TECHNICIANS AND HIGHER TECHNICAL EDUCATION SPRING SUMMITS 2019

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DISCLAIMER

This report records the main themes and collective findings from three summits with employers hosted by the Gatsby Foundation and convened by Dougal Driver, CEO of Grown in Britain and Vice-Chairman of the Society for the Environment. The views and opinions expressed in this report reflect discussion among summit participants, and do not necessarily state or reflect those of the Gatsby Charitable Foundation.

FOREWORD

By Dougal Driver, FICFor FRICS CEnv

My deepening concerns about the status of technicians and technical skills in our society has been based on my own personal education and career development, and my experiences in the various sectors that I have been fortunate enough to work within. I fear we are not at all well placed to participate fully in a world where technical skills will be the driver for a sustainable future.

Other countries enjoy a longstanding culture of revering technicians. We need to instill pride in obtaining and building technical skills, starting at school and then throughout careers, not just as a badge of honour, but through respected qualifications and professional recognition.

Importantly, technical skills can often be rare and highly prized skills, and more needs to be done to keep them in the workforce. We need to create better defined paths for those with technical skills to move horizontally as well as vertically within a business or sector and, something close to my heart, along supply chains.

Workforce diversity is a big issue requiring a more enlightened approach to careers advice, and employers visibly offering their highly skilled technicians support to develop throughout their career, including people returning to work. This all adds up to a culture change.

I am very grateful to the Gatsby Foundation for collaborating with me on these summits - their deep knowledge and desire to make a difference is exceptional. I would also like to thank the dozens of very busy employers from a wide variety of small, medium and large businesses (and some representative organisations) who accepted my challenge and provided vision and insight. This short report reflects their common experiences and suggestions for ways forward that were shared at the summits.

My colleagues in this task are listed at the back of this report. They are from a variety of sectors including Land, Water and Construction. They come from organisations of all sizes, and collectively they employ or represent hundreds of thousands of people including a significant number of technicians.

OVERVIEW

1. The role of highly-skilled technicians[1] in industry, and the education and training available to enable them to enter and progress in their profession, has never been more important. Despite high levels of employment, UK productivity is disappointing. This represents a real threat to growing the economy sustainably and to raising living standards – key ambitions for the UK's Industrial Strategy. It is imperative that today's employers plan for the utilisation of new technologies, positively address the implications of climate change, and play a role in tackling social and economic inequalities.

2. These summits were held in March/April 2019, a time of significant promise in terms of technical education reforms with a growing number of apprenticeships, new T-levels for 16-19 year olds from 2020, an imminent consultation on reforms to higher technical education,[2] and the introduction of a National Retraining Scheme. But these reforms are unfolding against a backdrop of huge economic uncertainty, due to ongoing deliberations about the withdrawal of the UK from the European Union and the climate emergency which places huge technical challenges upon government, industry and society.

3. Solving the productivity puzzle and dealing with the outcomes of Brexit will require coordinated action from government, education providers and industry. The employers represented at our summits strongly valued the technical skills and knowledge of their staff, but were often very frustrated about the talent coming forward for technician jobs, and disappointed at the way those jobs and their industry was represented for young people. They recognised their role in making these jobs more visible, and creating clear training pathways for technicians to show that their ambition can be rewarded and that their careers can evolve. But employers also felt that, for their initiatives to succeed, a cultural change was needed across society to ensure that technical education and technician jobs have the same esteem as academic education and graduate jobs.

4. Employers felt that England needs to transform higher technical education to match the successes of other countries and fill what has been called 'the missing middle' of our education system. They were frustrated that a Bachelor's or Master's degree was routinely represented as the pinnacle of achievement to young people and believed that apprenticeships and higher technical qualifications could be just as valuable as degrees in terms of long-term career prospects. Many employers will invest in the development of technical staff, allowing them to move within the business and the sector, gaining broader digital and management skills as they progress. However, without a clear education system that works for the business, and their technical employees, it is harder for smaller companies to invest in training.

5. Specialist technical skills are needed throughout an employee's career and many employers, particularly the smaller ones, have struggled to find good quality providers of the training they need, in part because the small numbers of learners challenge course sustainability. There is clearly a role for better

1 The Gatsby Foundation defines technicians as workers occupying roles that require Level 3-5 skills in science, technology, engineering and/or mathematics and who use their knowledge of science, technology, engineering and mathematics to solve practical problems arising in research and development, production, and maintenance.

2 The Department for Education refers to Higher Technical Education as Level 4 and 5 qualifications in subjects aligned to technical routes, from accounting to engineering, management to laboratory science.

co-ordination of both needs assessment and education provision, particularly at local and regional levels, and a long-term commitment to steady transformation of the system.

