LEARNING AND WORK INSTITUTE

Making a market for the missing middle: Higher technical education

Final report

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Learning and Work Institute
Patron: HRH The Princess Royal | Chief Executive: Stephen Evans
A company limited by guarantee, registered in England and Wales
Registration No. 2603322 Registered Charity No. 1002775
Registered office: 4th Floor Arnhem House, 31 Waterloo Way, Leicester LE1 6LP

Published by National Learning and Work Institute

4th Floor Arnhem House, 31 Waterloo Way, Leicester LE1 6LP

Company registration no. 2603322 | Charity registration no. 1002775

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Acknowledgements

Learning and Work Institute would like to thank the Gatsby Charitable Foundation, who commissioned and funded this project, and West Midlands Combined Authority and Heart of the South West LEP for their support with the work. We are also grateful to all the individuals and organisations who took part in interviews and workshops.

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Executive summary

Introduction

In May 2020, Learning and Work Institute (L&W) was commissioned by the Gatsby Charitable Foundation to carry out research to better understand the market failure in higher technical education (HTE) in England and develop approaches to "market making" in order to boost demand and provision.[1] In particular, the project focused on how providers can stimulate demand for HTE from employers.

This report presents the findings from the project, including gaps in HTE provision, examples of good practice, and recommendations for implementing and testing potential approaches to supporting the growth of HTE through a demonstration pilot.

The project was completed in two stages:

1. Scoping work, including a review of key literature on HTE and stakeholder interviews. Key findings from the scoping review can be found in the Annex.

2. Situational appraisals in two local areas to identify potential approaches to market making in different sectors. The situational appraisals focused on advanced manufacturing and engineering in the Heart of the South West (HoSW) Local Enterprise Partnership (LEP) area and the digital sector in the West Midlands Combined Authority (WMCA) area.

Current provision

The skills delivery infrastructure in both areas presents a strong foundation for growing higher technical skills. The WMCA area has 22 FE colleges and six universities; the HoSW LEP area has 11 FE colleges and three universities; and both areas have a range of independent training providers. They are also home to key collaborative, industry-led initiatives which support advanced and higher skills development including Institutes of Technology (IoTs) in both areas[2] and two Catapult Centres in the West Midlands[3].

The provision identified through the situational appraisals broadly falls into three types: higher national certificate (HNC) / higher national diploma (HND) programmes and Foundation Degrees; higher apprenticeships; and short courses.

[1] Higher technical education is education and training (including apprenticeships, qualifications and short courses) that gives learners competence in higher technical occupations. In educational terms, these are courses and apprenticeships at levels 4 and 5.
[2] The four Institutes of Technology are led by Solihull College, Dudley College, University of Exeter and Weston College.
[3] High Value Manufacturing Catapult (Coventry and Warwickshire) and Energy Systems Catapult (Birmingham).

Challenges

Interviewees all recognised the vital role that an expansion of HTE could play in addressing local and regional skills shortages. However, they also highlighted a range of challenges which impact upon their scope for engaging employers and building demand for HTE. These include:

- **Employer awareness of HTE and business value of higher technical skills**. Employers, particularly SMEs, are often not aware of the ways in which higher technical skills could contribute to business growth and increased productivity. They lack time to find out about opportunities and are focused on business survival rather than growth. The technical education system, including the capability of providers, is not well understood by employers. The range of programmes and qualifications is confusing.

- **Local economy limits demand for higher level skills**. A dominance of low-skilled, low-wage jobs in parts of both regions impact on the demand for HTE. Firstly, with employers without an immediate need, or a reluctance to, upskill their workforce. Secondly, a lack of demand from potential learners due to lower aspirations.

- **Graduate recruitment is the norm**. Stakeholders in both areas confirmed that employers recruit graduates whether or not they have the specific skills they require, reflecting the buoyancy of the graduate market. However, some employers in the HoSW area noted that graduates have good theoretical knowledge but lack practical experience compared to apprentices. They commented that smaller employers may not be able to compete with larger employers for the most accomplished graduates and that investing in graduates' training came with the risk that they may move on quickly.

- **Providers' engagement with employers tends to be "product driven"**, promoting programmes that are currently prioritised through national policy and funding. Thus engaging employers on apprenticeships and T-level industry placements have attracted much attention, while HTE has been relatively overlooked. The introduction of new higher technical qualifications (HTQs) from 2022 may help to raise the profile of HTE.[4]

- **Providers and intermediary services have limited resources to engage with employers**. This can lead to a focus on employers they have a long-standing relationship with and/or larger employers who can offer a sufficient pipeline of learners. It can also lead some providers to wait to be approached by employers rather than proactively engaging them. Feedback from some providers also reflected that they should not necessarily be responsible for stimulating employer demand, but rather responding to it only.

