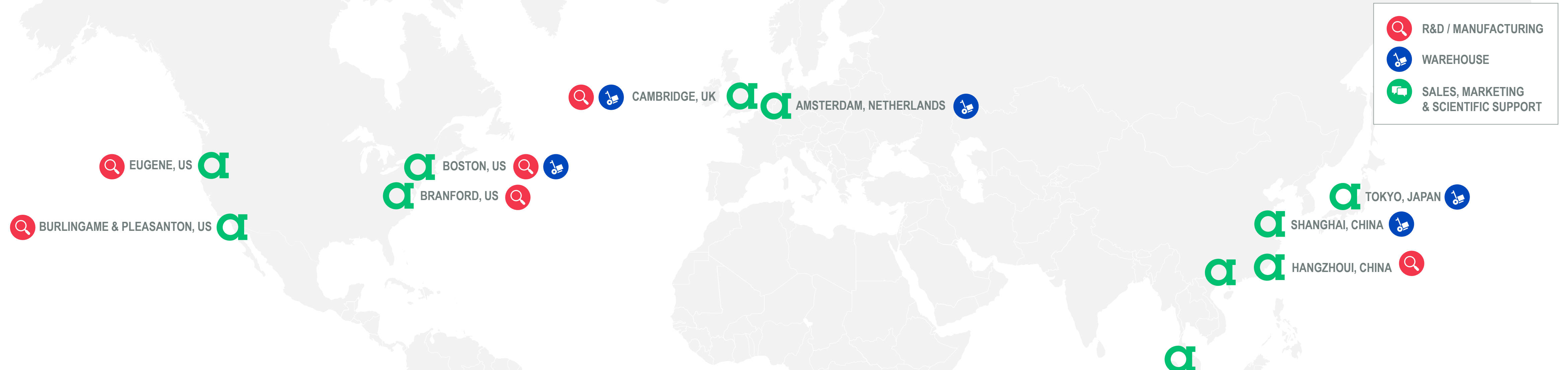
Clear plan to realise more potential, including

- New infrastructure and supply chain network improvements
- New engineering, technology and system enhancements



BUILDING A SCALABLE, EFFICIENT GLOBAL ORGANISATION
Global platform capable of accurately delivering for customers rapidly

Global platform capable of delivering for customers accurately and rapidly



24-48hr DELIVERY
 Most shipped same day

99.6% ACCURACY
 Successful fulfillment

>7,000 ORDERS
 Shipped per week

>24,500 IN-HOUSE
 Products >58k SKUs

>95,000 PRODUCTS
 Unique items >161k SKUs

>350 EMPLOYEES
 Supply Chain and Manufacturing



Demonstrated ability to scale to opportunities



Developed and expanded the team

New talent with depth and breadth



Expanded customer reach

New NL warehouse for EU customer delivery and BREXIT risk mitigation



Integrated acquisitions

Calico and Edigene integrated in FY2019



Increased in-house manufacturing content

Increased revenues and margin contributions



Realised new technology capabilities

Recombinant RabMAb[®] conversion programme
Deployed new Rapid RabMAb[®] platform



Increased China output capacity: >50%

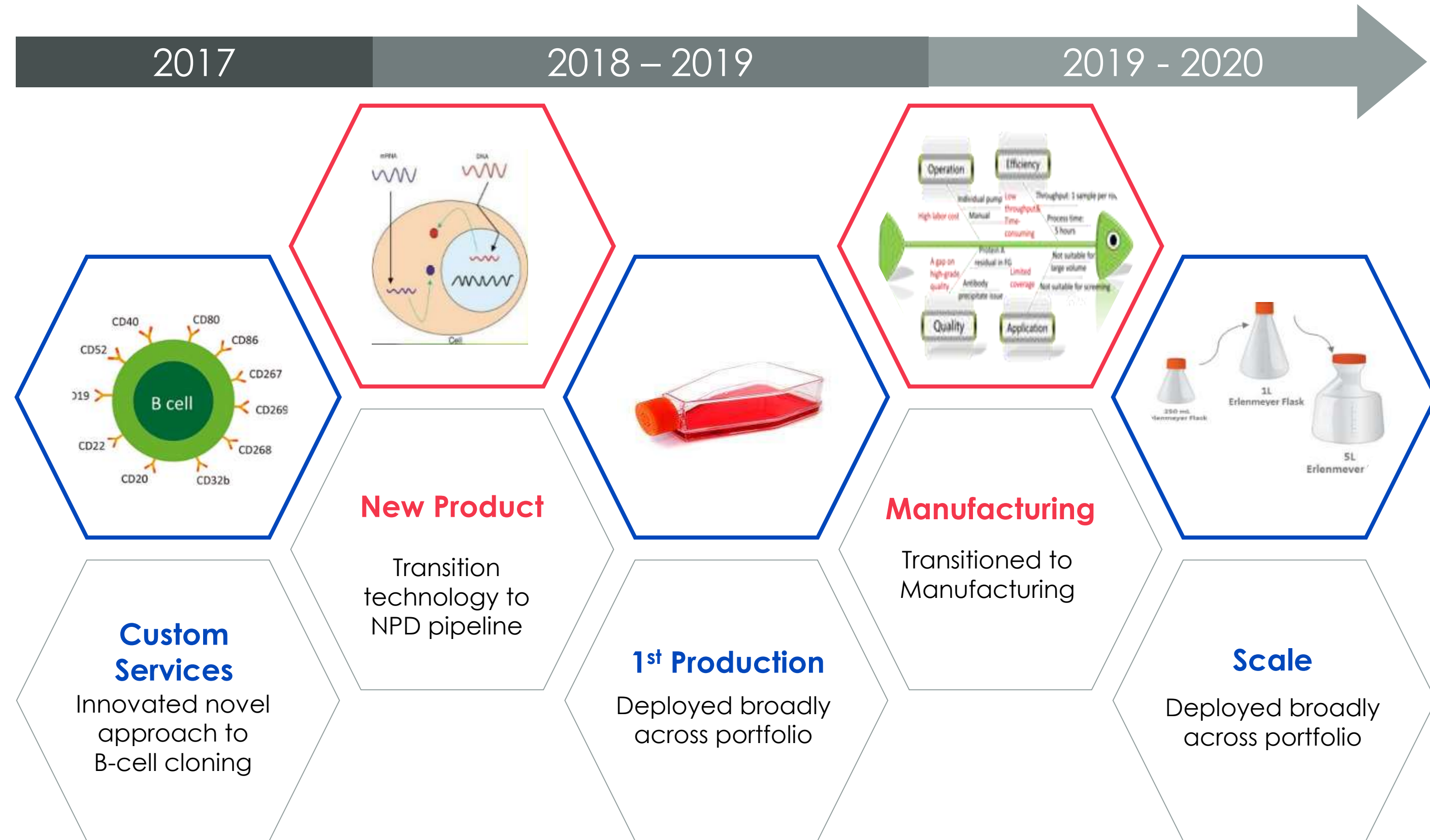
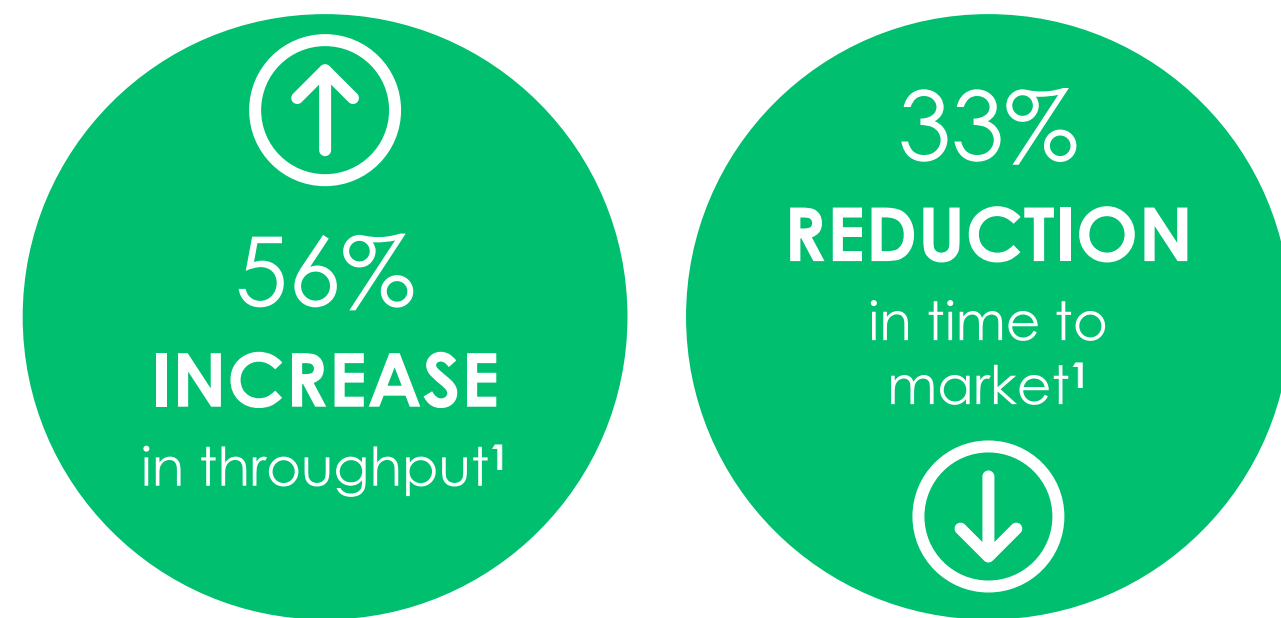
Measured by successful batch output July '19 vs Oct '18

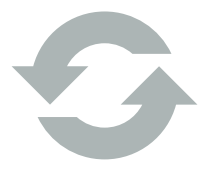




Demonstrated ability to scale to opportunities: Rapid recombinant RabMAb[®] conversion project

- Project initiated in 2017 to speed up conversion from hybridoma to recombinant based production:
 - Improved lot-to-lot quality
 - Improved yield rates
 - Reduced time to market and increased process cycle time





Future focus on delivering scaled growth with efficient economics

Infrastructure

- Improve capacity



Areas of investment

Core facility expansions

Lift/Shift

Regional infrastructure

Supply Chain Engineering

- Improve utilisation



Areas of investment

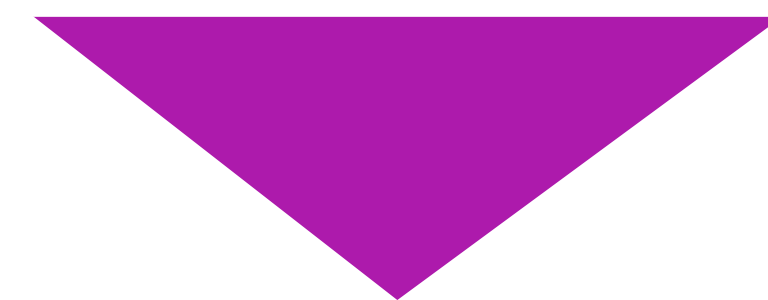
Network optimisation

Material management

Procurement management

Technology and Systems

- Improve capability



Areas of investment

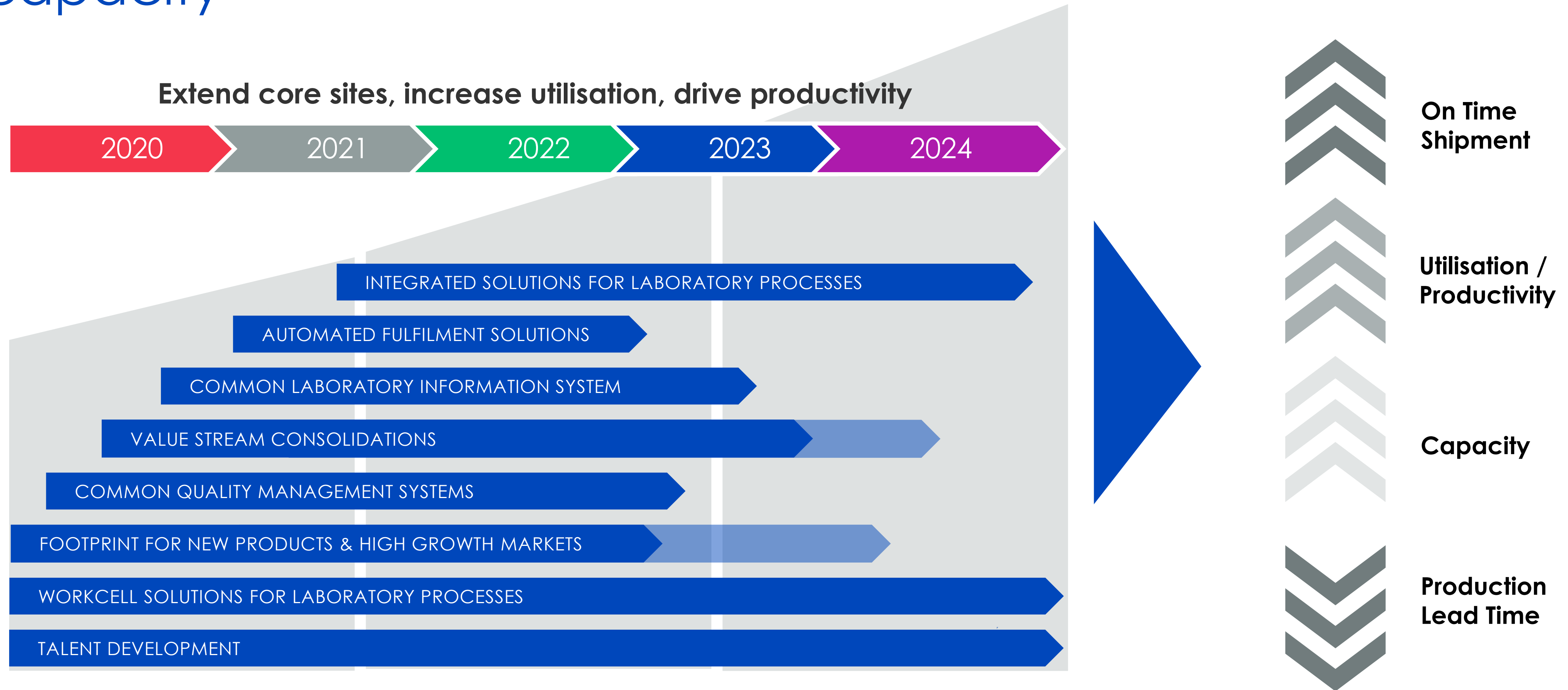
Automation

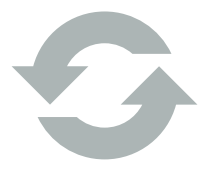
Business systems

Quality management systems



Multiple programmes underway to increase efficiency and capacity





Supply chain enhancements to support growth

Researchers
(low volume, high mix)

+50%

Increase in lots
produced
>90% total batch count

Industry
(high volume, low mix)

10x

Increase in batch
size yields
<10% total batch count



Implementation will allow us to further scale growth with efficient economies, driving performance

Invest in systems and people:

Develop and deploy to maintain a positive growth cycle



Science and technology:

unlocks new capabilities for offerings, yield and scale



Demonstrated ability to deliver a cycle of success

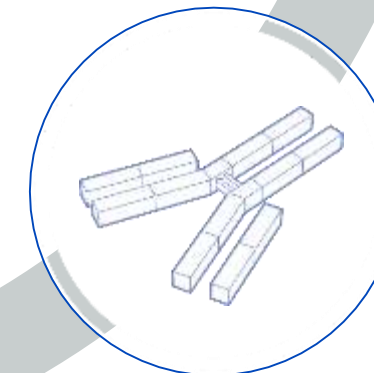
Supply chain engineering:

Eliminate waste and improve efficiencies, productivity, & capacity



In-house product:

