UK Government

THE UK'S MODERN
INDUSTRIAL STRATEGY

LIFE SCIENCES

Jobs Plan

Industry Case Studies

Annex A: Industry case studies

Roche: Building enterprise-wide AI capability through responsible upskilling

Roche is a multinational pharmaceutical company operating across around 120 countries with over 100,000 employees globally,[1] including close to 3,000 in the UK.[2] The company works across the end-to-end drug development lifecycle and five therapeutic areas, including oncology, immunology, and neurosciences.

Roche identified AI as central to accelerating drug development, reducing costs, increasing the probability of technical success in its pipeline, and expanding patient access to medicines. However, AI was widely perceived as the domain of technical specialists, and most employees had not encountered it during their formal education. The pace of AI development had far outstripped existing training systems, creating a widespread skills gap across functions and job levels.

To address this, Roche designed and delivered a mandatory AI training programme to its entire global workforce in the second half of 2025. The curriculum combined practical tool use (such as prompting techniques and approved enterprise AI tools), ethical considerations including bias and limitations, and a clear human-in-the-loop accountability model. Training was delivered through a hybrid model of live virtual sessions and asynchronous modules lasting 30–45 minutes, with flexibility in sequencing to accommodate a global workforce. Each employee had a personalised digital dashboard to track progress.

To sustain momentum, AI champions within individual functions led regular voluntary "Everyday AI" peer-learning sessions. In one function (Regulatory), around 150 employees regularly attended fortnightly sessions showcasing real-world use cases. Small-group, chat-based formats of around 10 people were used to create psychologically safe spaces for questions, with groups randomised to reduce hierarchy effects.

Outcomes were significant. Around 50% of Regulatory employees saved four or more hours per week through AI use, up from negligible savings prior to the programme.[3] The initiative also drove a cultural shift, with employees moving from viewing AI as threatening to seeing it as a practical, everyday tool, and reinforced clear guardrails around data security and responsible use.

Supporting Work Readiness, Career Pathways, and Inclusive Access

RESILIENCE, the UK Medicines Manufacturing Skills Centre of Excellence, is helping to build a more inclusive and resilient Life Sciences workforce by embedding equality, diversity, and inclusion at the centre of its approach. Delivered by a consortium including the University of Birmingham, UCL, Heriot-Watt University, the University of Teesside, and industry partner Britest, the programme focuses on removing barriers to entry, mobilising talent from across the UK, and widening access for people from diverse social and educational backgrounds.

To date, RESILIENCE has trained 2,275 learners who attended industry-relevant training events led by RESILIENCE partners, with 51% female and 40% BAME.[4] It delivers industry-relevant courses, extensive outreach, and workplace and leadership accelerators, providing structured, hands-on experience in regulated environments and supporting talent from foundation level (16–19) through to experienced professionals. Flexible training models and national outreach activity help challenge stereotypes, support different learning styles, and expand participation in medicines manufacturing careers.

Complementing this, the Industry Skills Accelerator – delivered by the Cell and Gene Therapy Catapult, CPI, and Cogent Skills – is strengthening the workforce for advanced therapies and complex medicines. It has developed new training in oligonucleotide and RNA manufacturing and established four apprenticeship pathways aligned to priority areas including Quality, Manufacturing, and Digital and Automation, further widening entry routes and supporting a more diverse future workforce.[5]

Bayer UK: Insights into the Life Sciences Sector Work Experience Programme[6]

Bayer is a German multinational company focusing on pharmaceuticals and biotechnology, and in 2022 Bayer UK launched their *Insights into the Life Sciences Sector* work experience programme to help young people explore careers in Life Sciences while developing the knowledge, skills, and confidence needed for future employment.

Designed to complement classroom learning and support delivery of the Gatsby Benchmarks, the programme offers structured employer engagement and first-hand insight into a global Life Sciences organisation. Since its launch, it has supported more than 500 students from across the South East and beyond, delivering over 400 hours of work experience with the support of more than 50 employee volunteers from across Bayer UK.