Key theme 1 – Recruiting the right talent

6. There is a strong demand for people able to work as highly-skilled technicians due to the increasing use of technology at all levels of businesses, and across many different roles, in these sectors. Some employers are seeing a significant role shift from 'muscle to technical'. Upskilling existing workers is a priority, but an ageing technical workforce means that there is increasing risk that accumulated skills with be lost and more skills gaps in the future will need to be filled by new recruits.

7. While employers would ideally like 'oven-ready' recruits, most accept that this is not possible, particularly where applicants are new to the workforce. Apprenticeships are one way to home-grow talent, but not all employers feel they have the capacity to deliver apprenticeships, and some find the apprenticeships system complex and confusing. Others do not have access to good apprenticeship providers, leading to frustration with the current system. Degree apprenticeships appear to dominate in some organisations, and this may be compounded by the limitations of relevant Level 4 and 5 apprenticeship standards.

8. Beyond apprenticeships there also appears to be a lack of knowledge about other technical education options – some human resource managers can struggle to explain the technical qualifications system to those in their organisation who are trying to fill technical posts. While employers believe that qualifications can, and should, give a reliable indication of technical skills and knowledge, they also believe that desirable attributes such as commitment, resourcefulness, practicality and innovation can be harder to teach and/or certificate.

9. Many employers state that a Bachelor's or Master's degree is a minimum entry requirement for technical roles. For small companies, this appears to be because Bachelor's and Master's graduates are sometimes seen as having the flexibility that small companies need, even though they may lack requisite technical or vocational skills. However, the unnecessarily rigorous adoption of a degree entry requirement for some roles can cause employers to be faced with candidates with degrees that have no direct relevance for the role for which they are applying. On the flipside, employers also state that they have found trained technicians to be very adaptable and able to move quickly into management if they have their employer's support to do so.

10. Workforce diversity is a significant concern among many employers' and currently they find that many technical positions only attract certain types of people. This is one reason why some employers prefer to recruit from a graduate pool, which tends to be more diverse in terms of gender and ethnicity. Jobs that require a certain amount of technical work experience can also reinforce existing biases, making change slower. Many summit participants felt that there was need for a cultural shift in the perception of technicians' roles involving policy-makers, educators and employers.

11. What employers feel is needed is a much stronger, more positive and varied representation of technical jobs and careers for young people, with an impactful and sustained campaign to sell the great technical careers that already exist and will soon be created. While care must be taken to ensure that this information reflects genuine opportunities in their sector, employers feel that there is much more to be done to ensure that these technician roles are seen as the aspirational, high-status and valued positions that they are. Highlighting the chance to work with new technologies and to serve society (through innovations in healthcare and the environment for example) are also messages employers feel are being underplayed - technical careers are no longer just about drawings and machines. In this, some more negative perceptions of over-specialised education pathways could be redressed.

Key theme 2 – The impact of high-quality training

12. Technical staff will flourish in their roles as long as there is sufficient investment in their training and development. Just as graduates are often recruited onto programmes which offer a highly structured and supported early start to their careers, so should technicians be given clear progression pathways after entering the organisation. Employers say that the resulting benefits of retaining highly valuable skills and experienced staff within the workforce can be significant; while the expense of training graduates to have the necessary technical skills can be wasted as they tend to be more mobile at the start of their career.

13. For many employers, keeping pace with new technologies – such as robotics and artificial intelligence – will increasingly require investment in employee training (despite budgets being squeezed by the Apprenticeship Levy). Some larger companies have set up their own skills academies and training programmes. Yet, in the early days of new technologies at least, numbers requiring specialist training can be small, meaning in-house programmes are inefficient to run. A more reliable system of foresighting future training needs and a more connected infrastructure, allowing linking up with supply chains and other partners including high quality education providers, could help promptly upskill staff when new practices and technologies offer business potential. Many employers feel time is already running out to 'future proof' technical skills.

14. Finding good education and training providers can be a challenge for employers but is vital, particularly for SMEs. For example, employers in the construction industry have often found that universities are not tuned into their needs, and some have struggled to find many Further Education colleges that offer the specialist training they require. However, education providers can struggle to attract staff with enough industry expertise and the right knowledge of specialist training to join the teaching profession, due to the salaries they can command in industry.

15. For employers and employees to invest time and money in studying for them, qualifications must be rigorous and robust, and must ensure competence, as well as carrying national recognition. Some UK regulations already require technical staff to gain certain certification of competence (particularly the CSCS card and Safety Passport in construction, and the 'competent operator' certificate in the water industry), and this necessary accreditation is well-respected within the construction and water industries. Qualifications are particularly important for

small and niche businesses for whom taking on an apprentice is less appropriate and who require their recruits to be skilled already.

Key theme 3 – Retaining good technical staff

16. Highly skilled technical staff are a major asset to many organisations and they often feel a strong identity as technicians. Retaining them within the workforce can mean empowering them to move both sideways and upwards, enabling them to gain responsibilities in areas such as management and to flex their career as new opportunities become available. Employers are adamant that there is no reason to think that those who have technical backgrounds are any less adaptable than those who enter the workforce with Bachelor's or Master's degrees, and they point to senior positions filled by people who have progressed through the technical route.