Increased quality control, improved margins for investment and return

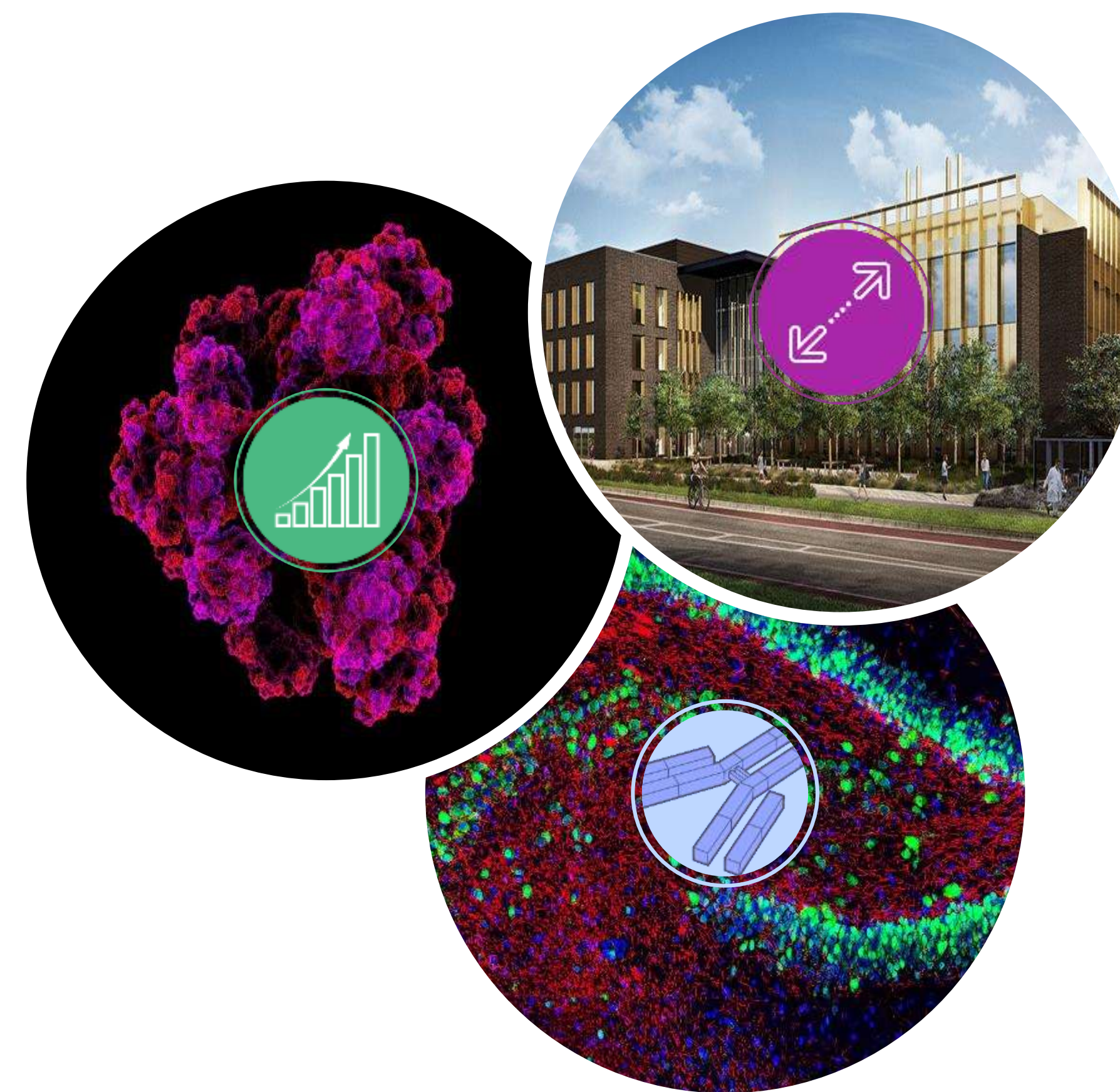




Building a scalable, efficient global organisation

Key takeaways:

- **Organisational scalability critical to deliver the next phase of growth**
- **Abcam has a track record of delivering system enhancement programmes**
- **Core investment planned in infrastructure, supply chain and technology**

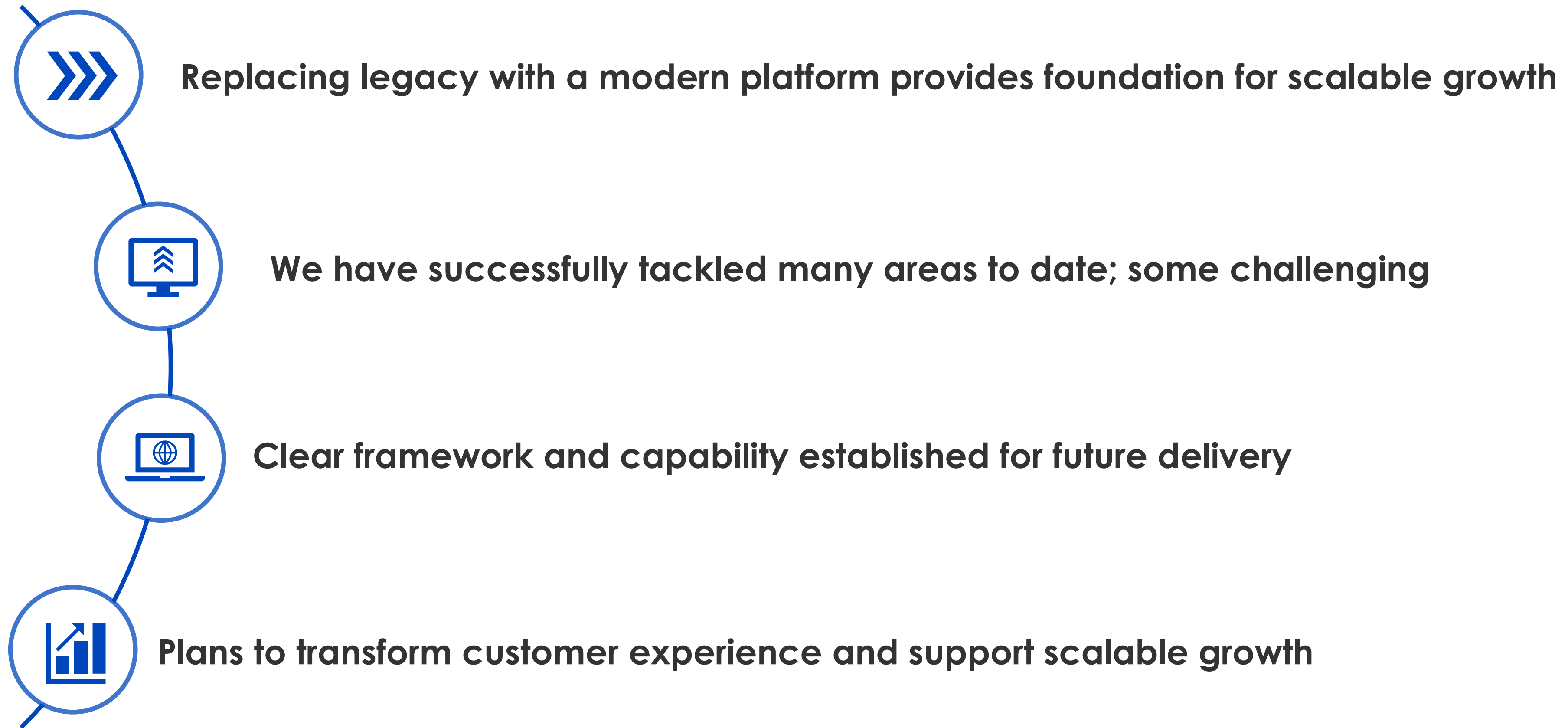


Delivering our digital transformation

Mark Dermody
Interim SVP, Technology



Delivering our digital transformation





Delivering our digital transformation

1998 – 2015

100% home-grown technology

Website

Supply chain

Manufacturing processes



2015 – 2019

IT programme upgrade initiated

Initial focus on non-customer facing parts

Many areas now complete and delivering benefits

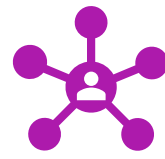
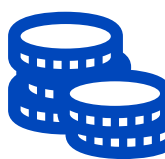

Some challenges

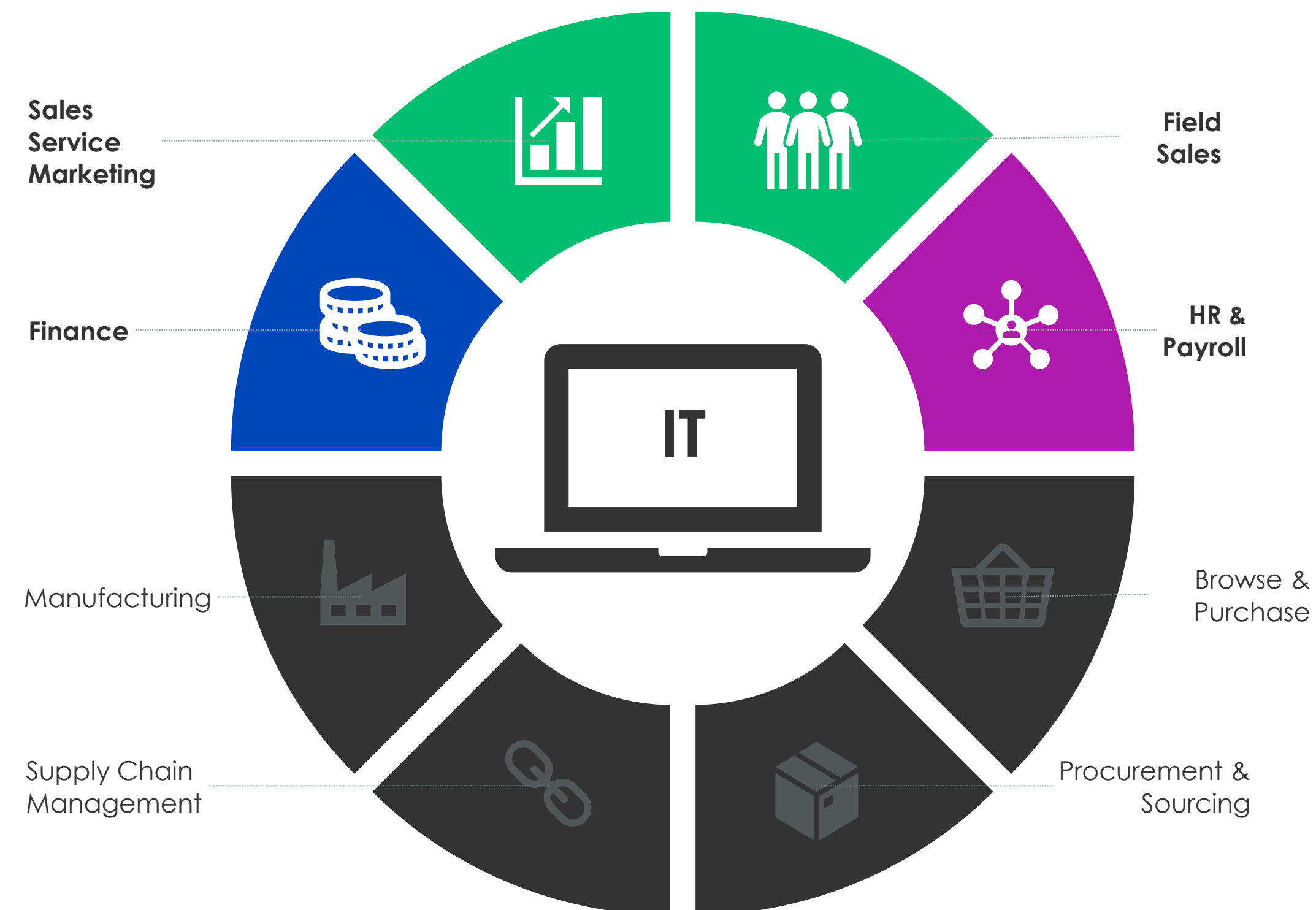
2019+

Opportunity to make step change to improve the customer experience, remove bottlenecks and enhance competitive position



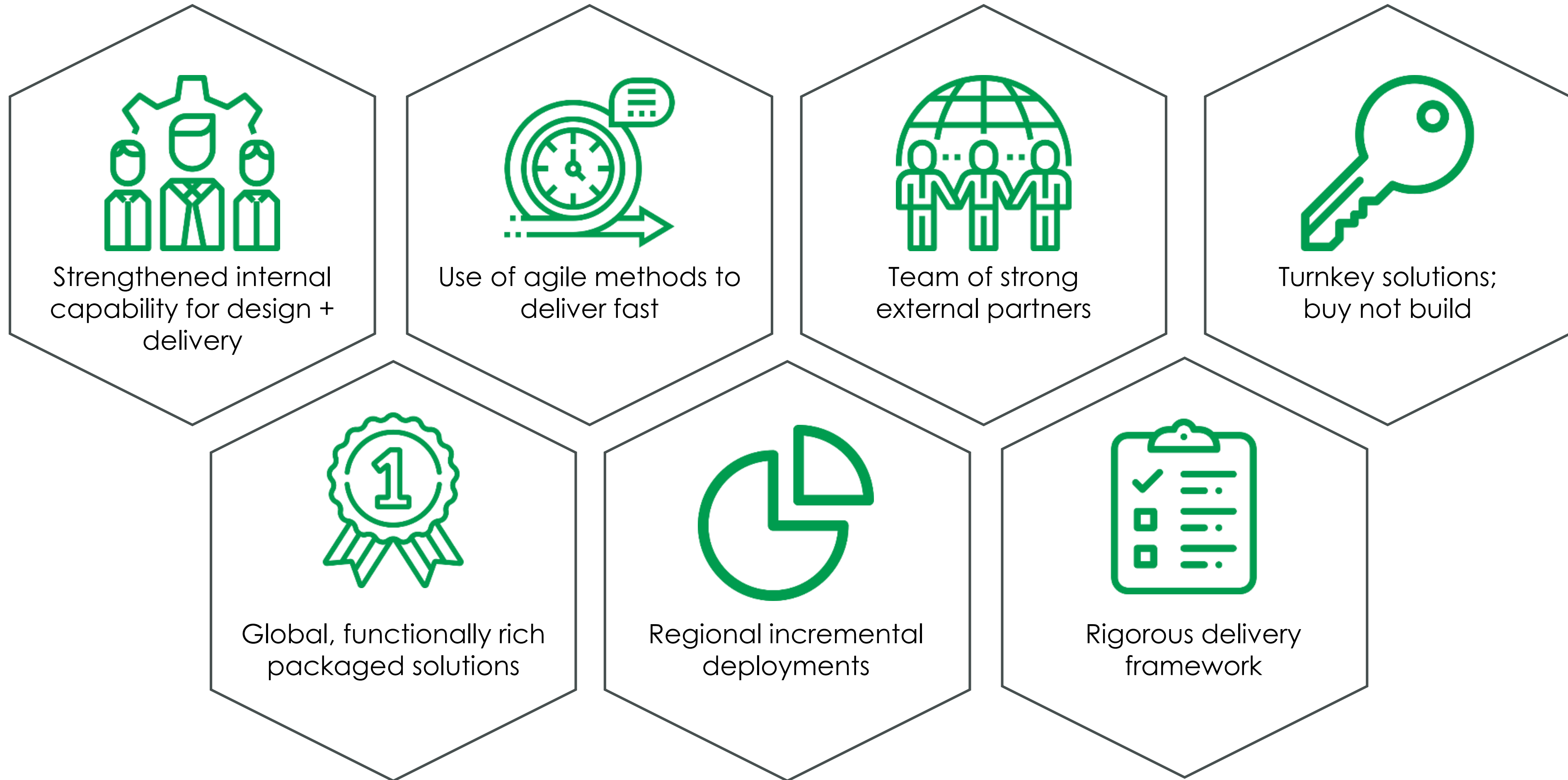
Many global functional areas improved to date Benefits to scale, better data and better controls

 <p>HR & Payroll</p>	<ul style="list-style-type: none"> • Single employee portal driving efficiencies • Self service employee benefits • Process-based talent management system
 <p>Finance</p>	<ul style="list-style-type: none"> • Faster procurement and authorisations • Greater spending controls • Enhanced reporting systems; improved decision making • Scalable and efficient processes • Easier acquisition integration
 <p>Sales, service, marketing</p>	<ul style="list-style-type: none"> • Enhanced scientific support • Better targeting of customers and lead management • Improved customer experience





Clear framework for future IT delivery



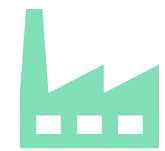


Customer Transformation

Plan to make step changes to enhance competitive position



- ✓ True omni-channel, frictionless experience
- ✓ Personalised experience with dynamic content
- ✓ Fast find, product advice and access to expertise
- ✓ Engaging, feature rich site
- ✓ Fast transact, single view of customer



