CATAPULT
Cell and Gene Therapy



Cell and Gene Therapy UK Skills Demand Report 2025



Contents

1 Executive summary 3

1.1 Methodology 5

2 Skills demand 6

2.1 Anticipated source of people 9

3 Challenges and opportunities identified by industry 11

3.1 Recruitment and retention challenges 11

3.2 Skills challenges 12

3.3 Graduate and post graduate challenges 14

3.4 Skills solutions and opportunities identified 16

3.5 Existing national skills initiatives 17

4 Conclusion 18

1 Executive Summary

The Cell and Gene Therapy Catapult's (CGT Catapult) UK Skills Demand Survey has been carried out on a biennial basis since 2017 with the aim of supporting the advanced therapies industry to plan its workforce capacity and capability growth. It is also used to inform the industry's skills development agenda, products and services.

This Skills Demand Survey reports on levels of UK employment in the advanced therapies industry in 2025, with data collected across a variety of job categories and compared against previous surveys. The report also captures the anticipated levels of employment for the next five years, as forecast by industry. This future-looking section of the survey aims to identify specific challenges and opportunities for the sector. Additionally, there are various case studies throughout the report which showcase examples of innovative skills initiatives.

The findings from the 2025 survey indicate that the industry's workforce has decreased by 1,386 roles since 2023. This equates to a reduction of 22% from 2023, with decreases having taken place across a range of areas, including: R&D and discovery; regulatory affairs; digital and informatics; clinical trials; and bioprocessing.

The fall in workforce size comes at a time when the industry has experienced economic challenges which have contributed to caution in the sector. This is demonstrated by a decrease in investment in the industry from its peak in 2021, as reported by industry bodies such as the BioIndustry Association.[1]

When looking to the future, organisations are predicting to take time to stabilise headcount and then expect to significantly increase their workforces over the next few years. 70% of respondents plan for growth by 2030, with these organisations predicting that they will collectively grow by 50%. This would equate to an additional 2,419 roles across the industry. 78% of these new roles are planned to be within bioprocessing. If this growth takes place as expected, the size of the workforce will exceed 2021 levels.

Companies are projecting that over half of the future growth in their workforces will come from those who already work within the industry and have relevant experience. Over the next three to five years, industry is anticipating 55% of talent will come from this category. Due to this, there is a need to ensure there is support and training for talent to progress or pivot within the industry.

This report also captures various recommendations and potential skills solutions, based on feedback from the survey respondents. These recommendations provide suggestions of how the industry could be supported over the next three to five years, the period when it expects higher levels of anticipated employment growth to occur.

CGT Catapult would like to express its thanks and gratitude to all the organisations who contributed to this survey.

[1] Bioindustry Assocation's UK Biotech Financing 2025 report.

UK sector key figures from 2019 to 2030

2019 survey employee headcount in 2019	2019 survey forecasted 2024 employee headcount	2021 survey employee headcount in 2021	2021 survey forecasted 2026 employee headcount	2023 survey for employee headcount in 2023	2023 survey forecasted 2028 employee headcount	2025 survey for employee headcount in 2025	2025 survey forecasted 2030 employee headcount	2025 survey forecasted 2030 employee headcount
3,033 (CGT manufacturing only)	**6,420** (CGT manufacturing only)	**6,956** (included all vaccine manufacturing)	**15,114** (included all vaccine manufacturing)	**6,232** (CGT manufacturing only)	**10,161** (CGT manufacturing only)	**4,846** (CGT manufacturing only)	**7,265** (CGT manufacturing only)	**+50%**
2019 survey headcount for bioprocessing* roles in 2019	2019 survey forecasted 2024 headcount for bioprocessing* roles	2021 survey headcount for bioprocessing* roles in 2021	2021 survey forecasted 2026 headcount for bioprocessing* roles	2023 survey headcount for bioprocessing* roles in 2023	2023 survey forecasted 2028 headcount for bioprocessing* roles	2025 survey headcount for bioprocessing* roles in 2025	2025 survey forecasted 2030 headcount for bioprocessing* roles	2025 survey forecasted 2030 headcount for bioprocessing* roles
1,720 (CGT manufacturing only)	**2,175** (CGT manufacturing only)	**3,985** (included all vaccine manufacturing)	**10,022** (included all vaccine manufacturing)	**3,544** (CGT manufacturing only)	**5,456** (CGT manufacturing only)	**3,333** (CGT manufacturing only)	**5,229** (CGT manufacturing only)	**+57%**

* Includes manufacturing, supply chain and logistics, process development and total quality.

1.1 Methodology

This survey received responses from 56 organisations across the UK, 42 of which participated in the previous survey in 2023.

The advanced therapies employer landscape has changed significantly since 2023. 10 companies responded to this survey to confirm that they are no longer trading in cell and gene therapies within the UK. Some of these companies have been through mergers or acquisitions since completing the 2023 survey. Separate to these responses, a further 14 companies that were operational in 2023 are no longer operating in cell and gene therapy in the UK. For these organisations, information on their last reported headcount has been obtained from previous surveys or Companies House. Collectively this equates to around 1,900 roles and these are not included in the totals reported in this survey.

Based on an overall estimate of the size of the industry, the 2025 survey captures responses from approximately 82% of the industry's biomanufacturing capacity. This estimate is based on CGT Catapult's knowledge of the industry, information reported on Companies House, and previous Skills Demand Surveys. With the majority of the sector responding to this survey, the findings provide a meaningful picture of the industry's current and anticipated skills challenges, and opportunities for growth over the next five years.

As with the Skills Demand Reports in 2017, 2019 and 2023, the 2025 report focuses on cell and gene therapy manufacturing. It is important to note that the 2021 survey took place during the COVID-19 pandemic, when vaccine manufacturing was prioritised. As a result, the 2021 survey focused on cell and gene therapy manufacturing as well as including information from several organisations about their vaccine manufacturing workforces. This accounts for the heightened figures in the 2021 survey.