A central aim of the programme is to connect students with employees from both scientific and non-scientific backgrounds, helping them understand the breadth and

diversity of career opportunities within the sector. Through engagement with Bayer's Pharmaceuticals, Consumer Health, Crop Science, and Radiology businesses, students are introduced to career pathways they may not previously have considered. Hands-on and interactive activities provide insight into areas such as medicine development, clinical trials, agricultural innovation, engineering, product development and commercial functions, showcasing both scientific and non-scientific roles in an engaging and interactive way.

Alongside career exploration, the programme helps students build the transferable skills valued by employers across all sectors. Through hands-on activities, project work and direct interaction with professionals, participants develop communication, teamwork, problem-solving, critical thinking and professional workplace behaviours. The programme also supports students to build confidence, understand recruitment pathways and make more informed decisions about their future education and career choices.

Feedback indicates a strong and positive impact, with participants reporting that the programme helped inform their future career decisions. Many students also describe increased confidence, greater awareness of career opportunities and a stronger understanding of workplace expectations.

By combining skills development, career exploration and meaningful employer engagement, Bayer UK's *Insights into the Life Sciences Sector* programme is helping to raise awareness of careers in Life Sciences and strengthen the future talent pipeline.

AstraZeneca's youth outreach across the UK[7]

AstraZeneca runs a range of outreach projects designed to engage the next generation of Life Sciences workers and motivate them to pursue a career in STEM. Their global programme, *STEM at AstraZeneca*, supports inclusive and equitable engagement initiatives that encourage students from all backgrounds to explore their interests and consider a career in STEM. Examples of this work in the UK include:

- The STEM Inspiration Lab, a dedicated space at AstraZeneca's primary R&D facility that brings science learned in the classroom to life. Each year hundreds of school children, mainly 7–14-year-olds, visit the lab from across Cambridge. AstraZeneca's team of STEM ambassadors and volunteers also visit many schools across the region directly, further amplifying outreach.
- Cambridge Festival and Big Biology Day. AstraZeneca are longstanding sponsors of the festival, organised by the University of Cambridge that aims to ignite curiosity in the next generation of scientists through hands-on "Medicine Maker" sessions, career discussions, and guided tours of AstraZeneca's flagship R&D facility, The Discovery Centre. They also support the Big Biology Day that showcases careers in the industry and engages visitors through interactive STEM activities.

- Partnering with the Royal Institution to support the Science in Schools programme. AstraZeneca has provided grant funding for a new Science in Schools show called *Super Cells*. They have further supported the programme by providing grants to 100 schools enabling them to access the show through the programme's grant scheme.
- Active Science programmes. Now in its ninth year, AstraZeneca's Active Science Programme, delivered in partnership with football club community organisations in Cambridge, Macclesfield and Everton, uses sport to introduce students aged 9–11 to core scientific concepts through hands-on learning. Whether exploring heart rate monitoring after exercise or learning about forces with resistance parachutes, the sessions make science memorable and relevant. Reaching over 1,000 students each year, the programme also gives students a chance to meet real scientists and football players and glimpse what a career in healthcare or Life Sciences might look like.

Autolus and early career opportunities

Autolus is an SME that develops and manufactures CAR T cell therapies at their facility in Stevenage. They have significantly expanded their early careers offering, strengthening both the breadth of opportunities and accessibility of pathways into GMP and Life Sciences careers.

A key area of focus has been the growth of their apprenticeship and outreach activity to support long-term workforce development and improve access to careers within the sector. Apprenticeships are increasingly being used both as an entry route into the organisation and as a mechanism for targeted upskilling in priority business areas, including HR and MSAT, supporting evolving organisational capability needs.

In parallel, they have broadened their apprenticeship strategy through engagement with national apprenticeship networks, focusing on expanding access into core GMP operational and technical functions, alongside enabling corporate disciplines.