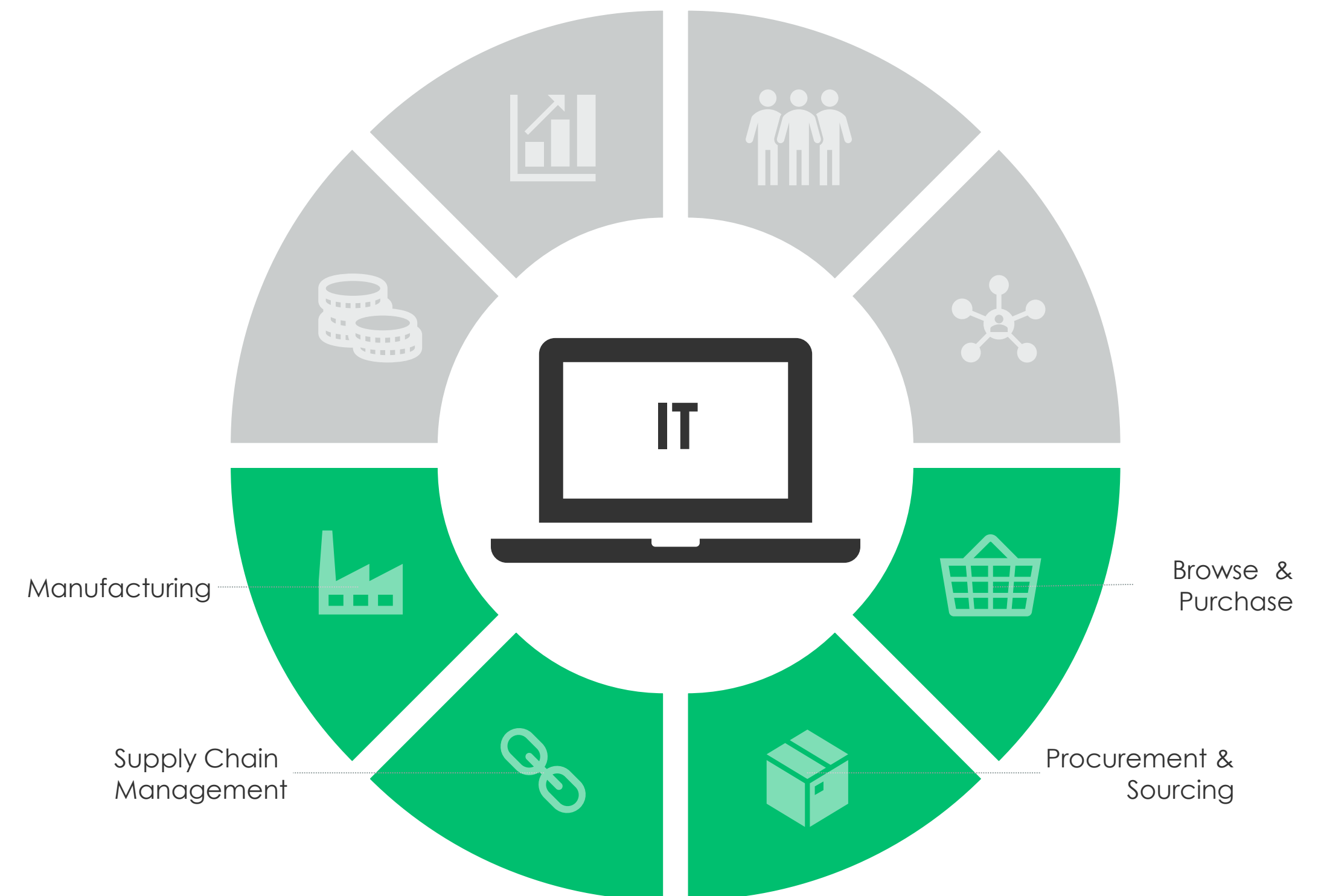
- ✓ Eliminate waste, improve efficiencies and productivity



- ✓ Increase efficiency in inventory management, costing and forecasting



- ✓ Faster decisions from holistic data and reporting
- ✓ Increased use of data and machine learning capabilities

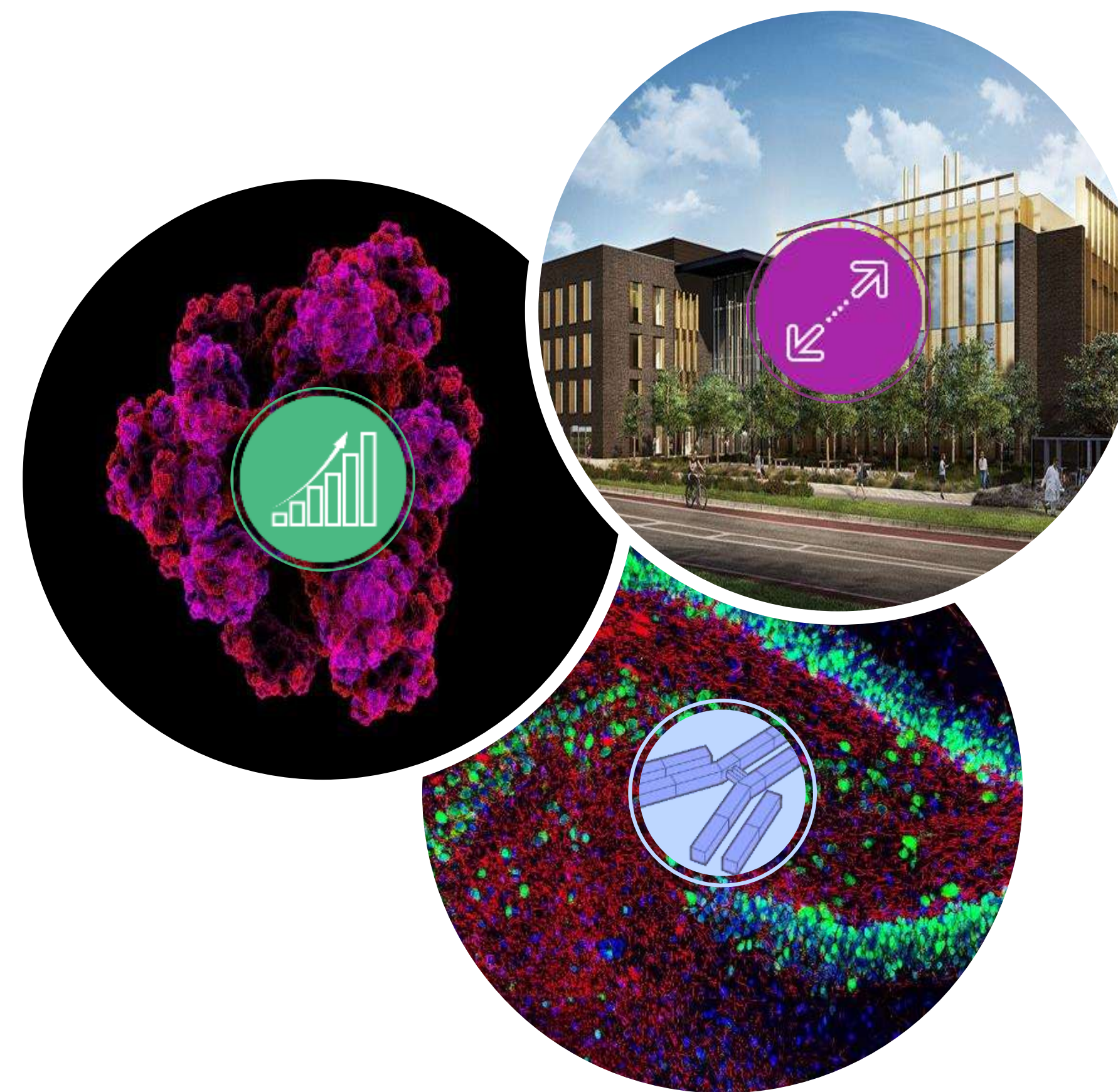




Delivering our digital transformation

Key takeaways:

- Made good progress in removing legacy as a constraint to growth
- The next area of focus is a customer transformation
- This phase is currently being designed
- We have established strong delivery capability to enable this change



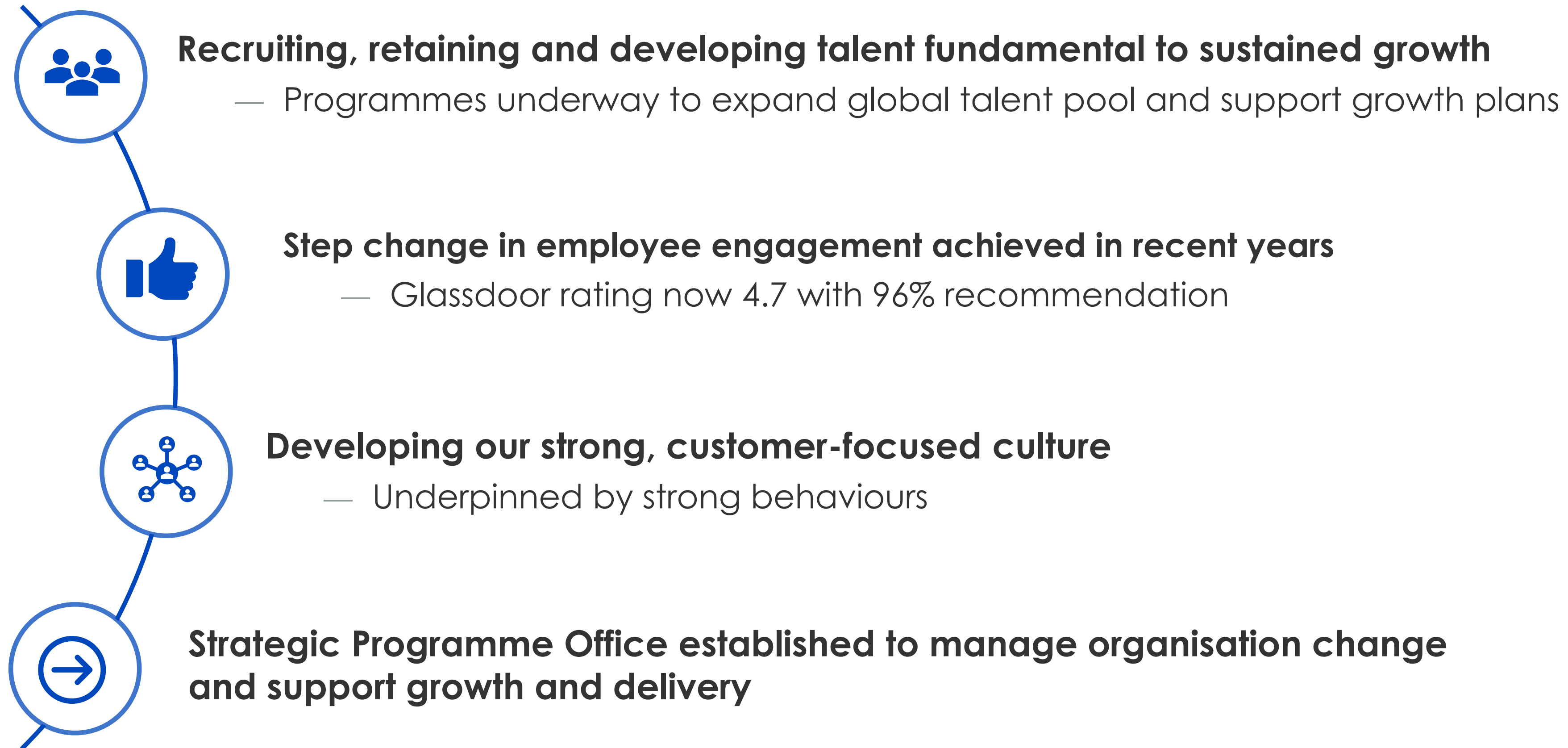
Maximising talent to enable growth

Nick Skinner

SVP, Human Resources

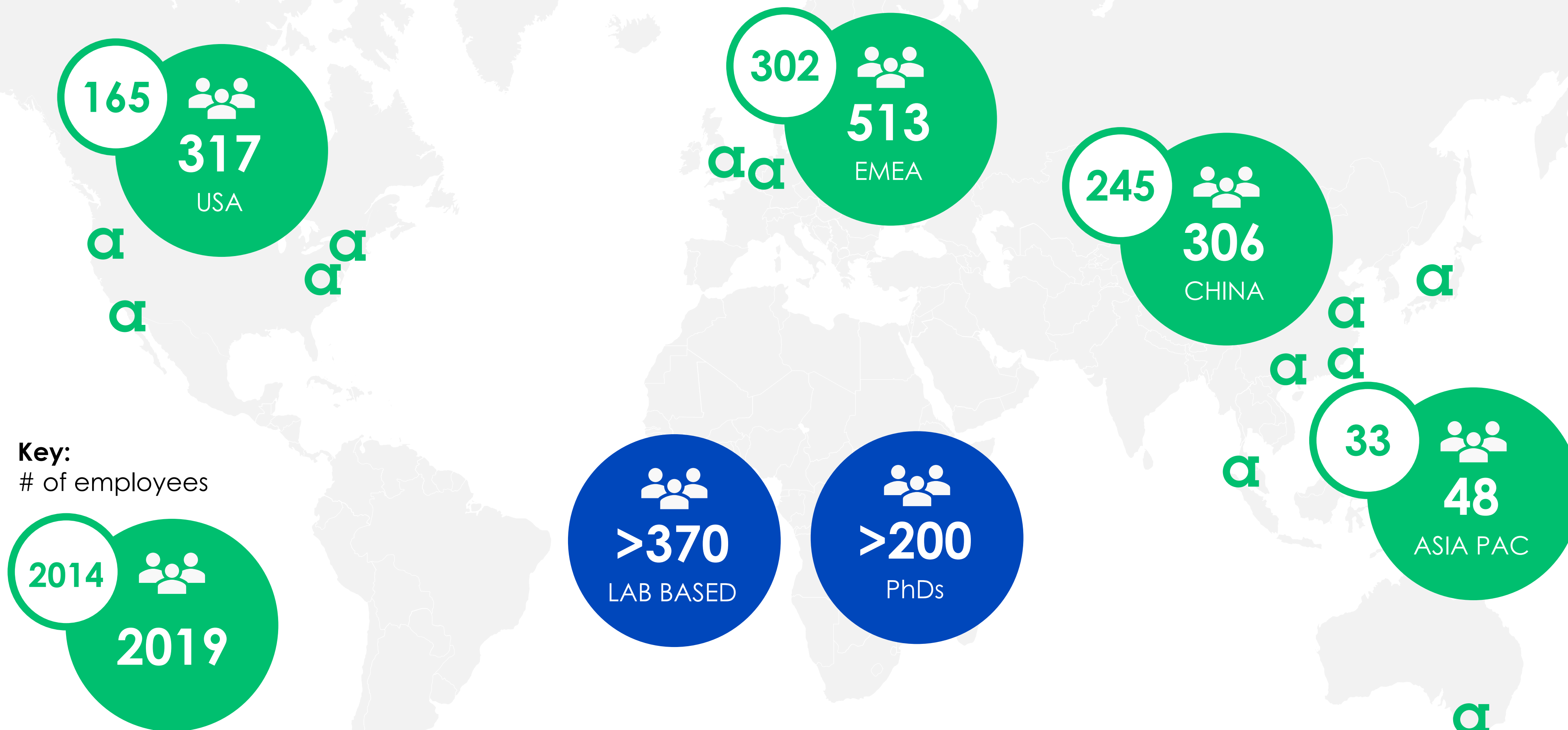


Maximising talent to enable growth





Our global team





Ability to attract, retain and develop talent vital to delivering growth ambitions

- **Total employee growth of ~60% from FY14-19**
 - Number of scientists and sales professionals doubled
- **Expect to add additional over 500 (net) FTEs by FY24**
- **Future focus on building strong pipeline at all levels**
 - Strong performance in 'time to hire'
- **Increase in team development and training over last five years**
 - Sponsoring post graduate qualifications
 - Increasing % of vacancies internally filled