2 Skills Demand

Responses to the survey show that the employee headcount for cell and gene therapy organisations has declined by 1,386 roles since 2023. The role breakdown from 2021 to 2025 is captured within the table opposite.

A decrease in headcount has been seen across the majority of categories, with the exceptions of supply chain and logistics; process development; and commercial. The category with the largest headcount decrease is R&D and discovery, which fell by 57%.

Overall, the bioprocessing categories have been less affected by the decrease in headcount than the industry as a whole. The majority, 85%, of the headcount decrease affected roles outside of the bioprocessing categories.[2]

[2] Bioprocessing includes manufacturing, supply chain and logistics, process development and total quality roles.

Looking to the future, 70% of survey respondents are forecasting growth in their workforces, equating to an additional 2,419 roles expected to exist by 2030.

Of these forecasted new roles, 78% of these additional roles are expected to be within bioprocessing. This would equate to an anticipated 57% increase in the size of the bioprocessing workforce by 2030, with the majority of this growth expected to occur from 2028 to 2030.

The areas with the largest expected proportional growth from 2025 to 2030 are: commercial roles, which are expected to grow by 122%, followed by roles in clinical trials, which are expected to grow by 82%. There is also a 65% increase expected in manufacturing, demonstrating how companies have confidence that their manufacturing operations in the UK will continue to expand.



In addition to providing current employment data and forecasts, respondents also provided qualitative information on how concerned they are about being able to hire sufficient levels of skilled staff to enable future growth. This qualitative information has been used to determine the 'level of concern' for each specialism (see table below).

There have been changes in the 'level of concern' for some categories compared to previous reports:

1. Regulatory Affairs has decreased as a 'level of concern' from red to amber compared to 2023.
2. Supply Chain and Logistics, part of the wider bioprocessing category, has increased as a 'level of concern' from green/amber to fully amber compared to 2023.

Consistent with previous surveys, the areas of Manufacturing and Total Quality were identified as a concern. Both these areas are included in the wider bioprocessing category.

The 'level of concern' for the areas of Digital and Informatics, Commercial, Clinical Trials, support services, and other skills has remained the same compared to 2023.

Overall, the findings from this survey indicate that bioprocessing roles remain the area of largest predicted growth and also that filling these future roles is the highest area of concern.

Breakdown of sector figures for different job roles 2023 to 2030

Year of Survey		**2023 Report (57 companies)**		**2025 Report (56 companies)**				
Skill area		2023 survey reported headcount	2028 anticipated growth	2025 survey reported headcount	Headcount % change (2023-2025)	2030 anticipated growth	2030 Increase %	Level of concern indicated***
R&D/Discovery		1,284	+705	**552**	**-57%**	**+85**	**15%**	🟢
Bioprocessing roles	Process Development	571	+314	**611**	**+7%**	**+176**	**29%**	🟢
	Manufacturing	1,808	+1,037	**1,542**	**-15%**	**+1,009**	**65%**	🔴
	Supply Chain and Logistics	187	+105	**227**	**+21%**	**+157**	**69%**	🟠
	Total Quality	978	+456	**853**	**-13%**	**+554**	**65%**	🟠
Regulatory Affairs		69	+42	**32**	**-54%**	**+17**	**53%**	🟠
Digital and Informatics		86	+81	**72**	**-16%**	**+52**	**72%**	🟠🔴
Commercial		117	+216	**119**	**+2%**	**+145**	**122%**	🟠
Clinical Trials		189	+76	**104**	**-45%**	**+85**	**82%**	🟢
Support Services		562	+117	**471**	**-16%**	**+84**	**18%**	🟢
Other		381*	+780**	**263**	**-31%**	**+55**	**21%**	🟢
Total		**6,232**	**+3,929**	**4,846**	-22%	**+2,419**	**50%**	

* One respondent confirmed that they have an existing headcount but have not provided information on the breakdown of the skill area or 2028 anticipated growth.

** Some respondents have indicated a growth of an additional roles. but unable to confirm which skill area these will be allocated against. These have therefore been included within 'other' to ensure these are factored into the total numbers.

*** Level of concern indicated based on qualitative research from the interviews held.

Level of concern

🟢 Low concern 🟠 Medium concern 🔴 High concern

Case study: Oxford Biomedica

OXB (Oxford Biomedica) leads on BBSRC-funded collaborative training partnership for doctoral students

OXB is a global, quality- and innovation-led contract development and manufacturing organisation (CDMO) with a mission to deliver life-changing therapies to patients. The company is leading a Biotechnology and Biological Sciences Research Council (BBSRC) funded Collaborative Training Partnership (CTP) doctoral training programme, called Advanced Bioscience of Viral Products (ABViP).

The programme is run in collaboration with specialist academic partners: the University of Oxford and University College London (UCL). These academic partners have extensive experience in leading high-quality international doctoral training programmes, including across bioprocess engineering, bioscience, medical research and computational discovery.

ABViP is a comprehensive, multidisciplinary degree programme designed and led by industry to deliver the next generation of bioscience leaders who will advance research of viral products for future gene therapies and vaccines. Each partner brings complementary expertise in viral vectors, including lentiviral (LV) and adeno-associated viral (AAV) vectors, vector bioprocessing, novel analytics and data science methodologies, and viral vaccine design, development, and characterisation.

The ABViP-CTP programme comprises a cohort of 24 doctoral students, with the first cohort expected to complete their studies in October 2026. The programme aims to develop researchers with advanced research skills, fostering critical thinking, collaborative working, and an understanding of the broader applicability and impact of their work. A key objective is to help address the acute skills shortage in the viral vector sector.

The research topics span a broad range, from optimising gene delivery systems to integrating machine learning and digital twin technologies to support vector production processes.