Alongside formal apprenticeship pathways, they have significantly expanded their outreach activity to increase awareness and engagement with diverse talent pools. Across their UK sites, they have delivered STEM-focused engagement events in partnership with local education providers. These sessions combine insight into pharmaceutical and GMP career pathways with practical support such as CV development, LinkedIn guidance, and site tours, helping participants gain exposure to regulated manufacturing and science-based environments.

A key objective of this activity is to challenge traditional perceptions of manufacturing careers and position advanced therapy manufacturing as an innovative, high-skill, and purpose-driven career pathway. Through direct engagement with students and early careers talent, they aim to improve visibility of the sector and demonstrate the progression opportunities available across operational, technical, and scientific functions.

They also continue to support higher education engagement through MSc placement opportunities within Process Development, providing structured, project-based experience in a regulated environment and strengthening the link between academic learning and industry application.

Overall, their approach is focused on building earlier engagement with diverse talent, widening access into the sector, and creating clear, long-term pathways into Life Sciences and advanced manufacturing careers.

Testimony from an Apprentice Quality Control Technician at Autolus

"I joined Autolus after finishing school, driven by a strong interest in science and a desire to gain practical experience rather than pursue further education. I began my career as an apprentice Lab Technician while completing a Level 3 Laboratory Technician Diploma.

"During this time, I enjoyed learning how labs operate within the industry and contributing to their maintenance. Attending college alongside my apprenticeship was valuable, as it helped me to develop my understanding of the scientific principles behind our processes and allowed me to meet apprentices from other companies.

"The support and guidance I received from my mentor and manager had a significant impact on my development and performance, helping me achieve a distinction in my diploma. After gaining many new skills and knowledge, I became eager to continue my studies and expand my experience in the laboratory environment.

"I was delighted to be offered the opportunity to undertake a degree apprenticeship with Autolus. My apprenticeship has given me the opportunity to take on greater responsibility within the laboratory, supporting the team through Quality Control testing. In my current role, I have developed skills in a range of analytical techniques while expanding my scientific knowledge during my degree studies.

"This combination of hands-on laboratory experience and academic learning has enabled me to grow both professionally and personally, increasing my confidence and ability within the laboratory. I look forward to continuing my development and building my career with Autolus."

Almac's Youth Outreach in Northern Ireland[8]

Almac Group is one of Northern Ireland's largest employers in the Life Sciences sector, employing almost 8,000 people across the world with over half of those employed in Northern Ireland.[9]

Almac plays a vital role in helping develop, manufacture, test and distribute essential medicines for patients around the globe. The Group supports the development and ongoing commercialisation of hundreds of life-saving drugs across more than 20 therapeutic areas, including oncology, cardiology, immunology, gene therapy and neurology.

As part of its outreach programme, Almac runs a range of activities aimed at promoting Life Sciences careers to children and young people. These projects include:

- **A partnership with W5, an award-winning science, discovery, and education centre in Belfast.** Almac's MEDLAB interactive exhibition allows children and families to learn how medicines are developed and welcomed 250,000 visitors in 2025. The partnership enables students on Almac's work experience programme to learn valuable hands-on, curriculum-linked practical biology and chemistry skills taught by Almac scientists in the W5 laboratory.
- **Work experience for nearly 300 students annually, giving a hands-on opportunity for young people aspiring to a career in STEM.** Almac delivers a series of three-day programmes at their facility in Craigavon, including interactive tours and practical workshops.
- **School visits, Science-in-a-Box, and outreach events.** Almac's STEM outreach team supported 84 events including scientist visits to 10 primary schools last year. In partnership with STEAM Education Limited, 69 schools and an estimated 5,000 10–11-year-old pupils have now benefited from Science-in-a-Box, an initiative that provides schools with teaching materials, webinars, and ongoing support from Almac and STEAM Education Ltd. Each year Almac also hosts a Family and Friends Fun Day in its locations across the globe. Last year's Craigavon event had an estimated 8,000 attendees, an event which included a STEM tent with interactive activities and experiments.