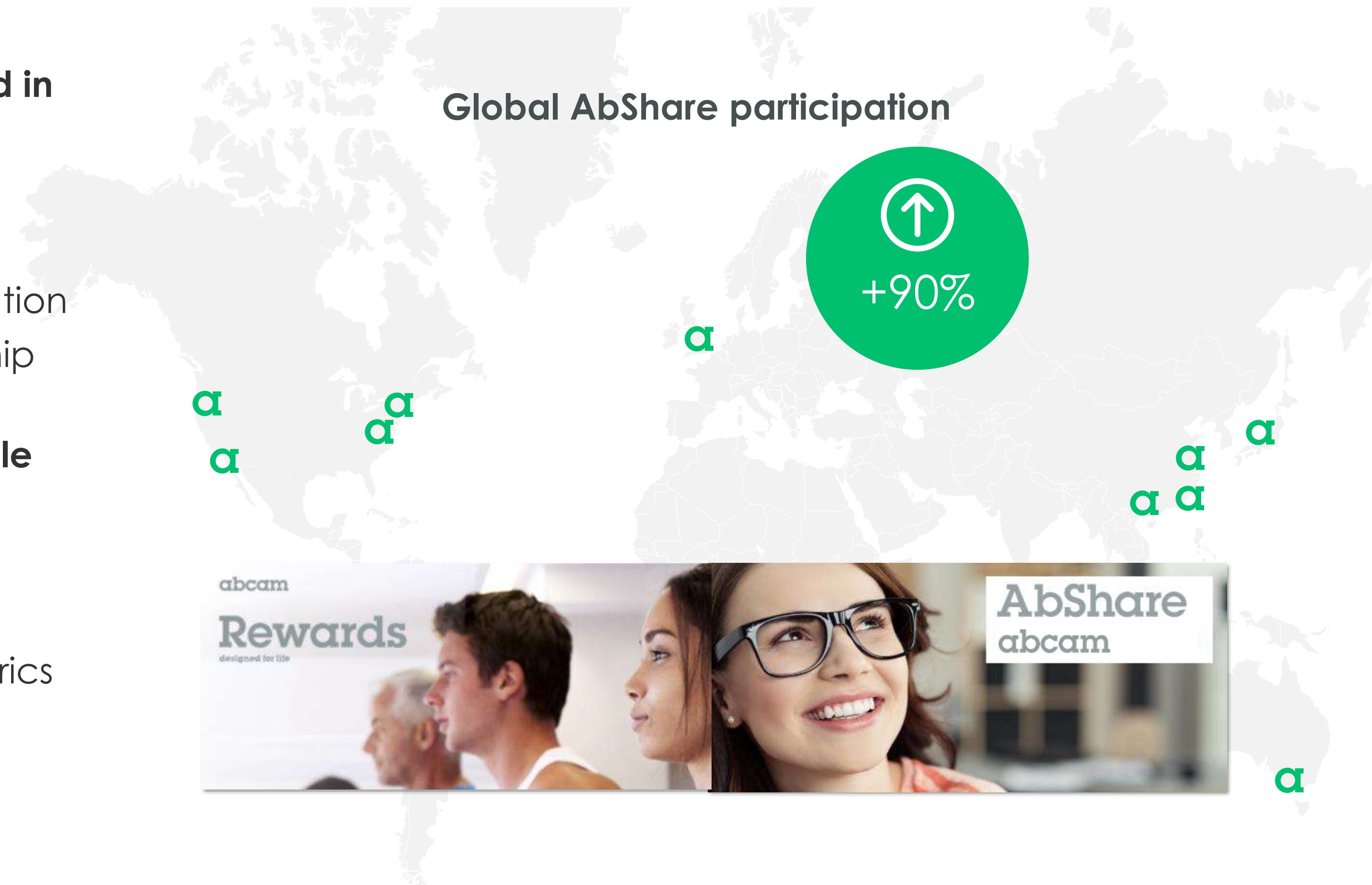
Global team growth, FTEs





Fostering an owner mindset, driving performance and sharing success

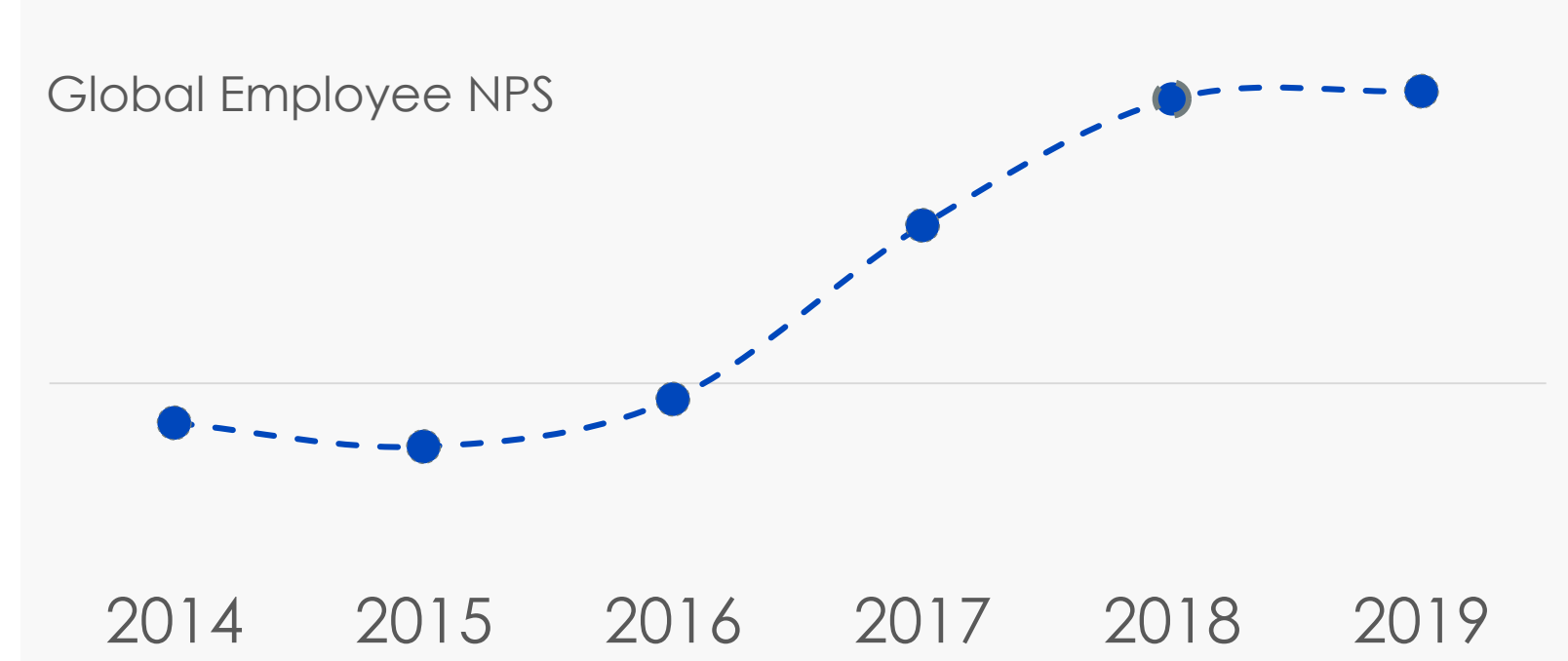
- **Award winning share scheme ('AbShare') launched in October 2019**
 - Drives owner mindset; supports retention
 - 3 year scheme, ~1% of ISC
 - Open to all employees globally: ~90% participation
 - Significant increase in employee share ownership
- **AbShare part of wider strategy to ensure we are able to attract and retain talent, including:**
 - Base salary competitiveness
 - More flexible benefits
 - Increasing variable pay linked to customer metrics and financial and strategic delivery





Building a customer-focused culture that champions dedicated, agile and audacious behaviours

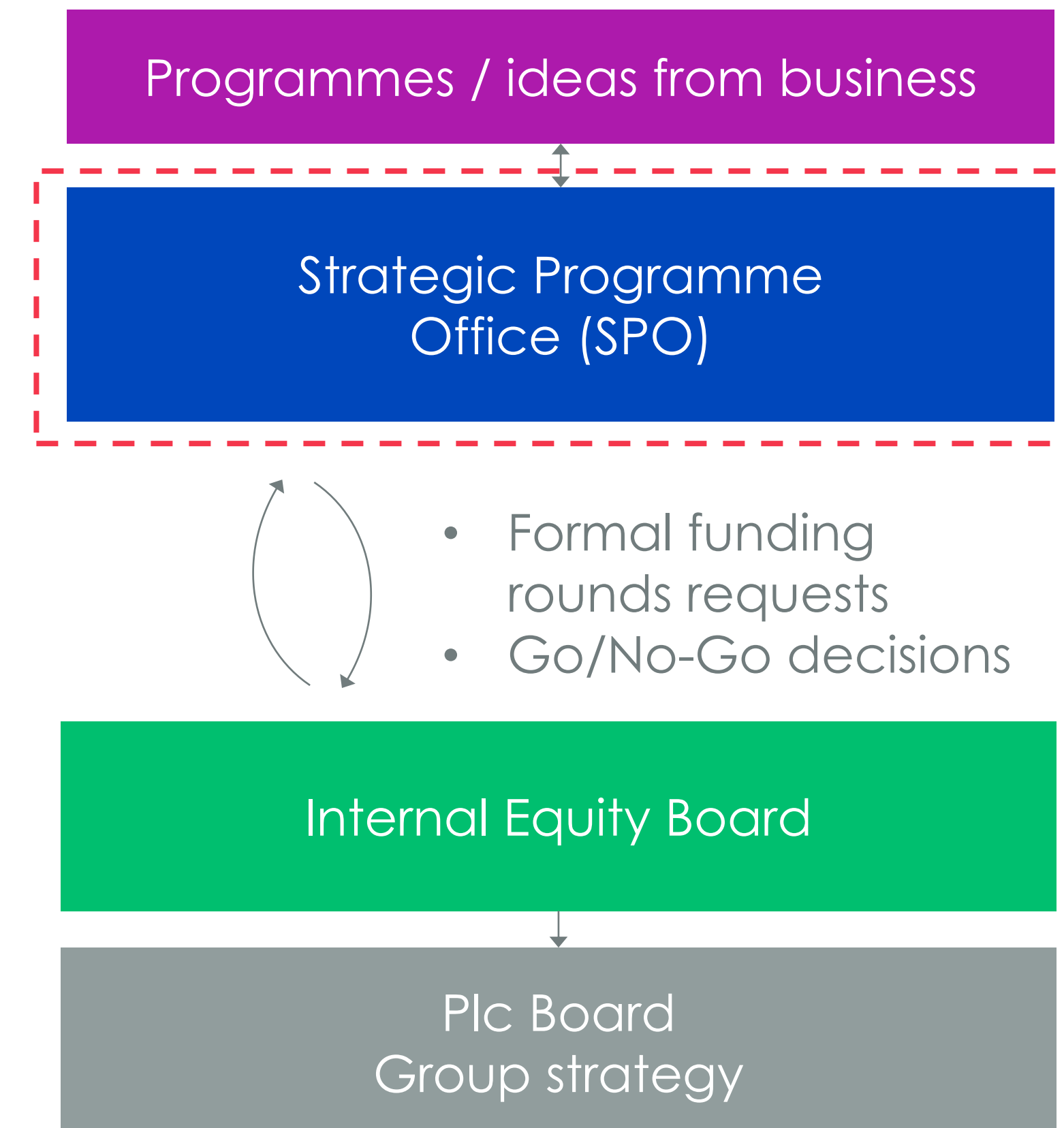
- Customer-focused culture underpins competitive advantage
- Entrepreneurial culture fosters innovation to better serve customers
- Transformed employee engagement
- Embedded CSR focus on environmental, ethical, welfare and diversity issues
- Strong community activity including partnerships to inspire next generation of scientists
- Progress on gender pay actions and broader inclusion and diversity





Strategic Programme Office to deliver more sustainable change and growth, faster

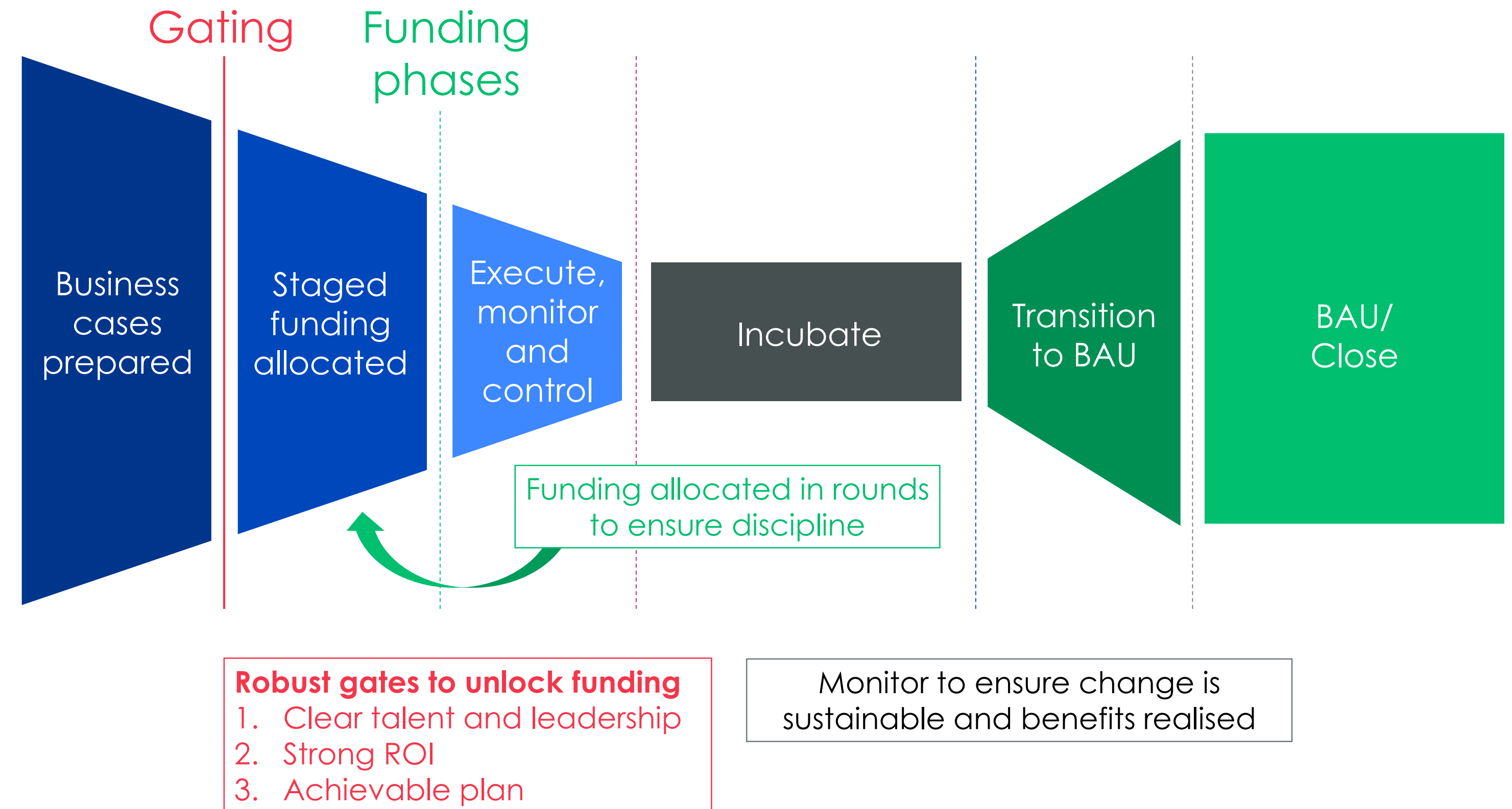
- Modelled on past success and best practice
- Systematic VC style approach, overseen by Internal Equity Board
- Sourcing talent to fill programme roles
- Key objectives and benefits:
 - Provides governance framework, coordinates delivery
 - Finds talent and removes bottlenecks
 - Orchestrates activity to ensure successful and sustainable change
 - Drives innovation and provides a route to funding for new ideas for growth





Strategic Programme Office ensures discipline

- Led by former VP of FP&A
- 12 projects approved since July
 - Includes seed funding for novel ideas
- Talent gaps identified and filled – mix of internal/external
- Sponsorship from executive team

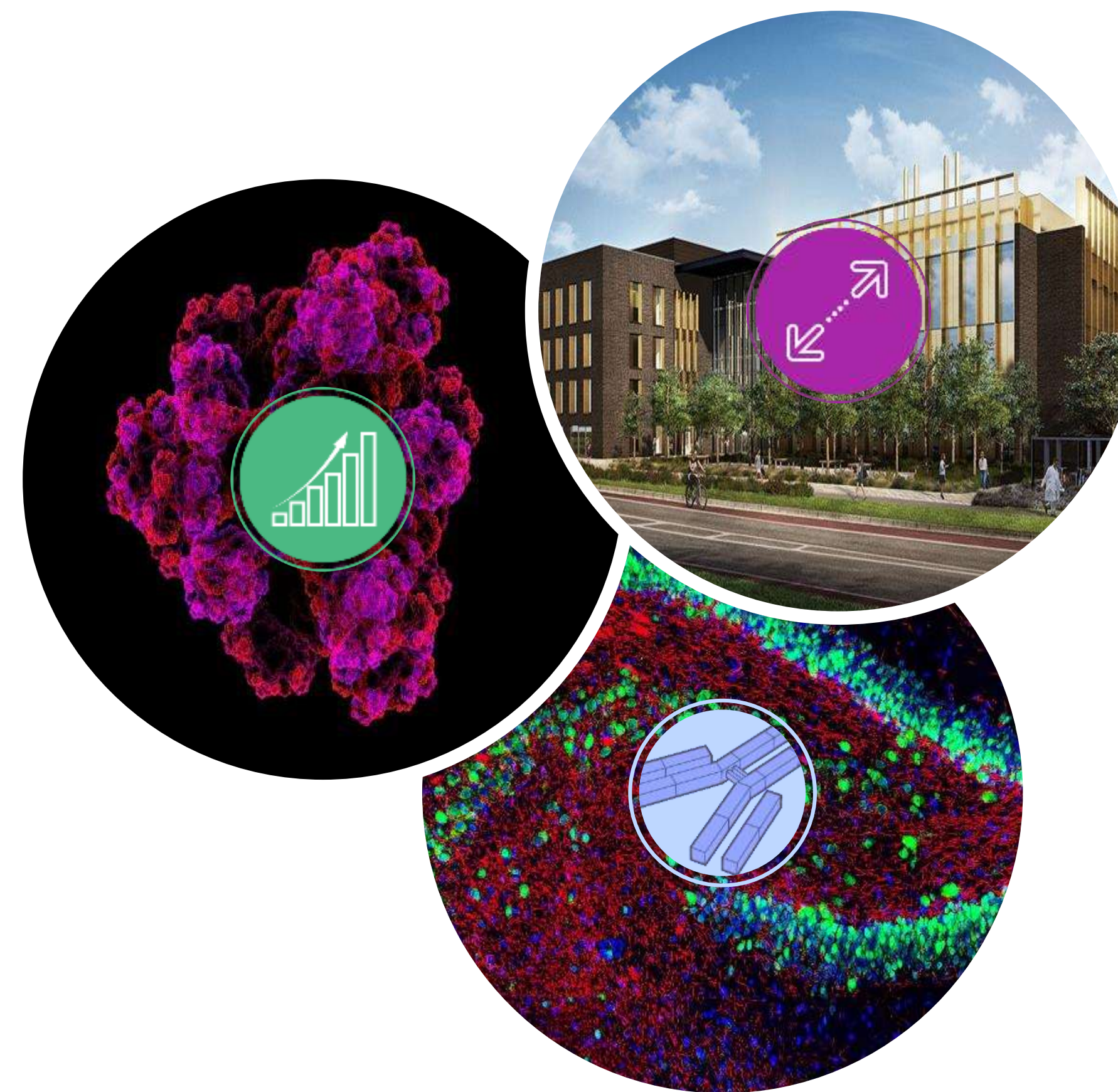




Maximising talent to enable growth

Key takeaways:

- **Abcam has historically managed strong growth as an organisation giving us confidence to deliver the next phase**
- **Key to delivering the five year strategy is a nimble, customer driven, growth-oriented organisation**
- **Strategic Programmes Office ensures disciplined delivery of growth plans facilitated by depth of talent**

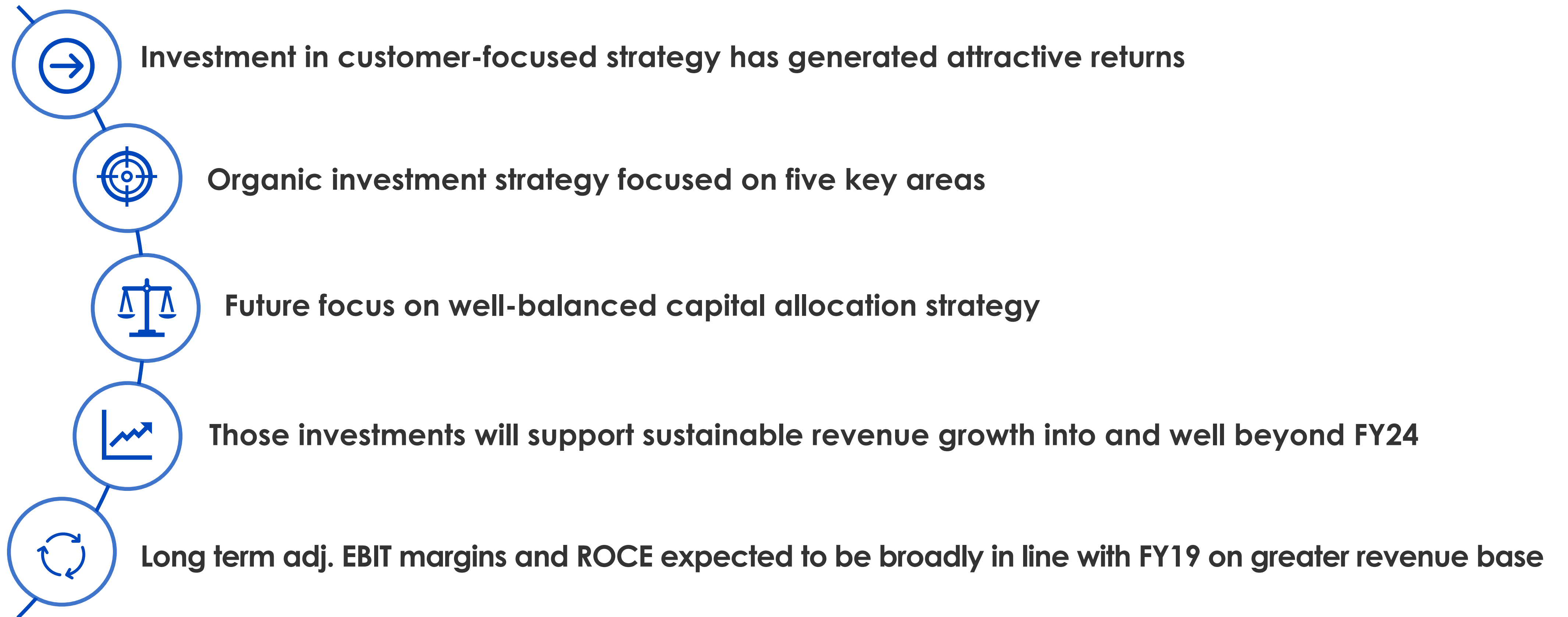


Continuing to deliver
attractive financial returns

Gavin Wood
CFO



Continuing to deliver attractive financial returns





Capital allocation strategy remains focused on generating long-term value

1 Reinvestment in business to drive long term growth

- Invest in existing, core growth businesses:
 - Best-in-class antibodies
 - Differentiated, proprietary research reagents

2 Capex in foundations to support scalable growth

- Increase scalability of core platform – automation/footprint
- IT transformation: providing best-in-class customer experience and business systems
- Infrastructure improvements to best serve the customer base

3 Selective acquisitions aligned to core strategy

- Complementary portfolios of best-in-class products
- Acquisitions that support or accelerate core growth strategy

4 Capital discipline

- Disciplined, long-term investment approach to organic and inorganic investment
- Maintain a robust balance sheet
- Continued focus on ROCE
- Strategic Programme Office established



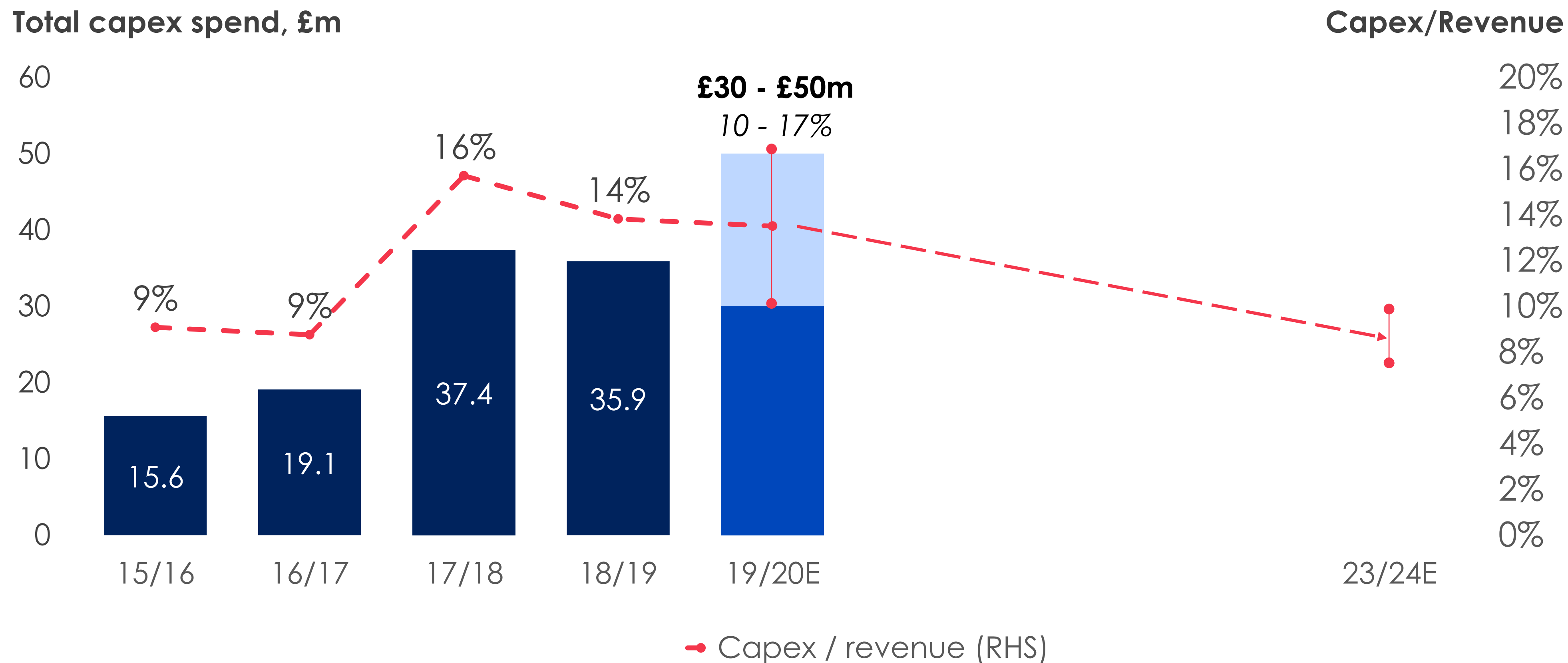
Strategic growth investments focused in five areas

	Incremental capital investment	Incremental adj. operating margin	Selected projects
	~£75-125m ¹	300 – 600 bpts (FY2020)	
1 In-house R&D capabilities for faster and broader innovation	40 – 50%	40 – 50%	<ul style="list-style-type: none"> Advanced antibody development Recombinant proteins Edited cell lines
2 Customer experience and e-commerce ²	10 – 20%	20 – 30%	<ul style="list-style-type: none"> Data science and digital marketing Global sales China expansion
3 Operational capacity and efficiency ²	15 - 25%	20 - 30%	<ul style="list-style-type: none"> Logistics and supply chain enhancements Footprint optimisation
4 IT transformation to upgrade legacy systems ³	20 – 30%	n/a	<ul style="list-style-type: none"> Supply chain and manufacturing
5 Investment in people ⁴	n/a	5 - 15%	<ul style="list-style-type: none"> Business transformation Corporate development Reward, training and development

Incremental returns from new investments expected to be in line or above Group ROCE

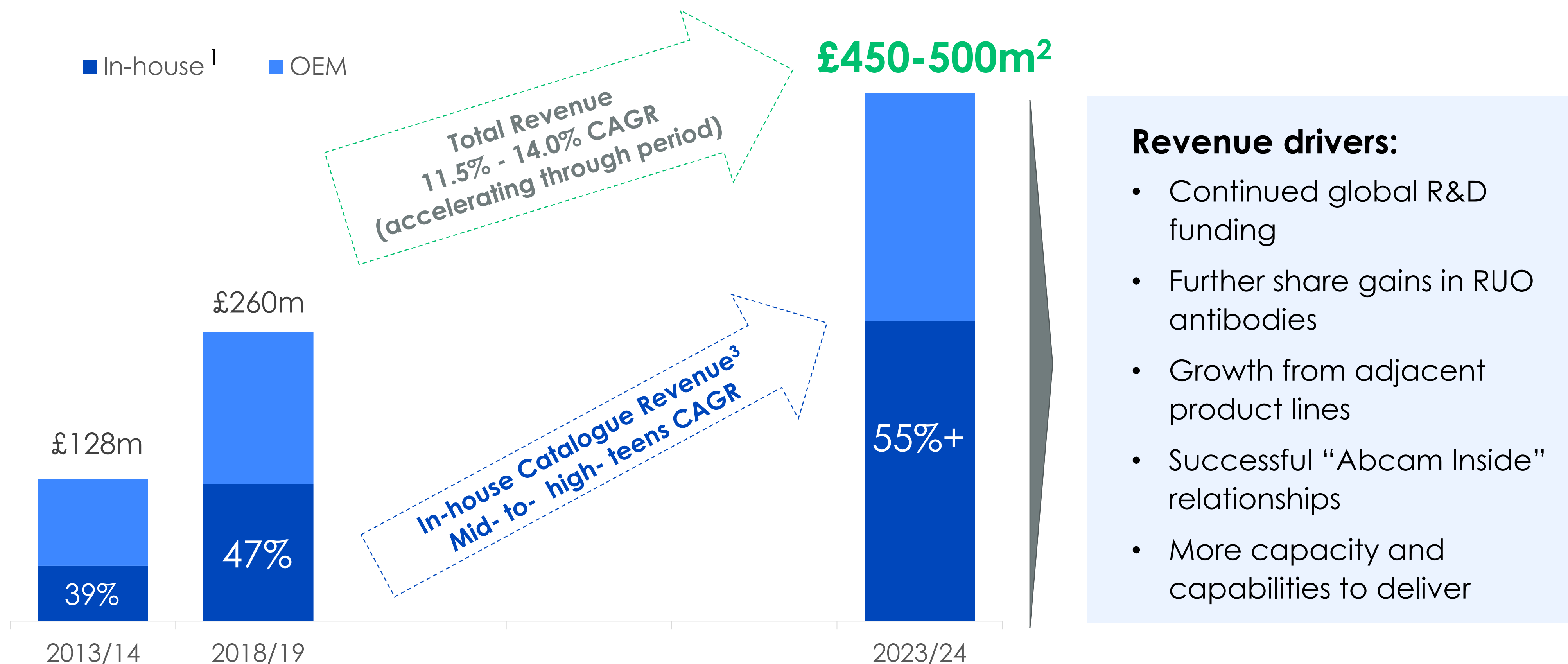


We are prioritising investment in the near term, to maximise returns



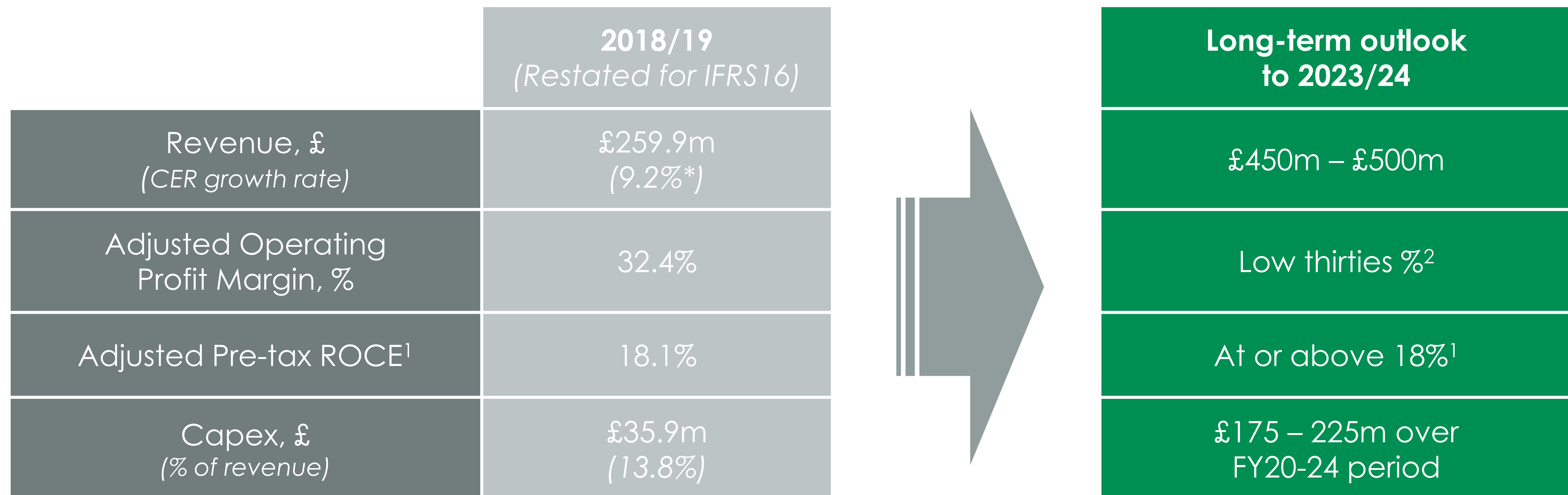


Organic revenue potential of £450-500m by FY2024





Long-term financial goals reflect focus on sustaining growth whilst driving attractive margins and returns

