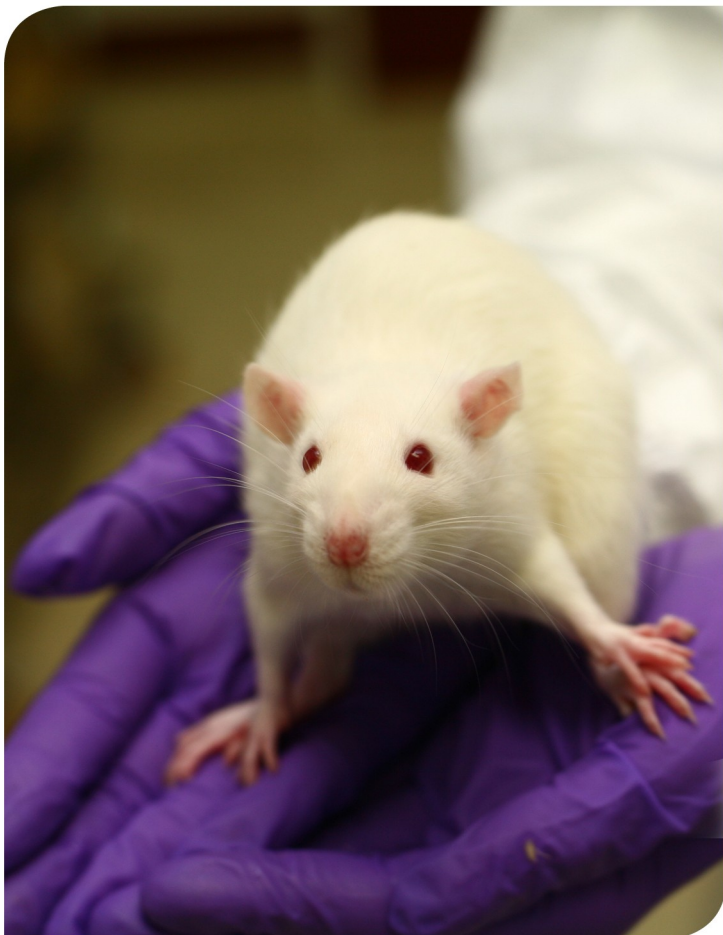


The animal technology industry involves the husbandry, care and welfare of animals bred to be used in scientific research and the carrying out of authorised procedures. Research using animals in the UK comes under the Animal (Scientific Procedures) Act 1986 and each year in Britain, three million animals are used in scientific procedures.

Overview¹

Animal research provides many benefits to society and to animals themselves. For example, animals used for medical, dental and veterinary research informs the development of new drugs and vaccines to improve health and quality of life.

The industry actively supports the three Rs - Replacement, Reduction and Refinement. They work closely with the Institute of Animal Technology (IAT) and animal welfare organisations to promote good practice and draft guidelines on the care of all laboratory species including companion animals and non-human primates (NHP).



Size and scope^{1,2,3}

In most cases, an industry can be classified (or defined) by Standard Industrial Classification (SIC) codes and official statistics can be sought per SIC code.

Official statistics exclude most businesses and employees within animal technology, therefore Lantra undertakes primary research and works with industry to obtain estimates and other information regarding the industry. In the UK, there are currently:

- 232 Home Office approved research establishments
- An estimated 4,000 – 5,000 Animal Technologists
- Approximately 15,500 Home Office personal licences in force
- Approximately 2,650 Home Office project licences in force
- 22 Home Office inspectors.

Research undertaken by the Association of the British Pharmaceutical Industry (ABPI) found there are approximately 2,700 animal technologists in the UK. The IAT has since estimated the number may be somewhere between 4,000 and 5,000. This figure could be inflated further depending on the criteria on what is indeed an animal technologist, the definition of which varies considerably between different groups of employers, for example, academia, pharmaceuticals, contract research organisations, animal breeders etc.

In 1985, the IAT established a Register of Animal Technicians. There are currently 294 registered animal technologists (RAnTech) in the UK. Not *all* animal technologists are registered as there is no legal requirement for this, however, the aim of the register was to emphasise the institute's position regarding the ethical and legal aspects of care of laboratory animals. Those on the register hold either the Membership or Fellowship Diploma of the Institute of Animal Technology or equivalent and have a minimum of five years' relevant experience, including two years' post qualification experience.