To date, students have presented and published their work at leading cell and gene therapy conferences and in scientific journals, and have built a strong peer-support network, fostering a cohesive and supportive research community. Collaboration and the sharing of ideas between academic and industrial partners, together with structured industrial placements, continue to be highly effective and clearly demonstrate the value of such partnerships in addressing real-world, industry-relevant challenges.

"The ABViP CTP bridges cutting-edge science with talent development. Together with our partners, we equip students with hands-on expertise in advanced vector technologies, accelerating innovation, strengthening the scientific ecosystem, and building a future-ready workforce. We're excited to see the results of this programme and to follow the journey our students take as they apply their skills and shape the future of advanced therapies."

Dr Kyriacos Mitrophanous
Chief Innovation Officer of OXB and
Director of the ABViP-CTP Programme



The Annual Symposium, July 2025, UCL East Campus.

2.1 Anticipated source of people

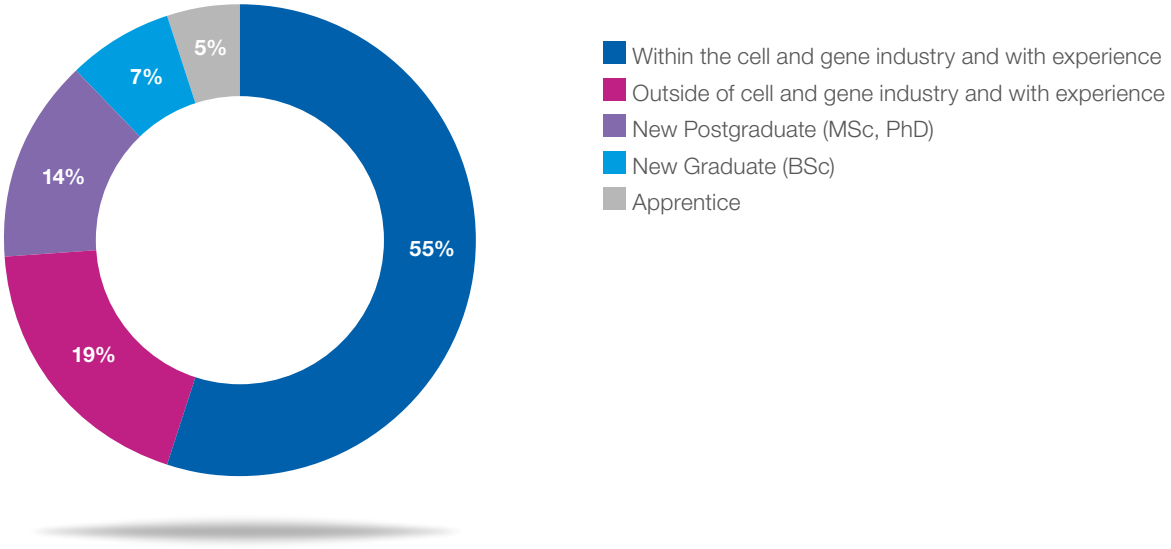
The chart below provides an overview of where respondents expect to source skilled people to fulfil their anticipated growth between 2026 and 2030.

The 2025 survey shows that companies are expecting that many of the roles over the next five years (55%) will be filled by people currently within the industry and with experience.

The following are comparisons to the findings of the 2023 survey:

- 5% of new talent is expected to be sourced through apprenticeships, as in previous years.
- 21% of new talent is expected to be sourced through New Graduates (BSc) and Postgraduates (MSc, PhD) which is a combined decrease of 15% compared to 2023. This decrease is due to respondents expecting to draw more from talent already in the industry and with existing industry knowledge.

Anticipated source of talent for the industry



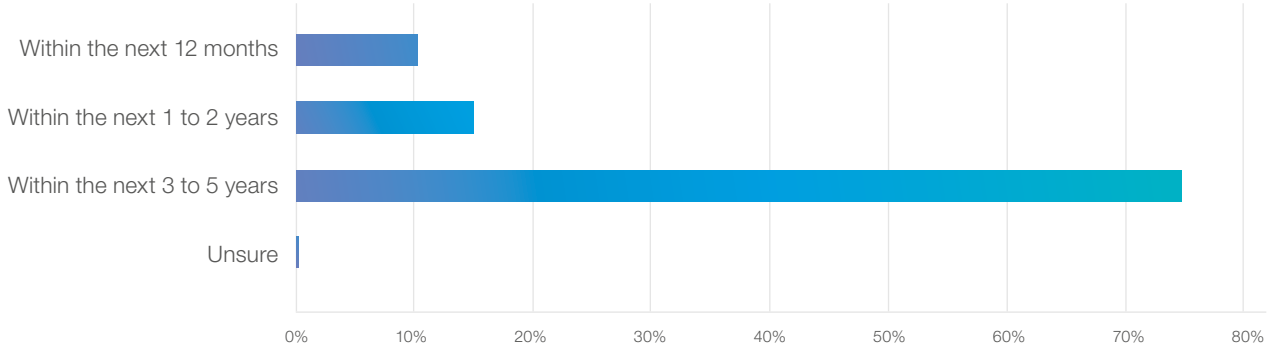
Respondents also provided information about when they expect their future growth will occur. Only 0.2% of respondents stated that they are unsure about these timelines, compared to 5% in the 2023 survey. This shift is due to organisations conducting significant planning and forecasting due to the challenging economic conditions of recent years.

Respondents reported that 10% of the total headcount growth is expected to take place in 2026. During this period, respondents highlighted a focus on backfilling business critical roles.

The anticipated growth for the next one to two years has decreased to 15%, compared to 33% in 2023. Respondents reported that this is due to plans to monitor market conditions over this period and to use this time to plan for longer-term growth.

With 74% of the anticipated growth expected to occur from 2028 to 2030, it is important that industry skills solutions are scoped, designed and implemented over the next 12 to 24 months to ensure these are in place and accessible for when these expansions are being planned across the UK.