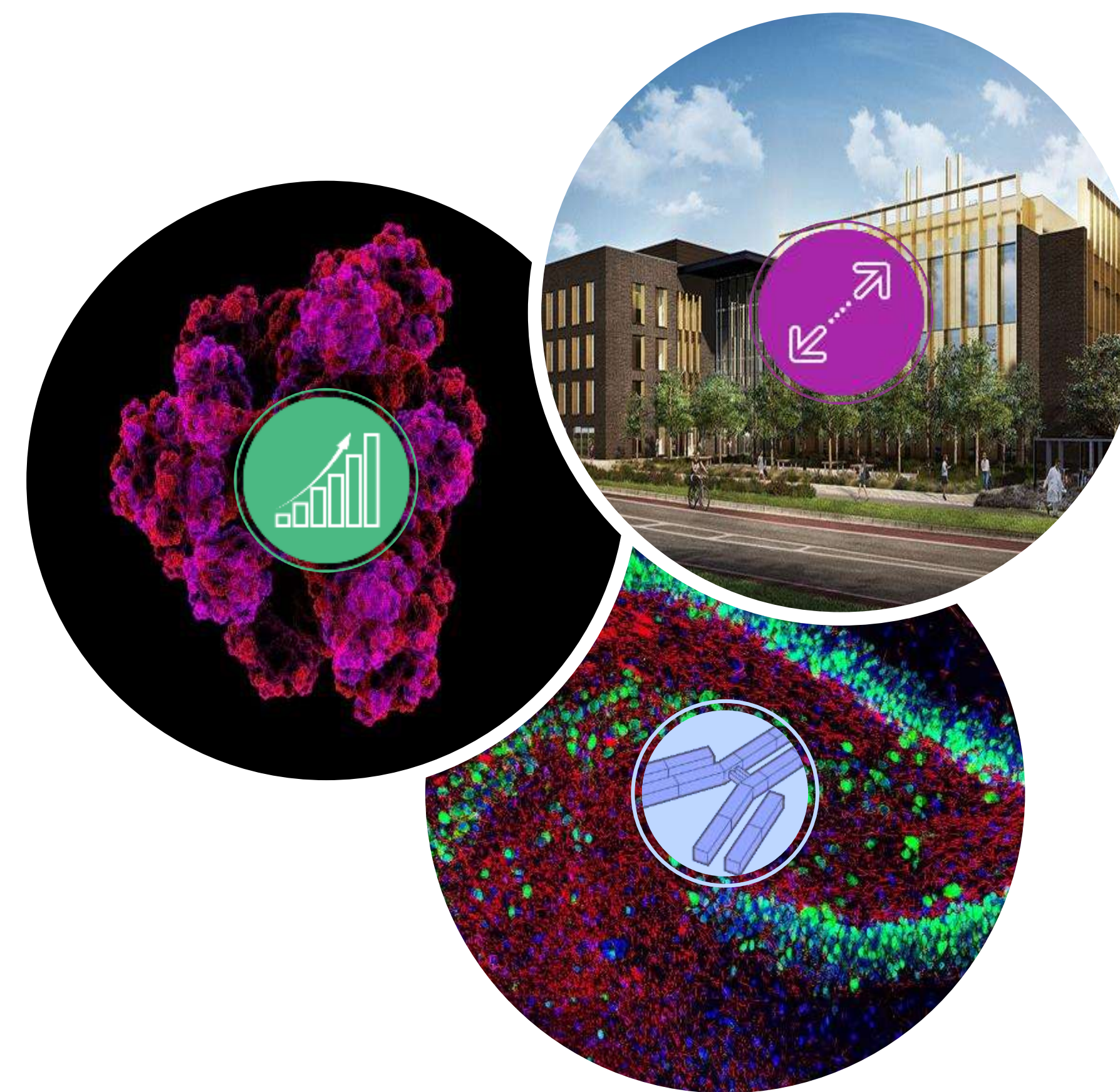




Continuing to deliver attractive financial returns

Key takeaways:

- Successful track record of profitable revenue growth and attractive returns
- Investing to remove constraints, enhance customer offering and scale organisation
- Opportunity to deliver £450 – £500m revenue by 2024
- Disciplined capital allocation strategy – Group ROCE to remain well above cost of capital

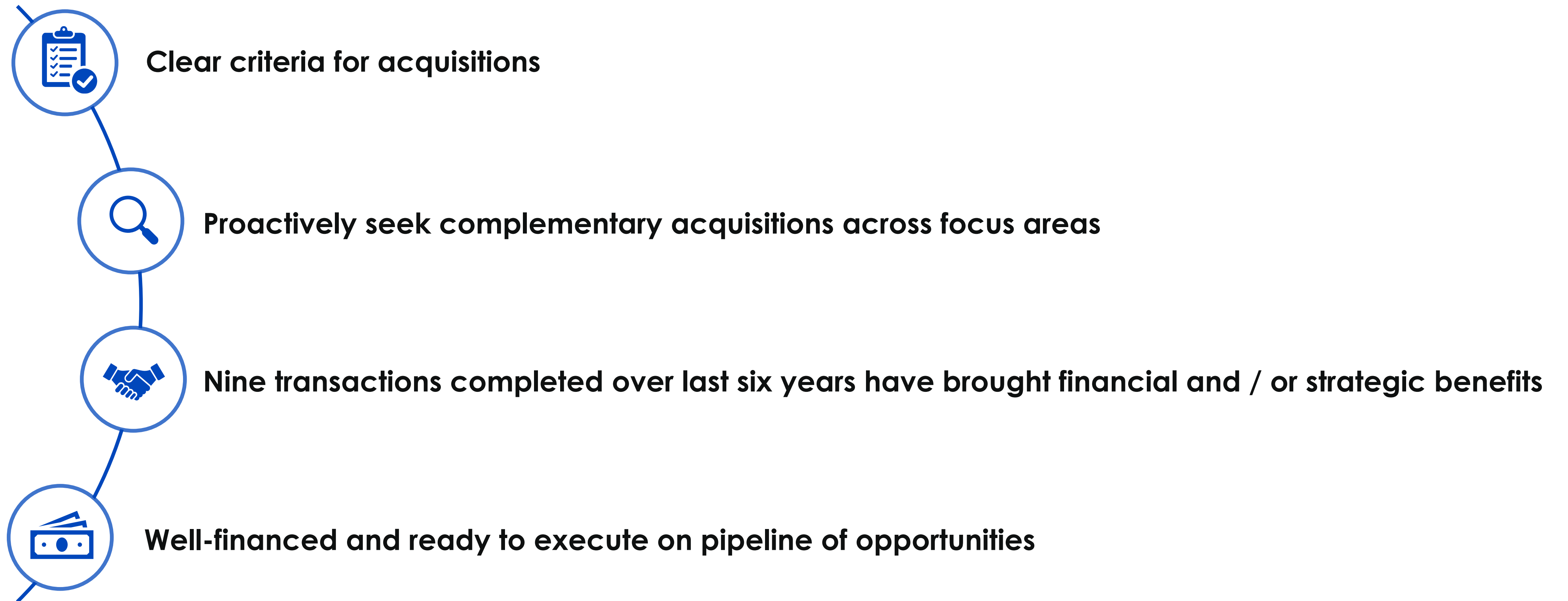


Supplementing organic growth through selected acquisitions and partnerships

Cheri Walker
SVP, Corporate Development

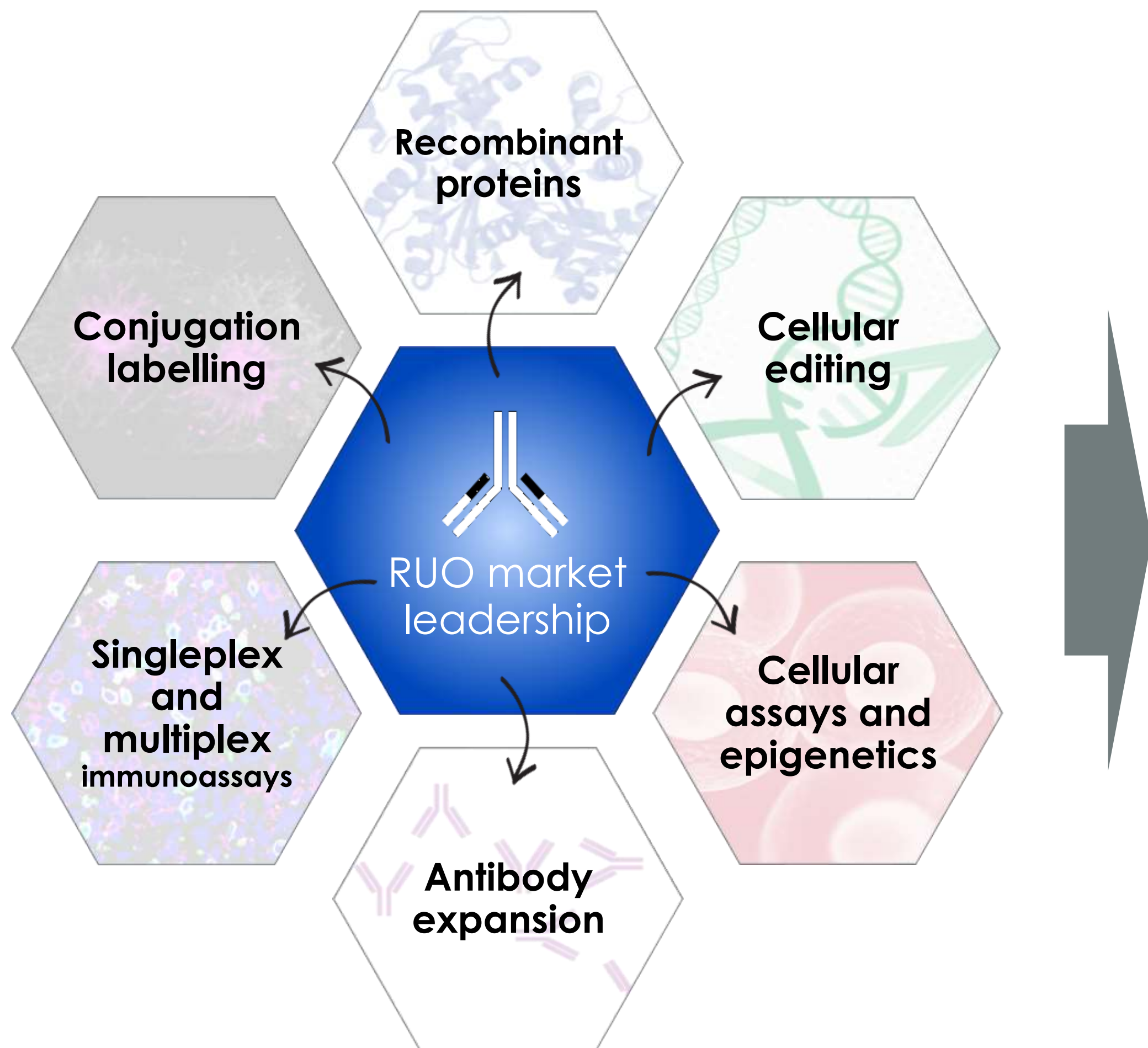


Supplementing organic growth through selected acquisitions and partnerships





Focus areas aligned with organic strategy



Focus areas:

- Synergistic with antibodies; overlapping customer base
- Markets with strong growth; leading product opportunities

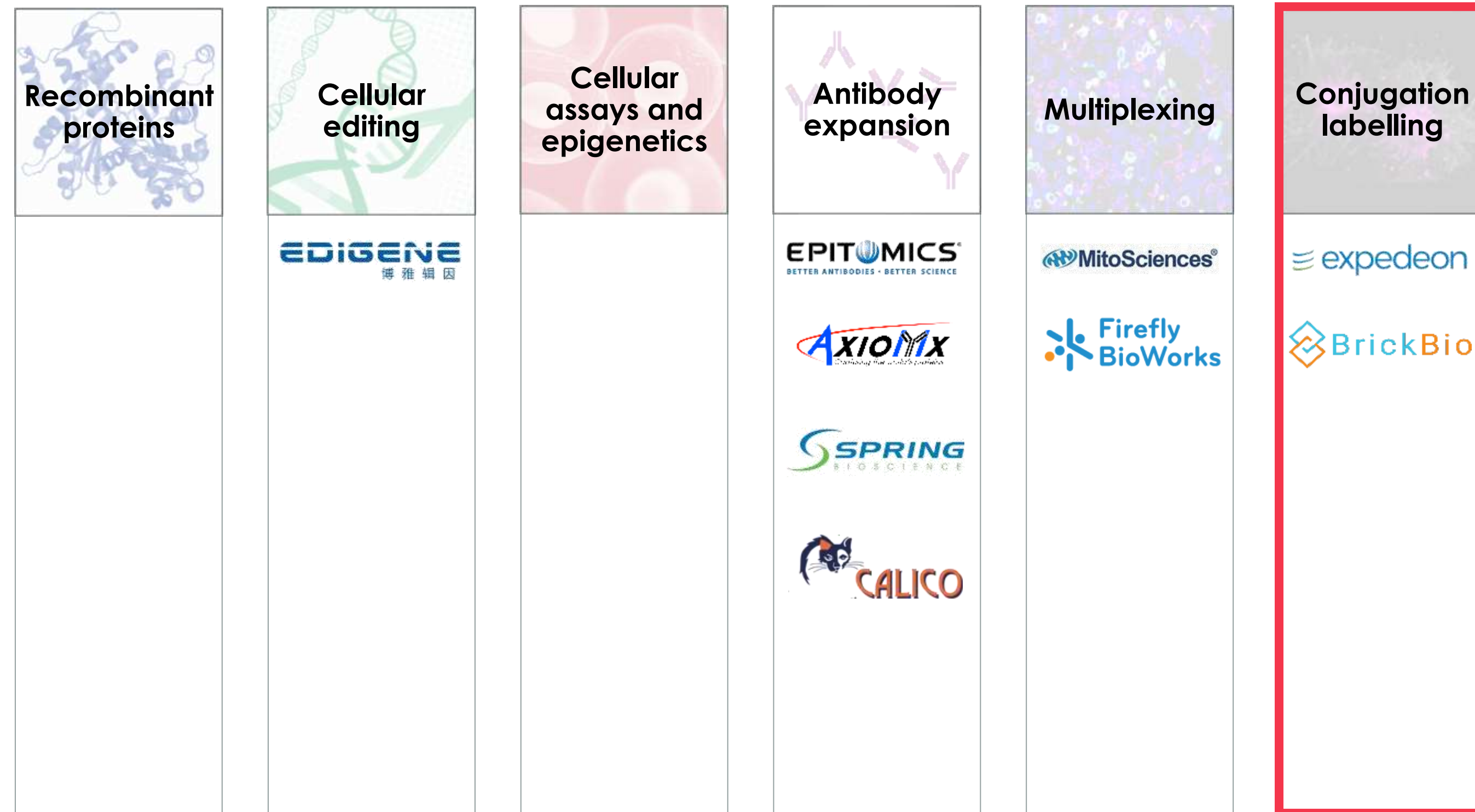
Acquisition criteria:

- “Gold standard” reagents to study biological pathways
- Potential to:
 - create unique propositions by combining with Abcam technology
 - drive growth via Abcam’s platform and brand
 - remove constraints to innovation and differentiate product offering
- Accretive deals with attractive return on capital/IRR