Size and scope^{1,2,3}

There are 22 Home Office inspectors. Their role is to make (mostly) unannounced visits to research establishments and inspect research projects to ensure the use of animals is justified and that the number of animals and any suffering is minimised.

Before any research takes place involving animals, the Home Office has to give formal approval. This is granted in the form of personal and project licences by the secretary of state. In 2009, there were 15,492 Home Office personal licences and 2,658 Home Office project licences in force in the UK.

A project licence is required under the Animal (Scientific Procedure) Act and the project licence holder assumes responsibility for procedures carried out under the project licence for themselves and personal licence holders who are legally permitted to conduct regulated procedures under the Animal (Scientific Procedure) Act. Project licence holders cannot carry out regulated procedures unless they also hold a personal licence (see Qualifications and Training section for further information on becoming a licence holder).

Working within the industry^{1,2}

Typical employers include universities, teaching hospitals, medical and veterinary colleges, pharmaceutical companies, contract research houses and specialist laboratory animal breeders. Employers are mostly based in the South East, the East, London and Scotland, though there are some major *in vivo* employers in the North West, North East and Yorkshire and Humberside.

One quarter of employers report a lack of applicants for animal technology roles, particularly contract research organisations and educational employers. The factors affecting the attractiveness of these roles include the physical nature of animal technology and the starting pay. As a result, many employers are recruiting increasing numbers of applicants from Poland and other new EU accession countries.

Salaries within animal technology are as follows:

- Trainee Technician £12,000 - £15,000
- Technician £15,000 - £20,000
- Senior technician £20,000 - £28,000
- Chief Technician £28,000 - £35,000
- Manager £35,000+

Employment projections 2010-2020

Forecasts suggest that over the next ten years (2010 to 2020), the animal technology industry is estimated to require fewer than 1,000 entrants.⁴

Turnover in animal technology roles is typically around 5-10%. In recent years, employers have had an increased demand for animal technologists and about 70% of employers expect their *in vivo* workforce will either increase by at least 5% or remain stable over the next five to ten years. Industrial employers believe that they will need to recruit between 140 and 280 animal technologists annually. Many of those working in the education sector are also close to retirement age so a higher staff turnover is likely in the coming years as these staff are replaced.²

Qualifications and training^{1,5}

Entry requirements for animal technology positions vary. Employers tend to look for a good standard of education from school leavers with five GCSEs or above; and the capability to take on a high level of responsibility. Graduates from pharmacology, physiology, toxicology and pathology courses also tend to fill animal technology positions.

Animal Technician training is mainly on-the-job. Trainees work towards the Institute of Animal Technology (IAT) certificate/diploma, a relevant Edexcel national/higher national certificate leading to a day-release course for the BSc (Hons) in Laboratory Animal Science.

The IAT is also developing Higher Education qualifications and is working closely with various accrediting bodies and course providers to launch qualifications for Animal Technologists. These qualifications include:

- Diploma in Higher Education
- Foundation Degree
- BSc in Animal Technology
- BSc with Honours in Animal Technology
- Master's Degree
- PhD.



Qualifications and training^{1,5}

Anyone wishing to apply for a project licence or personal licence under the Animal (Scientific Procedures) Act 1986 must first successfully complete an accredited training course.

The training for licence applicants is covered by five separate modules. All personal licence applicants must pass modules 1-3. Modules 2 and 3 are species specific and applicants will need to complete a separate assessment for each species they wish to work with. If the personal licence applicant wishes to perform surgical procedures they must also successfully complete the module 4 training.

Project licence applicants must successfully complete the training for modules 1,2 and 5. Module 5 is specifically designed to cover all areas of writing, applying for and holding a project licence.

Learning supply⁶

- Approximately 20 learners enrolled on animal technology related qualifications or courses delivered by FE colleges/work-based learning in England in 2008-09; the most popular qualification being the NVQ in Animal Technology.