When do companies anticipate they will be hiring?



Case study: Emilia Reyes Pabon

Apprenticeships building critical skills for advanced therapies

Emilia Reyes Pabon is an apprentice who has been working in the GMP manufacturing of investigational medicinal products (IMPs) since 2018. Here, Emilia shares her experience of her apprenticeship:

"The Clinical BioManufacturing Facility (CBF) at the University of Oxford is a GMP-licensed manufacturer with over 20 years' experience producing viral vectors, recombinant vaccines and ATMPs for early-phase clinical trials. As a key bridge between discovery and first-in-human studies, the CBF depends on a highly technical workforce able to operate to rigorous regulatory and quality standards. These skills are in high demand by the sector.

My apprenticeship pathway demonstrates how structured training against employer designed standards can directly address these shortages. Joining the CBF as a Level 3 Laboratory Technician Apprentice, I gained early, practical exposure to GMP manufacturing, cleanroom operations, environmental monitoring and equipment maintenance. In this role, I contributed to the first COVID-19 vaccine batch manufactured for UK clinical trials, showing how apprentices can deliver meaningful impact on a global scale when embedded in high-performing teams.

Progressing through Level 5 and Level 6 apprenticeships enabled me to build deeper scientific expertise while taking on greater operational responsibility. The CBF's investment in me included protected study time, flexible working and access to scientific networks, which accelerated my development and strengthened their workforce capability.

Sector initiatives such as ATAC and the Life Sciences Learner Hub further enhanced my technical and professional skills. I am delighted to have received multiple national awards which recognise the value of my contribution to the sector.

I am now working towards a Level 7 Research Scientist Apprenticeship, and my journey illustrates how apprenticeships create a sustainable talent pipeline by enabling employers to train talent up to Masters level, reduce recruitment pressure, and equip the advanced therapies sector with the skilled professionals it urgently needs."



Emilia presenting at a Royal Society Conference in 2022.

3 Challenges and opportunities identified by industry

3.1 Recruitment and retention challenges

According to the organisations surveyed, the top five perceived barriers to the recruitment and retention of people over the next five years, in order of concern, are:

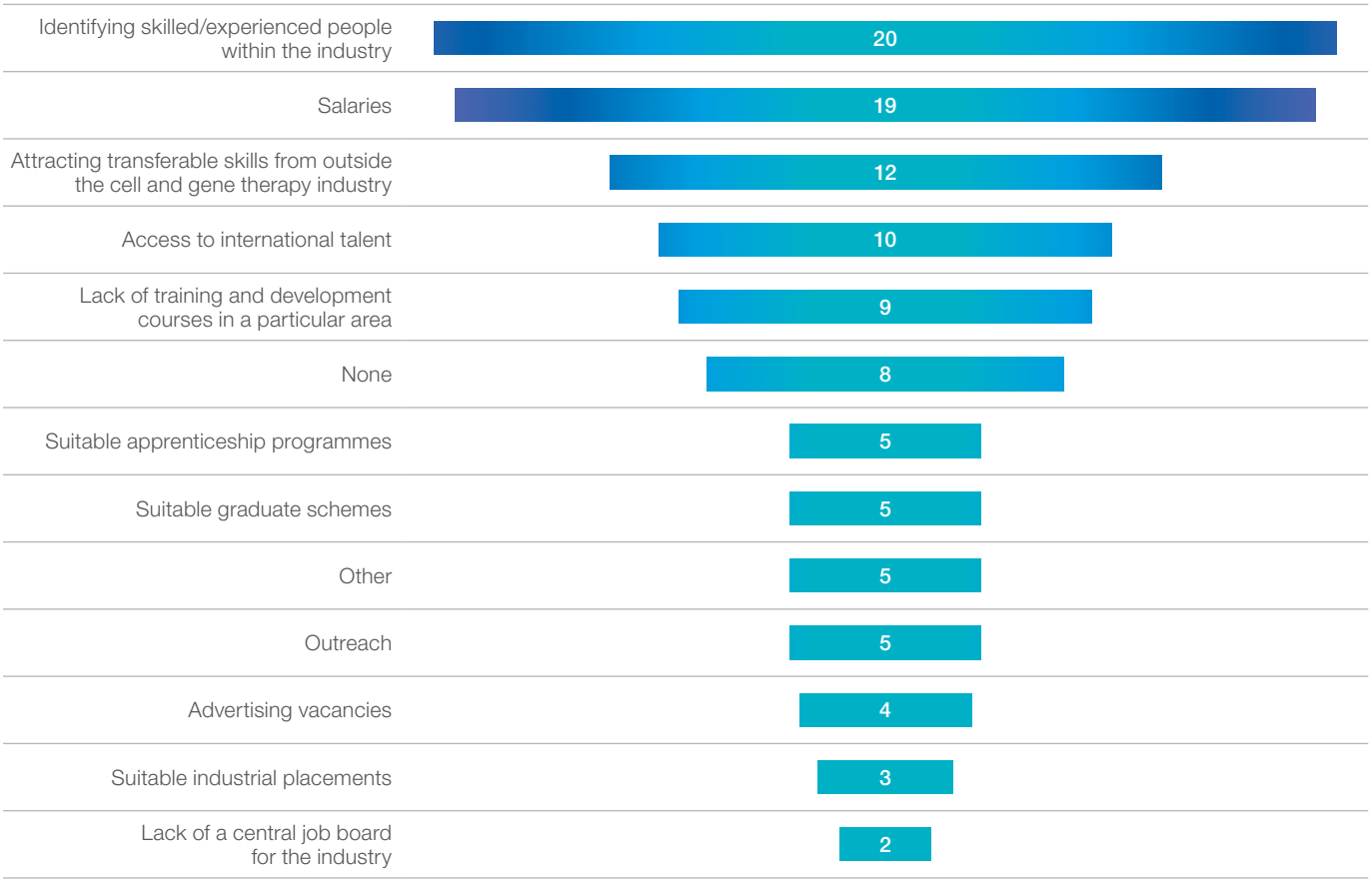
1. Being able to identify appropriately skilled and experienced people within the industry.
2. Strong salary competition, as a result of some regions driving up salaries which makes it harder for others to compete for talent.
3. Attracting talent with transferable skills from outside the cell and gene therapy industry.
4. Being able to access international talent due to visa restrictions.
5. Lack of training and development courses in particular areas.

