

BSGCT Partner Forum

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Addressing the skills needs for the UK ATMP industry

The UK life sciences industry has seen unprecedented growth with UK biotech companies raising £1.785bn in venture capital financing in 2022, maintaining its leading position in Europe. The Science Industry Partnership predicts the life science industry will need to fill 133,000 jobs by 2030. The Cell and Gene Therapy Catapult forecasts more than 15,100 jobs in the UK Advanced Therapies industry by 2026 – an increase of 8,100 additional roles, most in high skilled and high value functions.

At the 6th BSGCT Partner Forum meeting held in December 2022 it was identified that the rapid growth of the UK's life science and ATMP industry has exposed a significant and growing skills gap that risks the industry's ability to deliver on societal, health and economic value to its full potential. The issue has been exacerbated by Britain's exit from the European Union. It is acknowledged that in some instances there is a need for focussed and specialist skills training (e.g. ATMP manufacturing). However, there is a need to ensure new entrants into the jobs market have a strong grounding in fundamental laboratory skills from which to build. This will ensure the UK has a dynamic workforce where specialist skills training can be provided as needed to rapidly adapt to and exploit new innovations.

There are multiple routes of entry for recruits into the ATMP industry which are summarised below (*noting that an equally important route for entry is other organisations, either in academia or industry*)

- **Apprenticeships;** Industry employs individuals through the apprenticeship programme (Advanced Therapies Apprenticeship Community [ATAC]) which was borne out of the Advanced Therapies Manufacturing Taskforce, and supported by some initial funding through Innovate UK in 2018. To date 15 ATMP apprenticeship standards and frameworks were developed with sector specific content at all levels (Level 3-7) covering entry level Technician Scientist to specialised Senior Leaders and Regulatory Affairs Specialist.

Apprentices contribute to an important but relatively small minority of roles within a given organisation (<15%). This is in part due to the significant investment required. All apprenticeships require 20% of individuals' time to be made available for training, and additional mechanisms need to be in place to support apprentices compared to standard

employees. It was also noted that, whilst companies who are required to pay into the apprenticeship levy scheme can use money from the levy, this funding can only be used for the training aspects of the role – i.e. 100% of the salary/NI etc is funded by the employer.

The ATAC scheme (circa £2m in funding from Innovate UK since 2018) is highly valued and has led to substantive industry funding (£15.1m) in developing talent with approximately 300 apprentices placed in 48 ATMP companies across science, engineering, leadership, quality, regulatory, digital, and business support functions (initial target of 100 over 5 years when the scheme was launched). Unfortunately, no additional external funding has been allocated to developing the ATAC programme after March 2022 and this remains in a ‘maintaining’ format as a national skills programme. To reach the 900 apprentices needed by 2026 there needs to be a stretch target of 250 apprentices per year by 2026, more than doubling current levels. Continued central support for ATAC would be welcomed. It would also be highly beneficial to open up the use of the levy more broadly (e.g. cover non-training aspects, upskilling/cross training of existing staff, support Masters training). Note that currently to be eligible for use of the levy, any course needs to be recognised/approved as an apprenticeship which is quite onerous.

- **Graduates;** the majority of entry points into a typical ATMP organisation are at the graduate level – either as recent graduate or with 1-2 years of relevant academic / industrial experience. It is observed by the industry that recent science graduates from UK universities often have extremely limited hands-on laboratory experience. The proportion of UK science graduates who have performed a final year lab-based research project, or other substantive lab-based training has been in decline for some time. Little to no lab-based training had taken place during the COVID pandemic and the situation is not expected to improve. This is seen as a significant gap by industry employers. Graduates who have taken up a year in industry post (3+1 degrees) are often very strong candidates and therefore highly valued recruits. The challenge here is that there are limited number of these industry experience positions available nationally. At the current time, we are not aware of any external funding support for such initiatives – these roles are typically company-funded and require appropriate areas within the business to secure budget at the start of the year, on the assumption that suitable candidates will apply – budgetary pressures will limit the number of places available each year. It would certainly be helpful to the industry if some costs associated with year in industry placements could be supported (e.g. by somehow permitting funds from the apprenticeship levy to be allocated).

It has been observed that students who go through a more technical training process abroad (e.g. through a biotechnology qualification in France or Germany) are usually provided with very relevant and helpful laboratory skills through that pathway, which are of relevance and value to ATMP and other life sciences employers. They are often substantially more practically skilled than a typical UK undergraduate.

- **Masters training and MSc / MRes level recruits;** Masters level programmes can include extensive laboratory-based training. It was recognised that individuals joining a company after such in-depth studies / research are often highly valued and can set off on an accelerated career path. Further, bespoke and high quality ATMP-focussed courses have been developed with year-on-year increases in the number of students enrolled but the vast majority of students, and in some cases all students enrolled, are from overseas. Funding for UK (home

status) masters students is very limited likely contributing to this observation. Recent graduates, often leaving their undergraduate course with significant debt, are very reluctant or simply unable to pay tuition fees and living expenses for another year. Increasing the number of home students enrolling onto masters courses with extensive laboratory based training will significantly enhance their employability in the ATMP and life sciences industry. Potential debt-free mechanisms for funding UK-based candidates to complete masters level training should be considered. Some research council funding (covering fees and stipend) is available for masters level training, but this is limited both in scale and in scope (only covers programmes designed to prepare for PhD-level training) and so currently insufficient.

- **Doctoral training and PhD/DPhil/EngD level recruits;** most ATMP companies employ a significant number of individuals trained to doctoral level. It was recognised that there are already a very good number of pathways in existence for such individuals being trained in the UK (and abroad), and also that there are defined routes for high potential UK (home status) students to obtain funding for a PhD. These are extremely highly valued and vital to maintain and build upon. This aspect of upskilling the future ATMP and life sciences workforce is in relatively good shape.