17. Where turnover is high, investing in training programmes for the purpose of staff retention can prove effective and efficient, as do increasing options for flexible working and offering careers advice for the existing workforce. But most employers have found that mechanisms for giving external recognition for technical capabilities are limited, as are clear pathways for professional development. Technical staff can be encouraged to gain recognition from relevant professional bodies, to reinforce their status as professionals in their own right, but there is often not enough recognition of occupations between entry and chartered levels. The technical route from Apprentice to Chartered can seem daunting at best.

18. Where technical staff want to move on, efforts made to retain them within the supply chain will ensure there is residual benefit to their original employer from investing in their training. Similarly, return-to-work programmes for those who have taken career breaks can ensure that highly-skilled technical staff can see a pathway back into work. This is particularly important for women, and making these opportunities much more explicit will help attract women with technical skills into the workforce, as well as making technical careers seem very attractive to the younger generation weighing up future options.

Preparing for the future – what needs to be done

19. Across the Land, Water and Construction industries, taking advantage of new technologies (such as remote sensing, robotics and artificial intelligence), being more responsive to local need and context, and adopting more sustainable practices will all place demands on the kind of skills held by technicians. To make the most of these challenges we must ensure that:

    - more young people choose careers in these sectors;
    - initial higher technical education incorporates the knowledge, skills and behaviours most relevant to the current demands of the workplace; and
    - there are clear progression pathways for technicians enabling them to continue to develop and adapt through the provision of high-quality training and professional development, bringing their expertise to the highest levels of an organisation.

20. Employers are already rising to this challenge by setting up their own academies and developing routes to seniority. They have a real passion for wanting to facilitate change but also understand how long it will take to break a system and culture. They are also keen to support new ideas, including:

    a. The broadening of recruitment practices to draw diverse, non-traditional talent into industry – for example actively seeking individuals from the gaming industry to bring their advanced, creative digital skills into landscape design, and reconsidering whether a Bachelor's degree is the best or only qualification for higher technical roles.

    b. Encouraging professional bodies and associations to consider how they can better recognise the skills and achievements of higher-level technicians. Some are already actively developing clear technical routes for progressing from Apprentice to Chartered, especially in new technical fields such as the environment.

    c. Using national and regional agencies to provide more support for employers who operate and recruit locally and regionally to work together more closely and share evidence about skills needs, potentially tasking Local Enterprise Partnerships to build skills maps and make connections with education providers.

    d. Incentivising education providers and awarding organisations to increase the availability of recognised and relevant qualifications, including those that indicate a licence, which are comprised of smaller credentialled modules that can be taken separately, together with more flexible and online learning opportunities.

    e. Actively creating and promoting technician pathways, including apprenticeships, as well as graduate training programmes, and working in partnership with other training providers where there are small numbers needing specialist skills. This also includes creating a 'job family architecture' to show technical staff how they can move around an organisation with their skills, particularly in larger companies.

    f. Working with schools and colleges to ensure that they accurately and appropriately represent to young people the importance of technical skills in the workforce, the prestige of highly-skilled technical staff, and the varied career paths available to them. Educators are not universally familiar with today's business and new technologies; they need the assistance of industries so that their students receive the most up-to-date information.

    g. Working with employers to enable them to make more of their skilled staff available to education providers for teaching activities, and offer more industry placements to local students on relevant courses.

    h. Building a requirement for investment in local skills into large-scale construction contracts and environmental projects, particularly those with local authorities for urban regeneration projects.

CONCLUSION

The Gatsby Foundation was delighted to host these summits as part of its commitment to reforming technical education in the UK. Through its 'Technicians Make it Happen' campaign, as well as the implementation of the Gatsby Benchmarks for Good Career Guidance in schools and colleges across England, it seeks to ensure that all young people get a positive introduction to a range of possible technical careers. Gatsby is also committed to supporting the Government's introduction of T Levels – new technical qualifications for 16-18-year-olds, as well as higher technical qualifications. Further work is being undertaken to explore how to support industrial innovation through a properly funded and evidence-based skills system; and the roll-out of Institutes of Technology offer an exciting development for raising the quality of higher technical provision.

But what is clear is that achieving a world-class technical education system relies not just on qualifications and education providers, but also on a close involvement of employers – and the organisations that network them - as active participants in the transformation envisaged. If we want societal change then we need: widespread collaboration at local, regional and national levels; a sustained commitment across employers to adjust attitudes and practices when it comes to technical staff; significant investment from Government to raise the quality and awareness of technical education; greater recognition of technician identity and career progression from professional bodies; and some bold action across the board to tackle entrenched prejudices that prioritise certain educational pathways and learners and marginalize others.

Gatsby welcomes any ideas or comments that this report raises. Please contact Ginny Page (ginny.page@gatsby.org.uk).

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