The top two barriers listed above are the same as those identified in 2021 and 2023.

Respondents also indicated other concerns in the 2025 survey that could be potential risks to recruitment and retention. These included:

- Difficulties for organisations based outside of 'clusters'.
- Lack of structured career pathways for the industry.
- Workplace cultural shifts with more people requesting remote working. Some companies are not able to offer this flexibility due to their onsite requirements.

Number of organisations that have indicated these barriers as a concern to the recruitment or retention of employees



These figures are a count of the number of organisations that have indicated these areas as a barrier.

3.2 Skills challenges

The survey also explored skills challenges and training needs over the next five years. The following are the top five skills challenge themes that respondents identified for recruiting, upskilling, and retaining people:

35%

ATMP technical skills - 35% of respondents highlighted the following as priorities: ATMP production, stem cell culture, viral vector manufacturing, process development, bioprocessing, and scale-up.

30%

Good Manufacturing Practice (GMP), regulatory & quality compliance - 30% of respondents highlighted the following as priorities: GMP training, audit training, Good Clinical Practice (GCP), regulatory pathways, Quality Assurance (QA), Quality Management Systems (QMS), quality risk management, and computer systems assurance.

25%

Laboratory & research skills - 25% of respondents highlighted the following as priorities: flow cytometry, PCR, microbiology, genomics, bioinformatics, assay development, and general laboratory techniques.

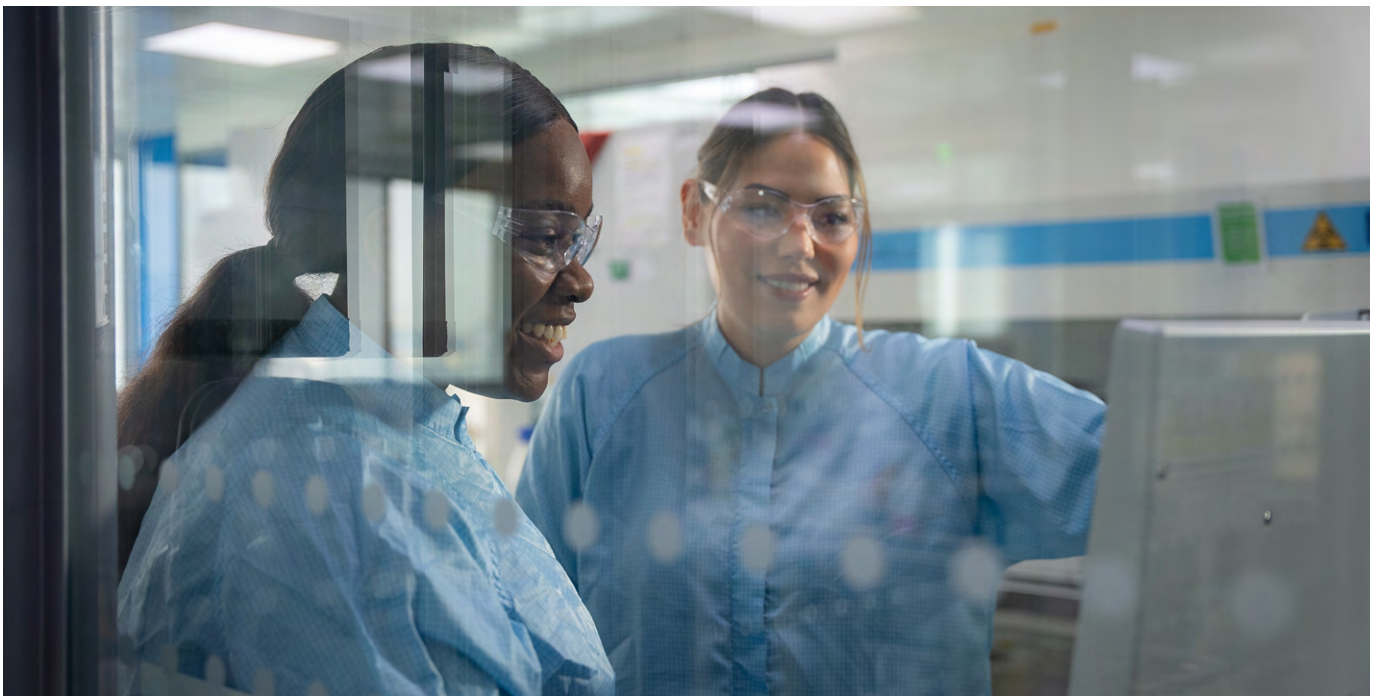
20%

Digital, AI & automation - 20% of respondents highlighted the following as priorities: application of artificial intelligence (AI), automation, digitalisation, virtual reality (VR) training, digital twins, data science, coding, and big data/statistics. manufacturing, process development, bioprocessing, and scale-up.

20%

Leadership, management & soft skills - 20% of respondents highlighted the following as priorities: leadership development, line management, leadership coaching, performance management, communication, complex problem solving, project management, and presentation skills.

10% of respondents also noted ‘commercialisation and translational skills’ and ‘culture, EDI and professional development skills’ as important areas for future workplace planning and skills development.



Case study: CGT Catapult

CGT Catapult Manager Academy: enabling managers to lead with confidence, inspire teams and shape a culture of success

In 2023, CGT Catapult identified a critical capability gap in its workforce: there were a significant number of managers and leaders with strong technical experience, but who had not received any formal management training.