UCB: Building skills and long-term careers in UK Life Sciences[10]

UCB is investing in the UK's research ecosystem while creating pathways for people to enter, develop and progress within Life Sciences careers. In 2022, its Discovery Research division invested nearly £18.5 million in 253 early-stage collaborations with 119 UK universities, NHS organisations, charities and companies. Since 2004, UCB has invested approximately £250 million directly in the UK research ecosystem.

This investment includes practical support for the next generation of scientists. UCB currently supports 15 PhD studentships involving nine UK universities, 19 apprenticeships, 30 industrial placements and 25 graduate placements. Since 2004, it has supported nearly 200 PhD students, who have received at least six months, and often longer, of training in UCB's UK laboratories. It is also supporting existing employees to undertake PhDs alongside their work.

Dr Stevan Shaw's career demonstrates the value of sustained workplace development. He joined UCB, then Celltech, in 1993 as a laboratory scientist. Although a PhD had not initially seemed accessible to him, UCB enabled him to pursue one while working full-time. Over a 30-year career, he progressed to lead UK research across inflammatory diseases, dermatology and rheumatology, and is now UCB's Head of UK Research.

UCB also works with external partners to strengthen research skills and translate UK science into treatments. Its expanded alliance with Cancer Research UK and Cancer Research Horizons brings together discovery, oncology and clinical-development expertise to advance promising therapies from research into early clinical trials.

UCB is committed to continuing its investment in apprenticeships, placements, postgraduate training and employee development – helping more people build rewarding, long-term careers in UK Life Sciences while supporting innovation for patients.

Pennine Healthcare and Prison Leavers

Pennine Healthcare is a MedTech company based in Derby, and their Project Phoenix demonstrates how a single programme can address three systemic UK challenges simultaneously: reducing prison reoffending, widening access to manufacturing careers, and strengthening resilience in NHS supply chains. The programme builds on the success of Pennine's prison-to-medtech initiative, which enables prisoners on Release on Temporary Licence (ROTL) to gain meaningful employment experience while contributing to the manufacture of critical medical products.

The case for intervention is compelling. Around 87,000 people are currently in prison across England and Wales,[11] with approximately 29% of adults reoffending after release rising to 66% for adults released from custodial sentences of less than 12 months.[12] The Ministry of Justice estimates that this costs society £22.7 billion a year.[13]. Employment is one of the strongest protective factors against reoffending, with ex-offenders who secure work significantly less likely to return to crime. Project Phoenix recognises that meaningful, structured employment is not simply a social good but an economic and public service imperative.

Pennine's experience with ROTL workers offers practical lessons for widening manufacturing talent pipelines. At a time when UK manufacturing faces around 50,000 vacancies[14] and persistent recruitment and retention challenges, Project Phoenix opens access to an overlooked but capable workforce. By embedding prison leavers into regulated medtech environments, the programme has shown that talent can emerge from non-traditional routes when employers invest in trust, training, and support. It also challenges outdated perceptions of manufacturing by positioning it as purposeful, skilled work with direct societal impact.

The implications for the NHS are equally significant. With the NHS spending around £8 billion annually on medical equipment and consumables,[15] secure domestic supply chains are critical. Pennine's model strengthens UK manufacturing capability while helping ensure continuity in the production of essential healthcare products.

Project Phoenix illustrates that second-chance employment programmes work best when they align social mobility with labour market need – simultaneously reducing reoffending, addressing workforce shortages, and delivering wider public value.

Family-friendly parental leave at AstraZeneca

AstraZeneca offers a generous family-friendly leave policy that allows parents to share leave between them. Primary parents are entitled to up to 52 weeks of maternity or adoption leave, regardless of length of service, ensuring job security during a significant life event. Non-primary parents can access dedicated new parent leave, while shared parental leave allows up to 50 weeks of leave to be flexibly split between partners, supporting more equal caring responsibilities.