Skills issues^{2,7}

Skills needs

Some of the core technical/practical skills needed by animal technologists are as follows⁷:

- Preparing environments for scientific procedures
- Preparing and maintaining animal accommodation
- Preparing animals and equipment for general, non-surgical, or regulated surgical procedures
- Caring for animals (e.g. feeding, watering, specifying diets, including during pregnancy, parturition and post-operative care)
- Administering substances to animals
- Delivering basic treatments to animals
- Collecting samples from animals
- Ensuring successful mating
- Preparing and carrying out euthanasia
- Handling animals
- Restraining animals
- Plan, supervise and control the movement of animals
- Conduct regulated surgical procedures on animals
- Determine and agree policies for the management of animals
- Monitor and evaluate the implementation of animal management
- Establish and maintain hygiene and biosecurity arrangements
- Analyse research and report results.

Skills in whole animal research (*in vivo* skills) are becoming increasingly important, not only to ensure compliance with the Animal (Scientific Procedures) Act 1986 but also for future advances in developing and implementing further alternatives to animals for pharmacological and toxicological screening of new chemicals and drugs. Skills to design, manage and interpret pre-clinical safety and efficacy research on animals are also of high importance.

Hard-to-fill vacancies and skills shortages

71% of employers find it difficult or very difficult to hire animal technologists. The main reasons for this include a lack of suitable applicants, lack of basic skills and lack of research animal experience.

Many employers are facing concerns about the shortages of *in vivo* skills and how this skills shortage affects their productivity.

Drivers for change

Legislation

- EU Directive EU8869/10
- Higher standards now required of all people working with animals
- Legislation relating to animal transport
- Potential changes to the Veterinary Surgeons Act and the opening of procedures/roles currently protected as acts of veterinary surgery to a wider veterinary team.

Impact on skills

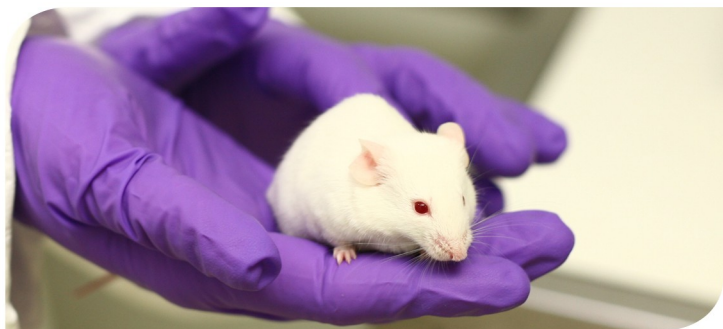
- Development of integrated CPD across all practitioners
- Requirement for common European standards and competence checks
- Accessible 'upskilling' training courses for EU workers coming into the UK
- Skills relating to animal handling and care, disease control and disease identification and biosecurity
- Specialisation training
- Knowledge transfer.

Technology change and knowledge transfer

- Advanced technology e.g. CT/MRI/Endoscopy/genetic testing
- Transgenics
- New diseases (e.g. zoonotic diseases)
- New vaccines.

Impact on skills

- Research into new methods and processes
- Technology transfer
- Business development
- New technologies
- Higher level technical skills for research and development of new vaccines and techniques
- Need to revise training provision.



Labour supply and competition

- Ageing workforce
- Retirement of technologists
- Attracting new entrants of all ages
- Succession planning by industry
- Providing opportunities for career progression and development
- Influencing migration policy and operation of control mechanisms.

Impact on skills

- Effective marketing of careers
- Better careers advice and guidance for all
- Proper recognition of competence for all
- Integrated frameworks to support lifelong learning and Continued Professional Development (CPD).

Sources and information

Sources

- 1 Institute of Animal Technology (IAT)
- 2 ABPI survey of *in vivo* employers (2007)
- 3 The Home Office Animals Scientific Procedures Inspectorate & Division Annual Report 2009
- 4 Lantra Model for Employment Forecasting (LMEF) 2010. Figures represent estimates of minimum job openings to satisfy replacement and expansionary demand. This may be higher or lower depending on future conditions
- 5 www.nottingham.ac.uk/animalresearch/licensing/trainingcourses.aspx
- 6 Data Service (England), DCELLS (Wales), Skills Development Scotland/Scottish Funding Council (SDS/SFC), DARD/DEL (Northern Ireland)
- 7 Lantra Job Profile for Animal Technician/Technologist (2009)

Lantra website

For further information regarding this factsheet, Lantra and the sector, please visit: www.lantra.co.uk



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