CGT Catapult recognised the need to invest in a training programme to meet the specific needs of this group and develop strong, competent and motivated leaders equipped with the skills to effectively manage and empower teams.

Following a robust analysis of the needs of this group, CGT Catapult launched the Manager Academy, a 12-week blended programme for managers. It piloted in January 2024 and there have since been two programmes delivered per year.

The academy is designed into three pillars: All About Self, All About Team and All About Culture. Through these three areas, participants are taken on a journey of development, from building self-awareness, to techniques for managing teams, to understanding how to build a positive culture.

The programme is delivered through face-to-face workshops, dedicated 1:1 coaching, psychometrics, online resources, and AI-enabled management simulation. Each cohort concludes with internal accreditation and an alumni community for participants to continue to share and learn from each other.

By the end of 2025, the academy had supported 60 attendees, achieving a 91% attendance rate. 12% of attendees have received internal promotions, and overall staff turnover reduced to 5%. Both participants on the programme and their line managers noted significant improvements in communication, motivation, and psychological safety.

The Manager Academy also earned a prestigious Princess Royal Training Award 2025 in recognition of its sustained impact.

The programme is aligned to the CGT Catapult's broader people and learning development strategies. It sits alongside other training provisions that include targeted programmes for talented colleagues without line management responsibilities and for senior leaders.

Feedback from course participants:

"I've learned how to communicate clearly and effectively with all team members."

"The interactive elements gave a simulated real-life experience, stressing collaboration."

"I have gained more confidence and understanding around my management style."



CGT Catapult Learning and Development team receiving a Princess Royal Training Award in 2025.

3.3 Graduate and post graduate challenges

There is interest from industry in supporting placements and graduate programmes over the next five years.

Industrial placements and work experience

- 39% of respondents currently have a range of placement or work experience opportunities (short or long term) available.
- 58% of organisations are interested, or are already planning to offer, structured industry placements in the next five years.
- 373 new industrial placements opportunities are anticipated over the next five years. These are in addition to the reported role growth quoted in other sections of this report.

Graduate programmes

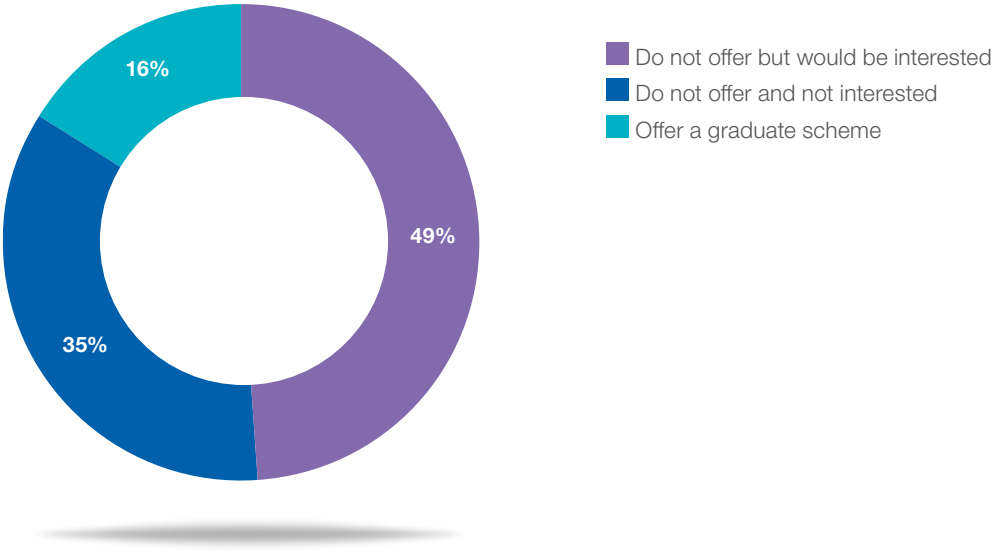
- 16% of respondents currently support graduate programmes.
- 49% of respondents plan to offer, or would be interested in offering, graduate programmes over the next five years but have not provided an estimated number of opportunities.

Respondents highlighted the following areas as potential barriers and opportunities relating to industrial placements and graduate programmes:

- Potential barriers: the cost of running and funding these roles; capacity to supervise and make space for these individuals; constraints due to GMP requirements and regulations; the timing and duration of these placements not aligning to business projects; the need to comply with academic timetables; and difficulties in creating a sustainable business case to support these programmes.
- Opportunities: there is a conditional willingness from respondents to explore placements and graduate schemes, with respondents showing an appetite for these to be: of meaningful durations; aligned to business projects; to follow academic timetables; and a desire to create frameworks to support these opportunities.



Proportion of organisations that currently offer graduate schemes



Case study: Complement Therapeutics

Complement Therapeutics partners to reduce barriers to accessing specialised talent

Complement Therapeutics (CTx) is an early-stage biotechnology company focused on the research and development of next-generation therapeutics for complement-mediated diseases. Its lead programme, CTx001, is an AAV-based gene therapy that is currently in early clinical development for Geographic Atrophy secondary to Age-related Macular Degeneration. CTx001 gained Investigational New Drug (IND) clearance from the FDA in 2025.

In this move from pre-clinical to first-in-human trials, CTx exemplifies how advanced therapy companies depend on a highly skilled and multidisciplinary workforce. In CTx's case, this spans immunology, gene therapy development, regulatory sciences, Good Manufacturing Practice (GMP) manufacturing, and clinical translation.

CTx's progress relies on access to a broad and deep talent pipeline within the UK life sciences ecosystem. To achieve this, it has built strong relationships with industry and local academic partners to strengthen the talent ecosystem across regulatory science, advanced therapies, translational research and commercial strategy.