Strategic map and plan for each area

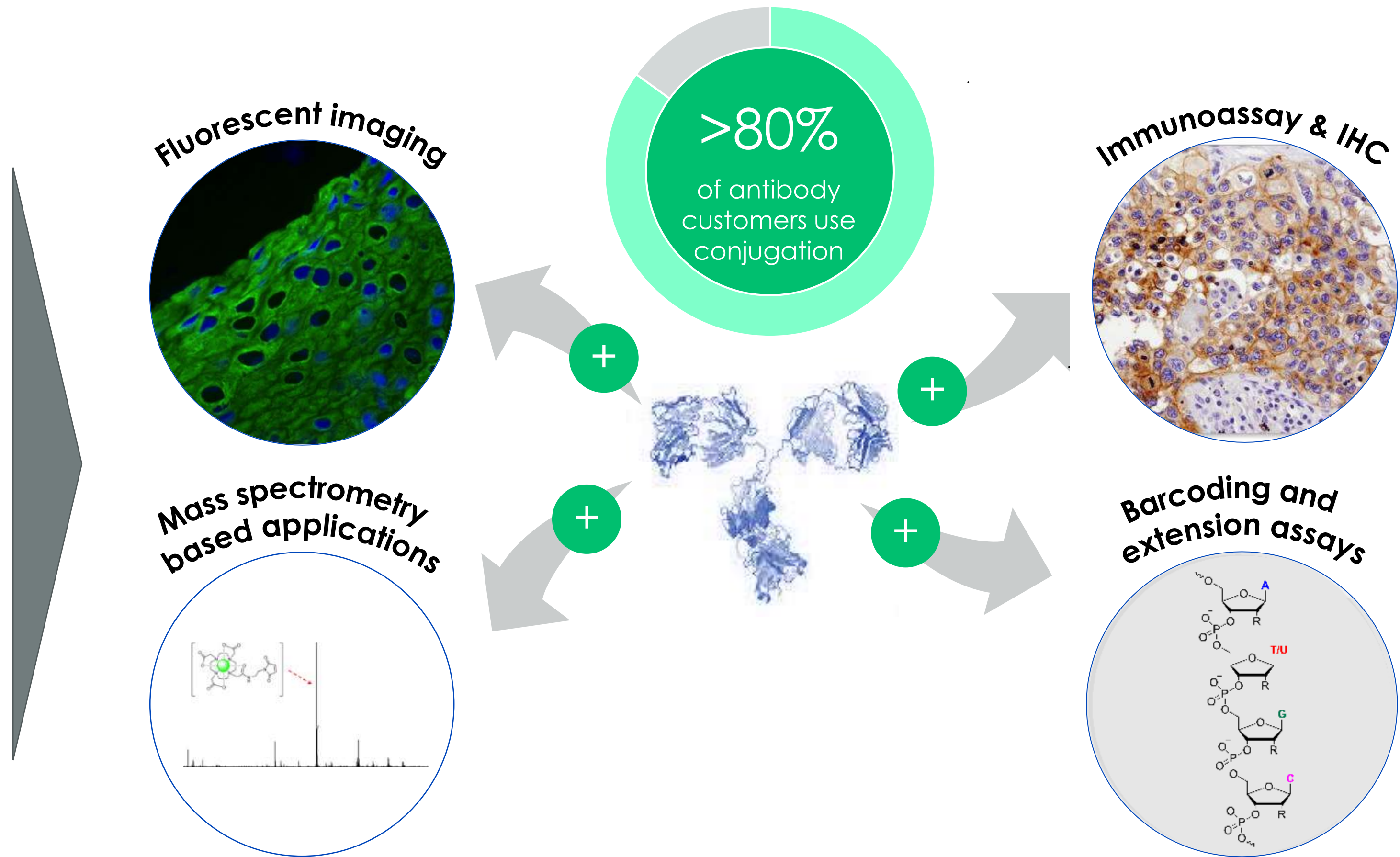
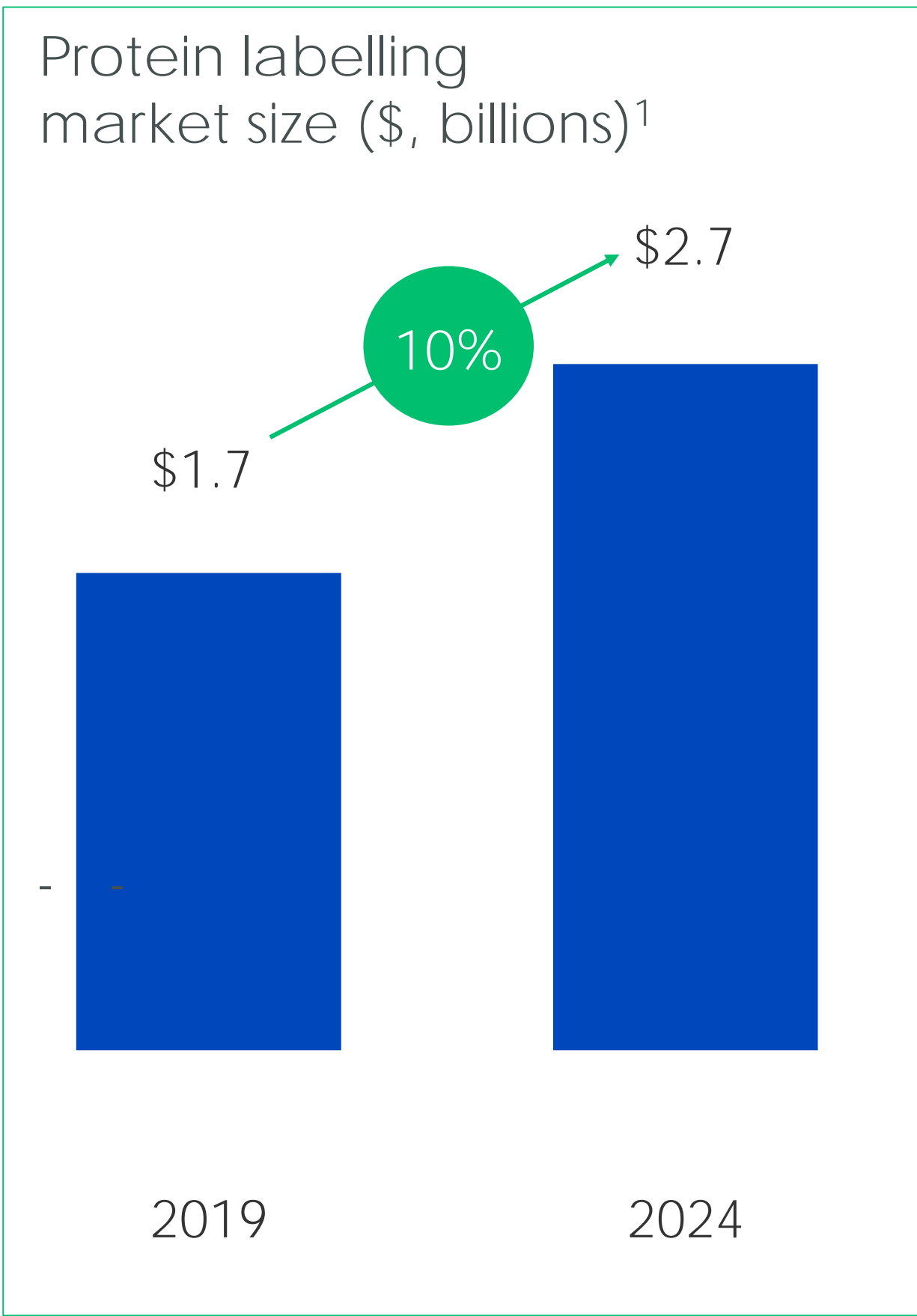
Team focused on proactively executing against the plan





Focus on conjugation

A strategic opportunity for Abcam





Executing against plan

Building broad-based, complementary capabilities

1 INTERNAL LABELLING



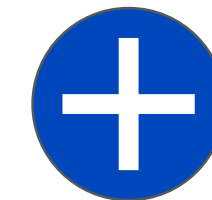
Incorporation of unnatural amino acids in recombinant antibodies for easy conjugation



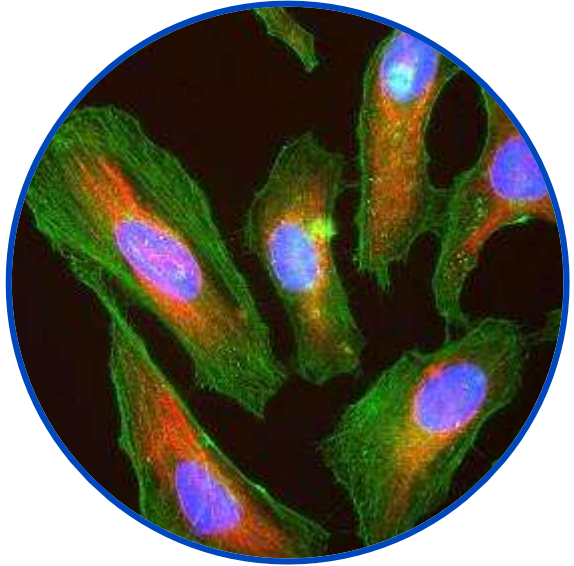
2 EXTERNAL CONJUGATION



Technology to add labels to proteins and antibodies



3 ENABLING TECHNOLOGIES



Enabling tools for conjugation

Objective: build a leading conjugation platform to drive share gains in antibodies and new revenue streams across wide applications



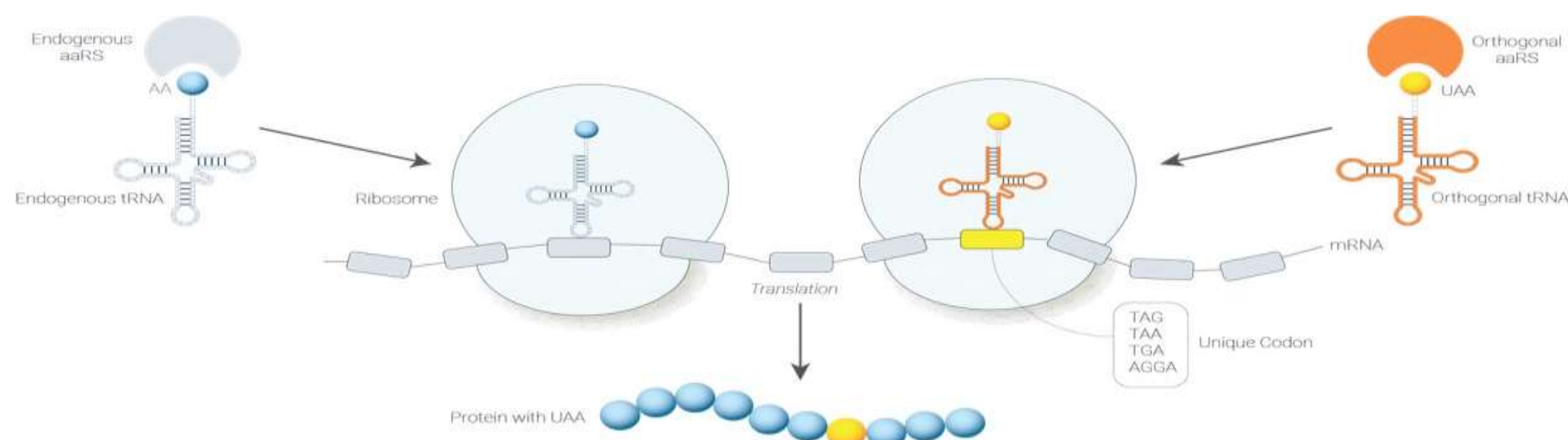
1 BrickBio partnership: rapid, precise conjugation



Partnership details:

- Abcam exclusive license for RUO use signed 9 Nov 19
- Co-exclusive diagnostic rights
 - Joint development program
- First antibodies to launch in 2021 (Cal)
- Equity investment in BrickBio (terms undisclosed)

Key technology: Incorporation of binding site into recombinant backbone for simple, targeted conjugation



- ✓ Technology enables highly specific, repeatable antibody conjugation
- ✓ Facilitates easy, reliable conjugation process
- ✓ Supports standardisation and quality focus
- ✓ Opens up conjugation-on-demand; simple QC and release
- ✓ Potential to develop a wide range of applications and kits



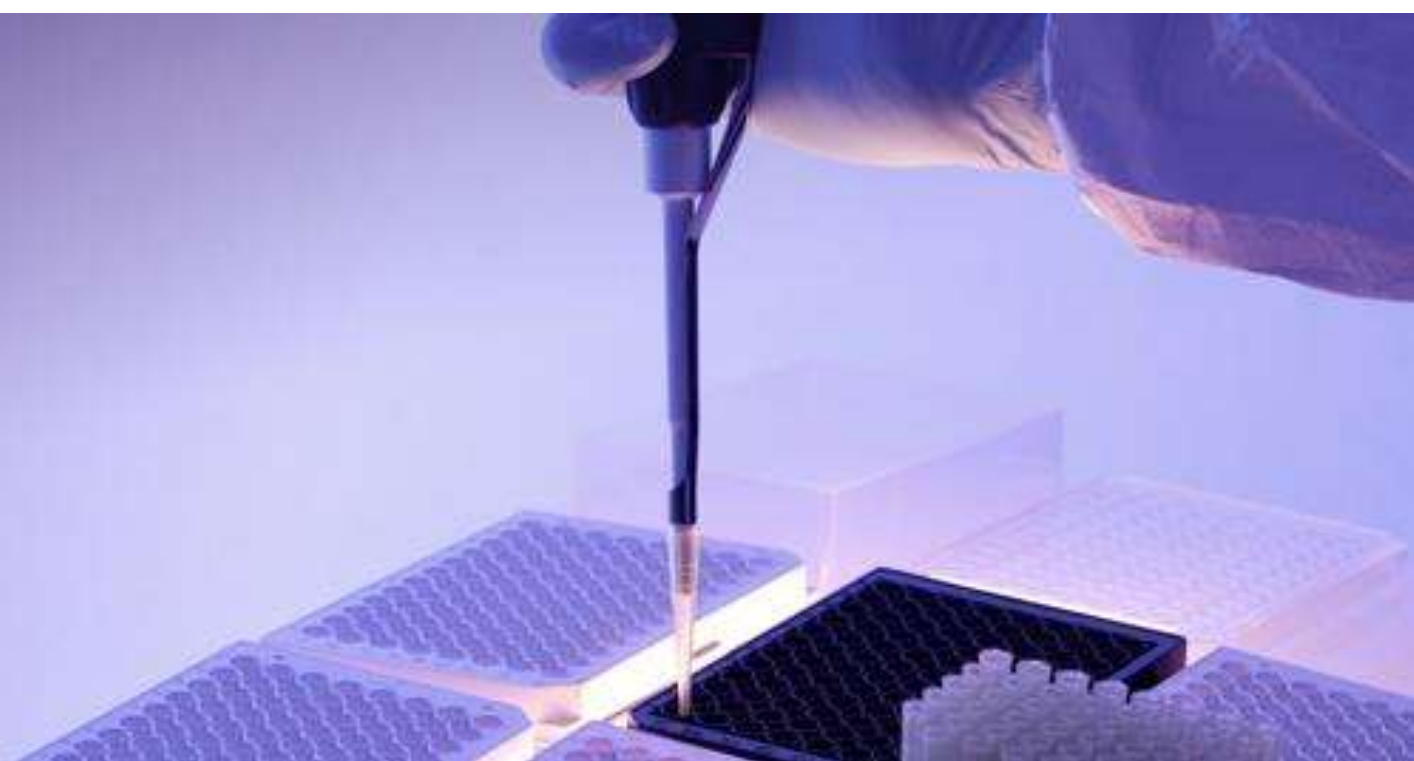
2 **Expedeon:** cutting-edge conjugation technologies

Deal terms

- Acquisition of Expedeon's proteomics and immunology business for €120m cash announced on 11 November
- Two main assets acquired - Innova and TGR
- Substantially all revenue, profits and assets of Expedeon AG
- Subject to Expedeon shareholder approval on 19 December 2019

Rationale

- ✓ Addition of leading protein conjugation technology platform
- ✓ Highly-complementary to Abcam's existing antibody and multiplex growth strategy; high customer overlap
- ✓ Provides core competency and toolbox for key antibody application areas
- ✓ Ability to offer standalone products plus line extensions across Abcam product portfolio
- ✓ Abcam's channel, digital platform, and content provides opportunity to drive growth and realise value of assets
- ✓ Financially attractive - accretive from FY21
 - ROIC (pre-tax) ahead of the Group WACC by FY23

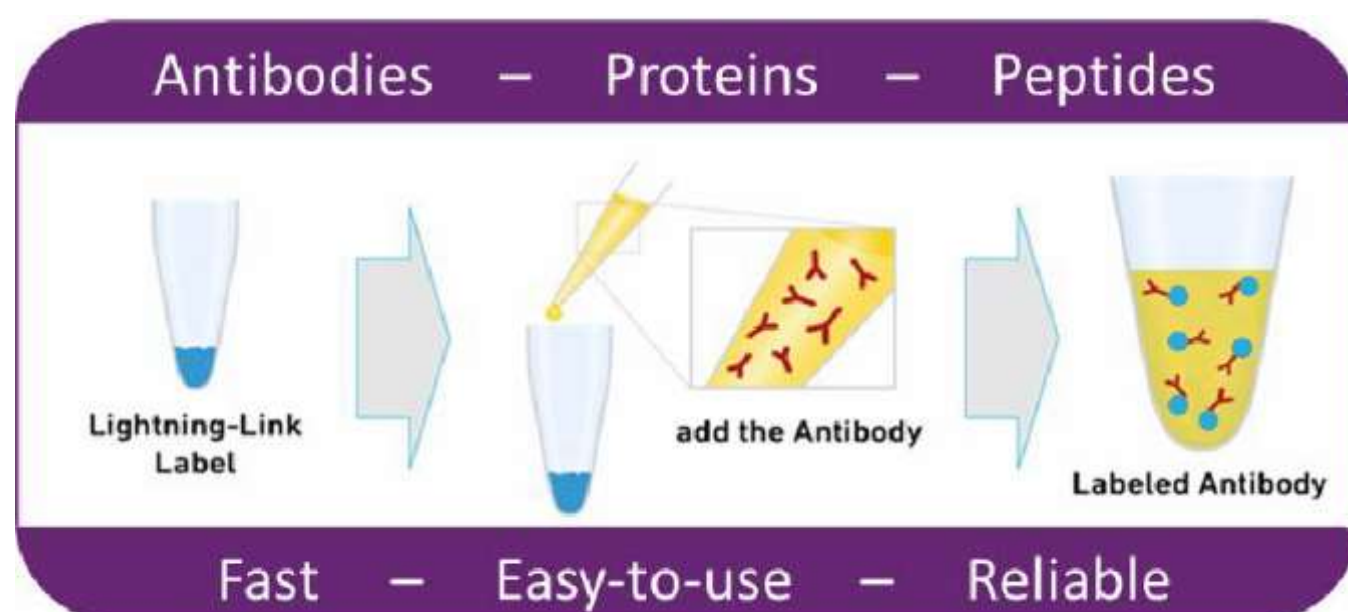




2 Expedeon: cutting-edge conjugation technologies



Lightning-Link[®]
Conjugation technology

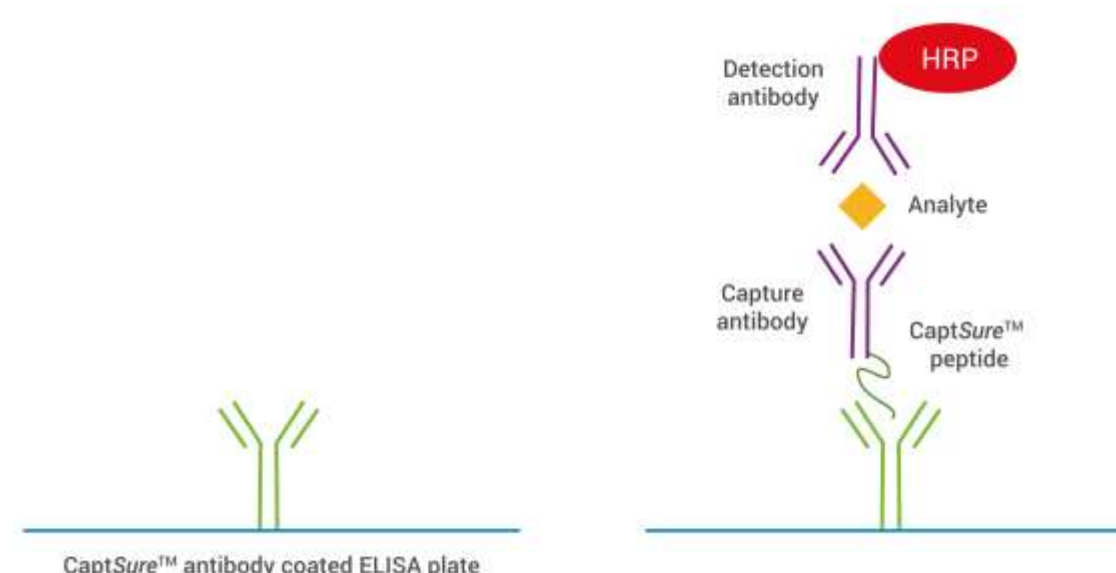


Customer benefits:

- Fast, easy to use, efficient (only 30 seconds hands-on time)
- No need for secondary antibody
- Wide variety of labels including: enzymes, florescent dyes, tandems, oligos, metals



CaptSure[™]
Conjugation capture technology



Customer benefits:

- Fast process – saves on downtime
- Uses 10x less capture antibody
- High flexibility

Creating value

- Leading antibodies + conjugation and labelling
- Immunoassay and kit development:
 - Abcam's Simple Step ELISAs
 - DIY ELISAs
- New kits recently launched
 - Metal conjugates
 - Oligo conjugates

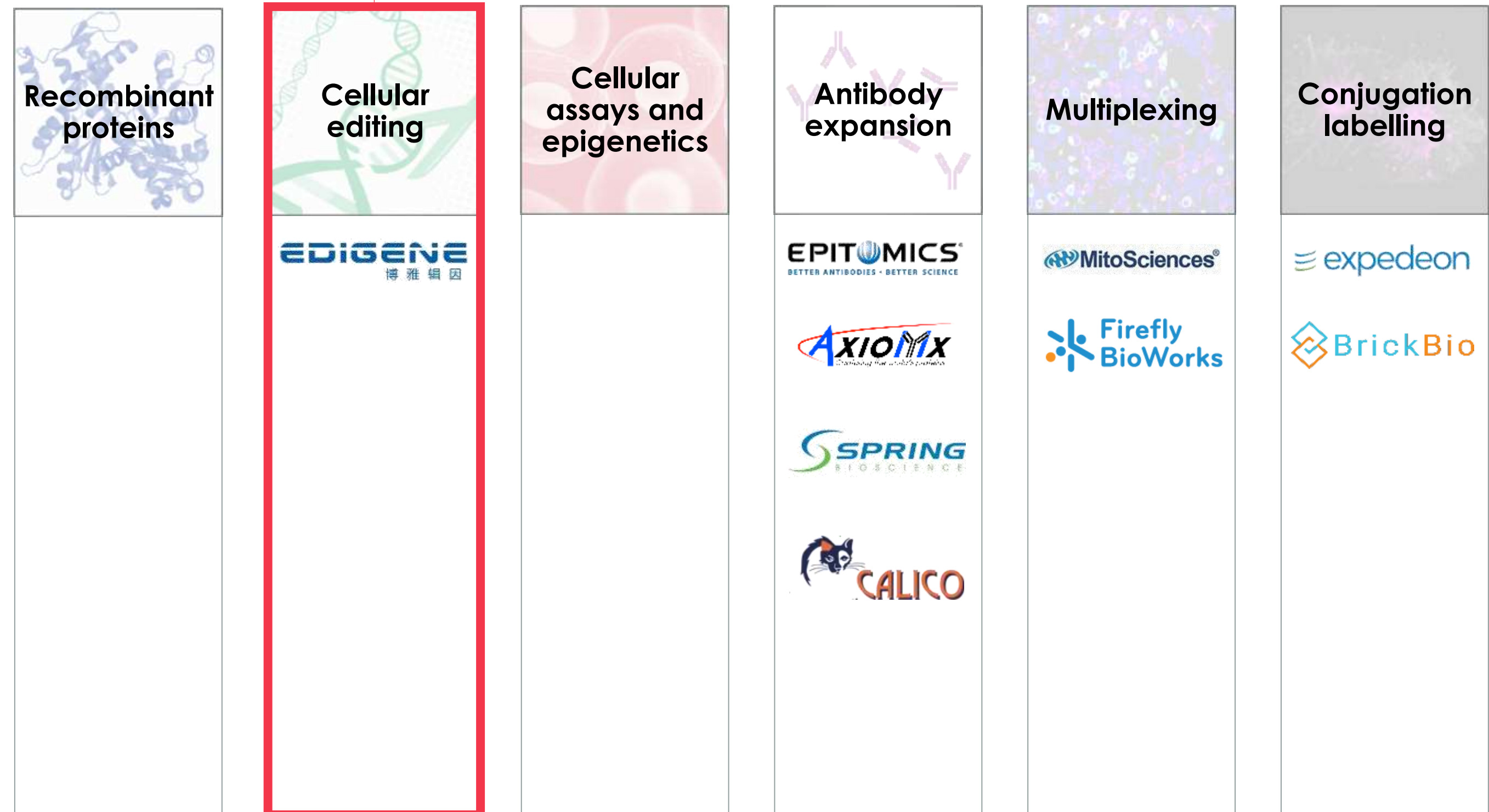


Strategic map and plan for each area

Cellular Editing

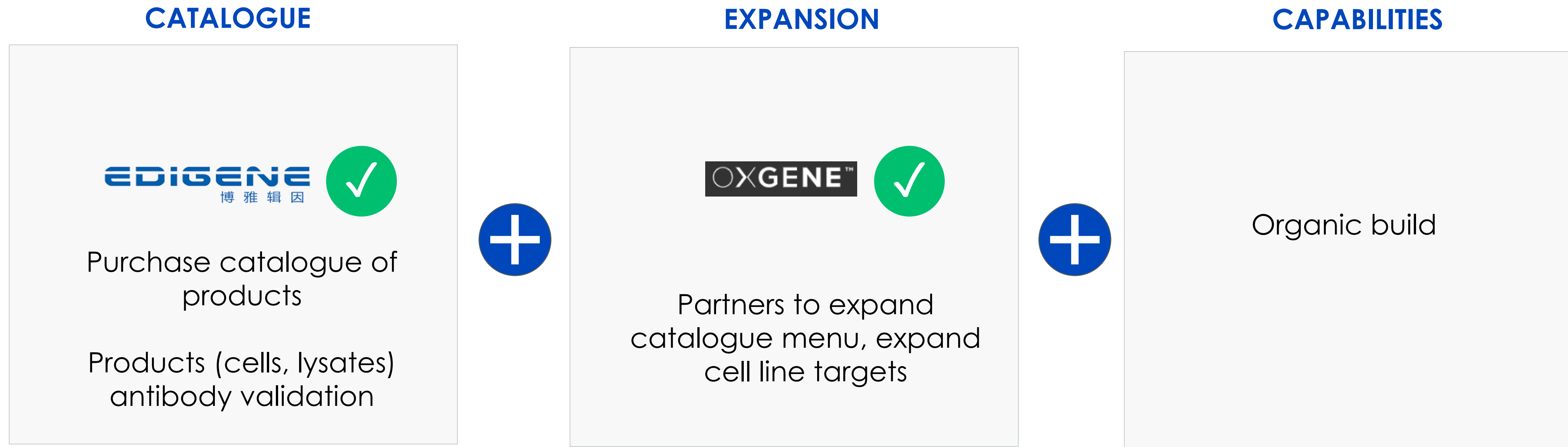
Key insights:

- >50% of Abcam customers would like to purchase cell lines
- Few catalogue players
- Market partially served by custom services
- No player with a comprehensive catalogue of:
 - High quality
 - Cell lines and lysates
 - Broad choice of targets in disease relevant cell lines





Edigene portfolio cornerstone of larger strategy



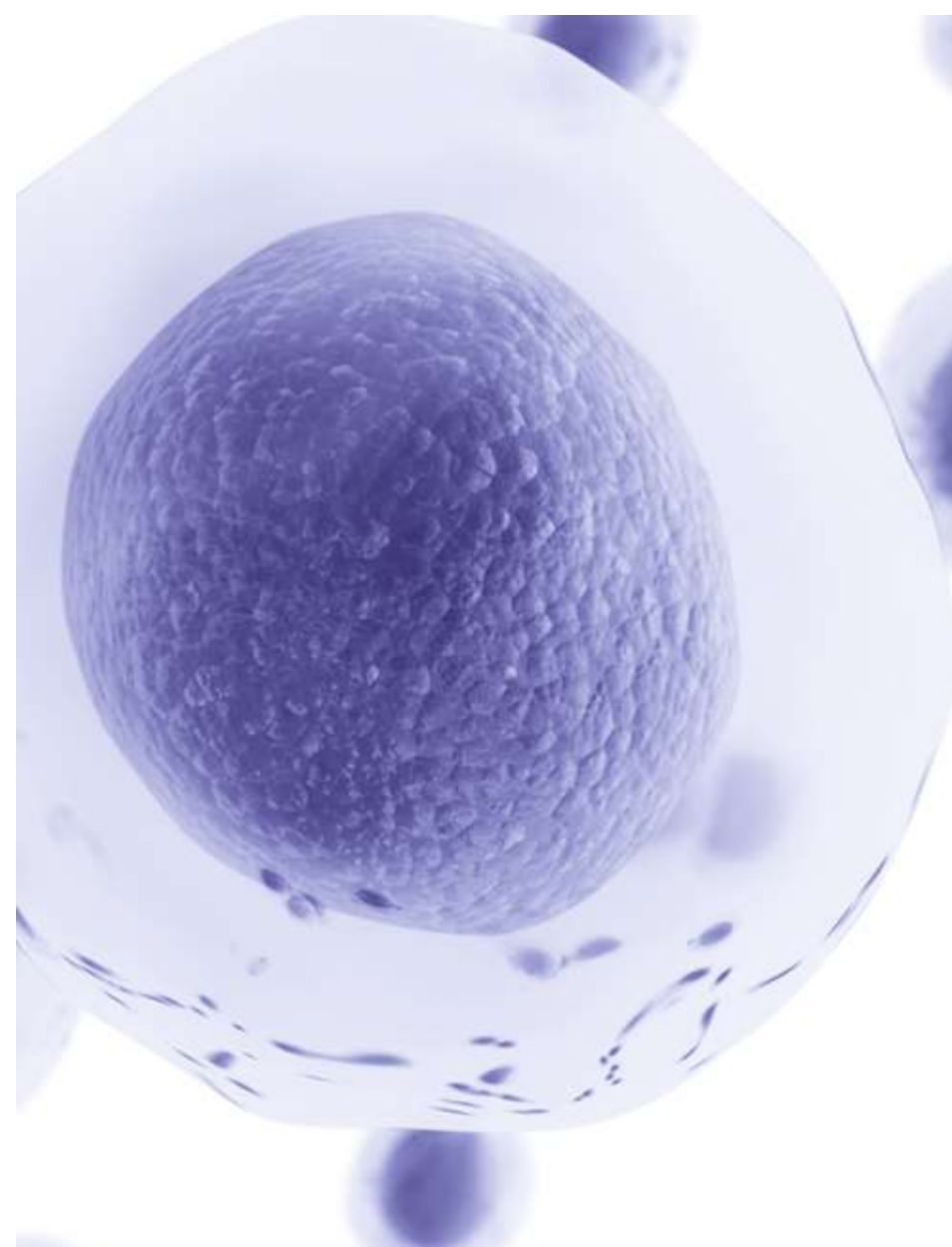
Freedom to Operate and partnership activities:

- ✓ ERS license
- ✓ Broad license
- ✓ Other license

- ✓ Oxgene partnership



Edigene portfolio cornerstone of larger strategy



EDIGENE
博雅辑因

Edigene value proposition

- Largest portfolio of knock-out diploid cell lines (2,800+)
- Strategic fit into important focus area
- Gene targets align with Abcam antibody content
- Cell lines used in pathway studies with antibodies/proteins
- KO cell lines for antibody validation

Update

- ✓ Tech transfer complete
- ✓ Lysates launched in October 2019
- ✓ Cell lines on target for launch in early 2020

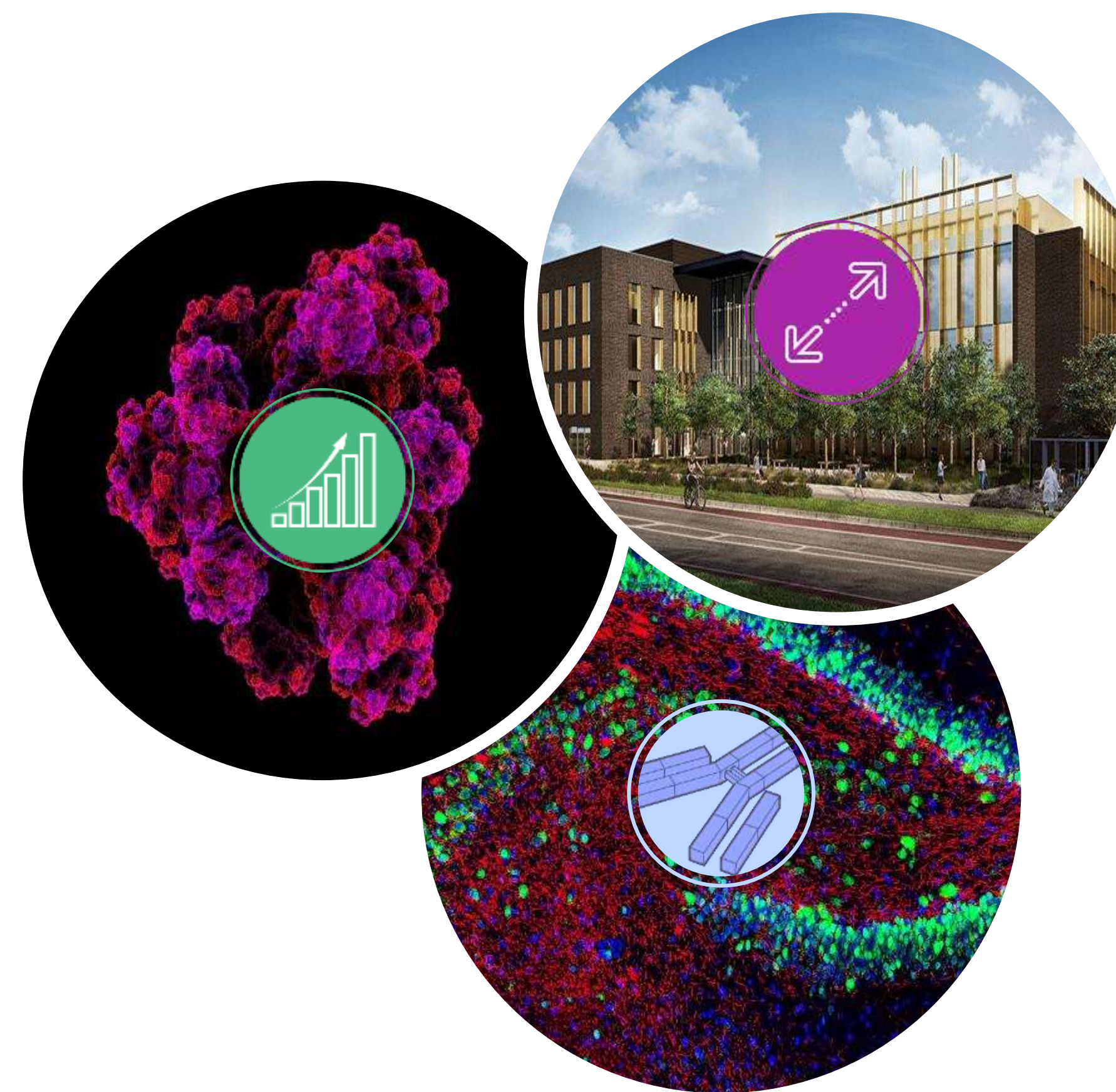




Supplementing organic growth through selected acquisitions and partnerships

Key takeaways:

- **Selective, focused M&A strategy**
- **Strong track record of acquisitions and integration**
- **Clear criteria and robust process**
- **Well-financed and ready to execute on pipeline of opportunities**



Wrap-up

Alan Hirzel
CEO



Wrap-up

- Talented team and strong culture
- Multiple growth opportunities within attractive markets of \$8bn+
- Solid foundations built – well placed to extend our leading position in research antibodies and related markets
- Core business fundamentals remain appealing - highly profitable and cash generative, providing capital to invest
- Disciplined organic investment plans developed to sustain and increase our growth potential with attractive return profile, build the enterprise and deliver shareholder-value creation



abcam

Thank you for your attention.

abcam
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