The policy also provides enhanced pay above statutory minimums, dependent on length of service. Eligible primary parents receive 29 weeks of full pay, followed by additional 10 weeks statutory pay and 13 weeks unpaid leave, while shared parental leave includes up to 27 weeks of full pay. Non-primary parents may be eligible for either 14 weeks Enhanced New Parent Leave or 2 weeks Statutory New Parent Leave, depending on length of service, ensuring both parents have financial support at the start of a child's life. These provisions reduce financial barriers to taking leave and encourage uptake among both parents.

In addition to pay, AstraZeneca maintains strong employment conditions during leave. Employees retain access to most benefits throughout paid and unpaid periods, and annual leave continues to accrue, supporting long-term financial wellbeing. The policy also includes paid time off for antenatal appointments, IVF treatment leave, and structured "keep in touch" days, enabling a smoother transition back to work.

Progression opportunities at Moderna: Bianca Fiore – Supervisor, Drug Substance Operations

Moderna focuses on developing mRNA vaccines. In the UK, its operations are concentrated at its manufacturing and R&D facility on Harwell Campus, Oxfordshire – the Moderna Innovation and Technology Centre. Bianca's experience demonstrates the progression and development opportunities available in the Life Sciences sector.

"I joined the Moderna Innovation and Technology Centre (MITC) in October 2024 as a Manufacturing Associate during an exciting period of growth for the organisation. Joining a relatively new site gave me the opportunity to contribute to the development of manufacturing operations while building my own skills and experience within the Life Sciences sector.

"From the beginning, Moderna invested in my development through a range of training and learning opportunities. One of the most valuable aspects of my journey has been the opportunity to train at other Moderna sites, including Norwood in the United States and

Laval in Canada. These experiences allowed me to learn from colleagues across the global network, gain exposure to different manufacturing environments and bring valuable knowledge back to the Harwell site. The international training opportunities not only enhanced my technical expertise but also broadened my understanding of Moderna's global operations and culture.

“As the MITC continued to grow, I took on increasing responsibilities and became involved in supporting team development and operational excellence. Alongside developing my technical expertise, I was given numerous opportunities to build my leadership and supervisory skills. This included supporting the development of colleagues, contributing to team performance, participating in decision-making processes and gaining exposure to the people-management aspects of manufacturing operations. These experiences helped me develop the confidence and capability required to lead teams effectively while maintaining a strong focus on safety, quality and delivery.

“The experience I gained, combined with the development opportunities available at Moderna, led to my promotion from Manufacturing Associate directly to Manufacturing Supervisor. This progression reflects both the trust Moderna places in its people and the opportunities available for those willing to learn, grow and take on new challenges.

“Most recently, I was selected to participate in the BIA Manufacturing Advisory Committee Leadership Programme. This programme provides an opportunity to further develop my leadership skills, collaborate with peers from across the Life Sciences industry and gain a broader perspective on the future of manufacturing in the UK Life Sciences sector.

“Today, as a Manufacturing Supervisor, I lead teams responsible for delivering manufacturing operations safely, efficiently and to the highest quality standards. Looking back on my journey so far, I am proud of how quickly I have been able to develop my career. From joining as a Manufacturing Associate to leading teams and participating in industry leadership programmes, my experience demonstrates the opportunities for growth, development and progression that exist within the UK's Life Sciences sector and at Moderna.”

Baylab Reading: Inspiring Future Life Sciences Talent[16]

Established in 2017, Baylab Reading is Bayer’s free, hands-on education laboratory, designed to inspire and support the next generation of Life Sciences talent. Through curriculum-linked workshops, business-led projects and practical STEM experiences, Baylab engages young people aged 7–18 with real-world applications of science and innovation.

Operating year-round as a sustained outreach programme, Baylab supports young people from early engagement through to career decision-making age. Alongside developing scientific knowledge, students build practical laboratory skills, confidence and transferable skills including communication, teamwork, critical thinking and problem-

solving. The programme also helps students understand how innovation can address future healthcare and agricultural challenges while increasing awareness of careers within the Life Sciences sector.

A key feature of Baylab is its commitment to accessibility and inclusion. The programme works with state schools, special educational needs schools, pupil referral units and home education communities, helping ensure a diverse range of young people can access meaningful STEM experiences and employer engagement.