- Professional training via The Organisation for Professionals in Regulatory Affairs (TOPRA) – CTx specialists provide: advanced therapy medicinal products (ATMP)- focused regulatory training through TOPRA's Biotech, Cell & Gene Therapies Network; contribute to the ATMP module of TOPRA's Regulatory Affairs course; publish articles in TOPRA's peer reviewed journal, Regulatory Rapporteur; and deliver webinars to TOPRA members.
- Academic teaching and mentorship – CTx staff teach on undergraduate and postgraduate programmes, including Imperial College London's MSc course, Genes, Drugs and Stem Cells – Novel Therapies. This offers students real-world insight into gene therapy, bioprocessing and precision medicine.
- Hands-on internships – CTx offers three-month internships for students and graduates, providing experience across R&D, manufacturing, clinical development and commercial strategy. These placements serve as a valuable springboard for interns into the next stage of their careers.
- Leveraging grant support mechanisms – Through Imperial College London's White City Internship Fund, CTx hosts up to two Imperial students as interns with the fund providing a 50% contribution to their salary, helping to make high-quality industry experience accessible and sustainable for both SMEs and students.

"As an SME developing novel therapies, we understand the importance of having access to a highly skilled and multi-disciplinary workforce to quickly and effectively translate early pre-clinical discoveries into effective treatments. Investing in early-career professionals allows us to give back to the ecosystem and contribute to a strong and sustainable UK talent pipeline."

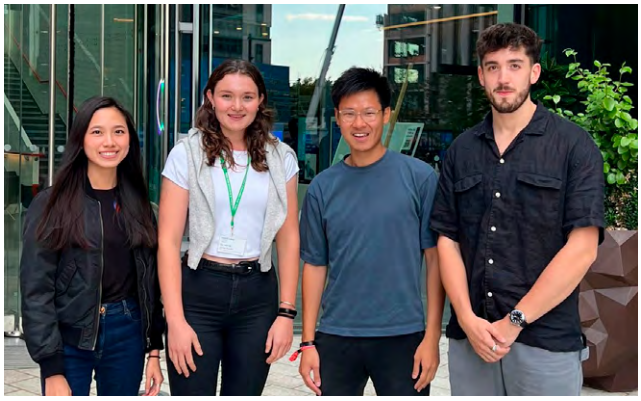
Mustafa Munye
VP Operations

"Seeing former interns at Jefferies and London Life Science Week, now launching companies and shaping healthcare investment, was a proud and powerful reminder of how meaningful early exposure can be. The hands-on experience we offer at CTx gives emerging talent the confidence and foundation to grow into leaders who continue to drive the UK life sciences sector forward."

Harry Kwong
Director of Portfolio Management

Several former interns have extended their time with CTx or secured roles elsewhere in the life sciences sector, with their internships equipping them with practical experience and an appreciation of the breadth of career opportunities available within this sector. Others have pursued further study with a stronger sense of direction and purpose.

By contributing to education and regulatory training specific to advanced therapies, and engaging actively with talent development initiatives, CTx is supporting the readiness and resilience of the UK's future advanced therapies workforce.



CTx's Portfolio Director, Harry Kwong, and Medical Development Manager, Prong Danchaivichit, with former interns outside the I-HUB on their final day of the internship.

3.4 Skills solutions and opportunities identified

The 2025 Skills Demand Survey identified various risks and opportunities that could impact the cell and gene therapy sector's growth within the UK. The following recommendations have been identified to address these:

1. **Build on the robust bioprocessing talent pipeline by upskilling and re-skilling talent at scale.** 78% of future roles over the next five years are forecast to be in bioprocessing. The sector is relying heavily on sourcing talent from within industry to meet this need, with 55% of all future roles expected to come from those already within the industry. To support this, the findings from the survey point towards the following solutions:

- Promote current national training and upskilling programmes available for existing life sciences workers and new talent (e.g. Quality Control (QC) analysts, research scientists, and manufacturing associates).
- Build fast-track (6-12 week) conversion courses for talent to move into bioprocessing.
- Establish modular and stackable training options aligned to GMP and ATMP manufacturing, and scale-up these up, using Government-supported training subsidies to reduce the cost to employers, for example using the Growth & Skills Levy.

This would help to create a talent pool within the industry with relevant bioprocessing skills and directly address the leading barrier that companies have listed as their concern: finding appropriately skilled people.

2. **Accelerate digital, automation & AI skills development.** 20% of respondents noted that having a sufficient workforce with digital and automation skills is a key area of concern. The need for talent with these skills has potential to grow as the sector continues to move toward data-driven manufacturing, digital twins, and automation. To support this, the findings from the survey point towards the following solutions:

- Launch digital skills bootcamps and apprenticeship programmes that are tailored to ATMP manufacturing across the UK.
- Introduce up-skilling programmes for existing staff in areas such as data science, coding, statistics, and automation.
- Establish partnerships with tech companies to embed AI and automation training into workplace training programmes.
- Expand VR-based training to increase accessibility and scalability of digital skills and other priority skills areas, e.g. GMP, laboratory techniques, and professional and leadership skills.

These steps will help future-proof the workforce and reduce reliance on specialist digital hires.

3. **Develop future leaders.** Without intentional development, the sector risks a leadership bottleneck just as it enters a period of accelerated growth (2028 to 2030). To support this, the findings from the survey point towards the following solutions:

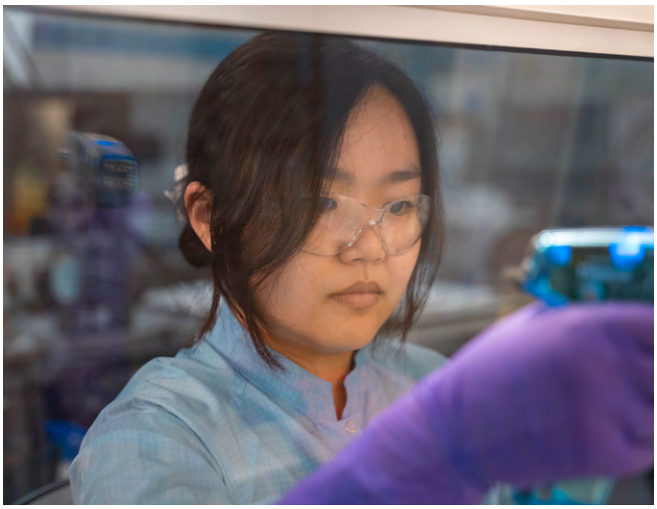
- Introduce management and leadership development training and pathways, including apprenticeships, to develop high potential staff across all levels.
- Promote current national training and upskilling programmes that are available for skills such as communication, influencing, project management, systems thinking, and problem-solving.

This will help build a resilient leadership pipeline that can support industry growth over the next three to five years.

4. **Expand industrial placements & graduate pathways.** While the proportion of talent being hired from graduate and postgraduate programmes has dropped, over half of organisations plan or want to offer placements or graduate schemes. This indicates that the sector has an appetite for talent at this entry level but appears to lack sufficient infrastructure, funding, and capacity to support these roles. To support this, the findings from the survey point towards the following solutions:

- Build an industrial placement framework aligned to academic calendars, industry needs, and GMP constraints.
- Establish a shared hub so small and medium enterprises (SMEs) can host students or graduates without needing full in-house training.
- Increase access to funding to offset supervision and compliance costs for employers.

By bringing more people into the sector, this will help build a sustainable early-career pipeline and reduce long-term dependency on hiring from within the sector.





3.5 Existing national skills initiatives

During the 2025 survey, respondents answered a new question relating to what existing national skills initiatives they are using to help address their skills challenges and opportunities. The five skills initiatives that were reported are:

Advanced Therapies Apprenticeship Community (ATAC)

Coordinated by the CGT Catapult, ATAC is an apprenticeship programme designed specifically to train and upskill individuals in developing, manufacturing and delivering innovative therapies at scale. ATAC works with apprentices, employers and training providers across the UK to support industry-focused apprenticeships in advanced therapies, complex medicines, and wider medicines manufacturing.

BioIndustry Association Manufacturing Advisory Commitee (MAC) Leadership Programme (LeaP)

MAC LeaP aims to empower the next generation of leaders in biomanufacturing by providing emerging managers with expert insights, cross-sector exposure, and a strong peer network. Through immersive site visits, seminars, and a collaborative project, MAC LeaP equips participants with the skills, knowledge, and connections needed to thrive in a fast-evolving industry.

Industry Skills Accelerator for Medicines Manufacturing (ISA)

ISA is a national initiative designed to strengthen the UK's medicines manufacturing workforce. Launched in August 2024, the ISA is funded by Innovate UK and delivered through a partnership between Cogent Skills, the CGT Catapult, and CPI (part of the High Value Manufacturing Catapult). Focused on advanced therapies and complex medicines, ISA is building targeted training solutions and apprenticeship pathways to meet the evolving needs of this fast-moving sector.

Life Sciences Learner Hub (LSLH)

The Life Sciences Learner Hub, coordinated by the CGT Catapult, is a dedicated online training platform designed to support skills development, upskilling, and career progression in advanced therapies, complex and emerging medicines, and wider life sciences.

The hub provides expert-led training, industry-recognised qualifications, and career development tools for individuals who are looking to advance their careers, and companies that are investing in workforce training.

RESILIENCE UK's Medicines Manufacturing Skills Centre of Excellence

RESILIENCE is a partnership between the University of Birmingham, University College London, Heriot-Watt University, Teesside University and Britest Limited. It brings together leading regional training providers to support the UK life sciences workforce by delivering high quality training and outreach, spanning the entire careers pipeline for industry, academia, and the NHS.



4 Conclusion

The Cell and Gene Therapy Catapult's 2025 Skills Demand Survey indicates that the number of roles in the industry decreased by 22% from 2023 to 2025, with declines across a number of areas. The number of bioprocessing roles has been less affected, with only a 6% decrease in these roles. The decrease in headcount comes at a time when there have been challenges the sector, including securing investment.

However, the future remains optimistic, with organisations in the UK cell and gene therapy industry anticipating the workforce to grow by 50% by 2030 (equating to an additional 2,419 roles).

With the growth projected to be primarily in bioprocessing roles, this demonstrates a critical need to retain and grow bioprocessing skills across the UK.

Respondents identified various barriers and challenges that need to be overcome for them to achieve this projected growth. The majority of the anticipated source of talent is from those already within industry and with sector-specific experience. As such, there is a need to ensure that there is a strong supply of talent, with the skills that industry requires, to meet this demand in the next three to five years.

The 2025 survey also highlights the need to promote current skills and talent provision across the industry. This will help to raise awareness and encourage companies to access the available training, development pathways, and programmes it needs to build a robust talent pipeline. To support these efforts, there could be opportunies for organisations to access Government-supported training subsidies that help to reduce the costs on individual employers, for example using the Growth & Skills Levy.

To further support this growth, there needs to be a dedicated focus on up-skilling and re-skilling, including across: bioprocessing, emerging technologies, digital and AI, automation, and leadership and management skills. Initiatives and support that assist with re-skilling can help the industry to ensure that those entering or re-entering the sector are industry-ready.

Collaboration across industry, educators, and the NHS remains to be a critical factor to the success of building a skilled workforce that enables the UK cell and gene therapies to thrive.

Special thanks to all respondents*













































































* Logos included for participating employers that consented to logos being shared.

CATAPULT
Cell and Gene Therapy

UKRI Innovate UK

Cell and Gene Therapy Catapult
12th Floor Tower Wing, Guy's Hospital,
Great Maze Pond, London SE1 9RT

t +44 (0)20 3728 9500
e info@ct.catapult.org.uk
w ct.catapult.org.uk