Since opening, Baylab has engaged more than 16,500 students, with each participant spending an average of four hours in the laboratory. The programme also contributes to formal qualifications, including T Levels, through employer-led projects and industry engagement.

Bayer's internal assessment suggests strong impact on student aspirations and career awareness, with students reporting increased confidence, greater awareness of STEM careers and a stronger understanding of future opportunities. One student reflected that the experience "gave me insight into a world of science that I was dismissing before," while another said it "allowed me to see how many different careers in STEM are available."

Teacher feedback is positive, with teachers reporting that Baylab helped students develop new knowledge and skills. One teacher noted that "this type of science simply isn't possible in a school environment," while another described Baylab as "a fun, engaging and educational workshop where students can apply learned knowledge into practice."

By combining practical STEM learning, employer engagement and inclusive access, Baylab provides a strong model for strengthening the future Life Sciences talent pipeline.

People-first recruitment practices at Autolus

Autolus has structured their hiring and development approach as an end-to-end talent journey designed to broaden access to GMP careers and strengthen social mobility by focusing on potential over prior experience.

The journey begins with targeted attraction and recruitment, focused on individuals from outside the traditional Life Sciences sector. For entry-level roles across GMP operational and technical functions, they prioritise behaviours, motivation, and transferable soft skills over formal qualifications, reflecting the belief that capability can be developed through structured training and experience.

Candidates then progress through a standardised assessment centre, which forms the core of their selection process. This provides a consistent and equitable method of evaluation beyond CV screening. The assessment centre combines team-based exercises, a structured interview, a practical assessment, and a short test, enabling assessment of collaboration, communication, problem-solving, and suitability for working in a regulated

GMP environment. This ensures hiring decisions are based on a balanced view of behavioural fit and potential.

Successful candidates then enter a structured onboarding phase supported by bespoke bootcamp training programmes. These bootcamps were developed in response to a diverse intake and are tailored to specific roles across GMP operational and technical functions. Their purpose is to equip individuals with the required competencies, from GMP fundamentals through to the technical skills needed for day-to-day execution in their roles.

A key enabler of this model is their dedicated in-house training laboratory, purpose-built to replicate a GMP cleanroom environment. This facility provides hands-on experience in a controlled setting that mirrors real operational conditions, bridging the gap between theory and practice. It is designed to support cleanroom behaviours, aseptic awareness, and role-specific technical training across GMP operational and technical functions.

This is further strengthened by their internal training team, who have developed capability within the cleanroom environment itself. This ensures training delivery is practical, consistent, and fully aligned to operational standards, embedding a strong culture of quality and compliance from day one.

The journey continues through ongoing access to this training infrastructure, reinforcing capability development and supporting progression into fully operational roles. This integrated model ensures a sustainable pipeline of diverse talent while building the skills and confidence required to succeed in a regulated GMP environment.

Building inclusive talent pipelines across the Life Sciences career pathway: GSK[17]

GSK is committed to supporting progress across the career pathway to help people develop the skills required to enter, and progress within, the Life Sciences sector. In the UK, GSK supports opportunities for people at different stages of education and training, through more than 146 apprenticeships, from GCSE entry to postgraduate level, in addition to approximately 250 Industrial Placement students and 20 graduates annually. To ensure the sector can benefit from the full potential of the UK talent pool there is a need to take proactive steps to ensure equal opportunity with decisions always based on merit.

Each year, GSK Unlocked welcomes approximately 20 UK university students from lower socio-economic backgrounds, offering them a series of development workshops, coaching from leaders and mentoring sessions with early careers professionals across seven months. This aims to positively impact their skills, mindset and confidence. Since 2019 this programme has supported 163 students and 325 GSK volunteers. This programme supports the UK STEM talent pool through bridging the application of academic skills to practical applications. Eight participants have since found roles at GSK. GSK has taken a long-term approach to ensure equal opportunity.

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