[4] https://www.gov.uk/government/news/major-overhaul-of-higher-technical-education-announced (Accessed 23/22/2020)

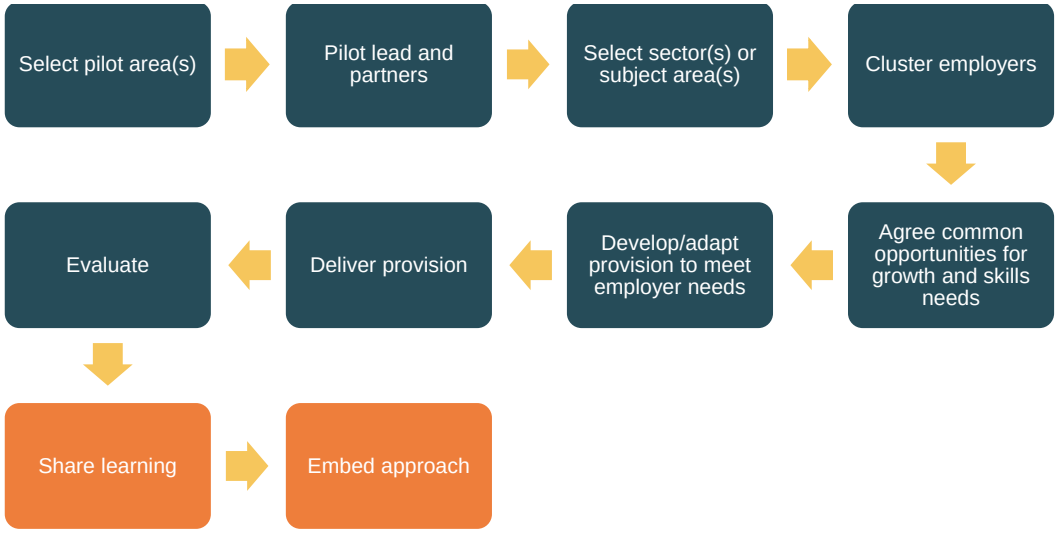
- **A tension between a provider meeting the specific needs of an employer and attracting sufficient learners to make delivery financially viable**. Employers are not demanding full qualifications because not enough of the content in a full qualification is considered to be directly relevant to the particular role or business.
- **Rapid pace of industrial and technological change.** Courses can quickly lose currency and relevance in the labour market. The need for ongoing training, which may include maintenance as well as updating skills, means that full qualifications may be perceived as costly and shorter courses may be more attractive.
- **Knowledge and industry experience of teaching staff can rapidly become out of date.** This leads providers to make decisions on course content based on the skills of their existing staff rather than employer needs. Providers lack the funding to upskill the workforce, either through CPD or by attracting new staff with relevant industry experience.

Growing the market for higher technical education

When considering what providers can do to stimulate employer demand for HTE and offer provision that meets their needs, three elements emerge:

- **Providers' approaches to engaging employers in HTE**. This includes strategic targeting of employers and a focus on supporting business growth rather than meeting short-term skills needs only.
- **The extent to which HTE provision is led or influenced by employers' needs**. This includes the availability of courses that develop specialist technical skills; developing course content to reflect changes in industry; delivery of short or modular provision; and learners' access to state-of-the-art equipment.
- **Development of the provider workforce**. This includes continuing professional development (CPD) for existing teaching staff; attracting new teaching staff; and CPD for staff who lead employer engagement activities.

To expand the market for HTE, we recommend the approaches described below, which could be tested as part of a demonstration pilot.



1. **Selecting pilot area(s)**. The ideal area for a pilot would be one with: a need or potential for growth in higher technical skills; a strong provider base which is able to deliver high-quality provision flexibly; and existing relationships between employers and providers, with recognition that this can be enhanced.

2. **Pilot lead and partners**. The ideal lead organisation would need to: be strategic and align activity to local economic priorities; drive collaboration rather than competition between providers and employers; be well-connected to local providers, employers and any other key stakeholders; and have a track record of using skills budgets to meet local economic needs. The pilot should include HTE providers of all types to ensure coverage across different specialisms and access to different facilities. The pilots should also involve other stakeholders and intermediaries, including the local Skills Advisory Panel (SAP), business forums, membership organisations and trade unions.

3. **Engaging and clustering employers**. The pilot would bring together employers in clusters, to identify common skills needs, that could then be responded to by providers. Employers could be clustered by sector, occupation or cross-cutting higher technical skills needs. SMEs who are unlikely to otherwise benefit from tailored and specialist provision should be prioritised.

4. **Sector(s) or subject area(s)**. The choice of sector or subject area should be underpinned by local data and evidence of need, as well as opportunities for growth. The situational appraisals indicate that a focus on digital in non-digital sectors may present potential for business growth and a genuine opportunity to expand HTE provision across a wide range of sectors.

5. **Identifying common opportunities for growth and skills needs**. Providers will need to work closely with employers to understand their ambitions for business growth and explore how HTE can support them to achieve this. To ensure a joined up approach, employers and providers should be brought together for workshops to identify overlapping interests and skills needs.

6. **Responding to employer needs**. To develop or adapt course content, collaboration between providers – and potentially employers – should be encouraged. Consideration should be given to how learning will be accredited and how this can be delivered in a flexible way, for example through short courses, modules and/or part-time. This should align with new HTQs and employer-led standards.

7. **Learning from the pilots**. Pilot activity should be robustly evaluated and reviewed that lessons can be captured, shared and embedded into future delivery. The findings from the evaluation should be shared with other local and national stakeholders to inform practice and any policy changes required to embed the model.

Considerations for policy and funding

In shaping this demonstration pilot, we sought to provide a model which can be implemented within current policy and funding arrangements. However, it is also important to consider how changes to policy and funding could support these approaches to be enhanced and embedded more widely. These include:

- The need for a national quality framework for higher technical qualifications, with a streamlined number of recognised qualifications. In July 2020, the Education Secretary announced new higher technical qualifications, to be introduced from 2022, which are aligned to employer needs and supported by a government-backed brand and quality mark.[5]

- Establishing a level playing field of funding to support HTE and degree-level study, with equivalent access to funding and finance for students on either route. In September 2020, the Prime Minister set out intentions to make HE loans more flexible, allowing young people and adults to take up technical courses at FE colleges and universities.[6]

- Reform of funding policy to open up maintenance loans for part time HE (recommended in the *Review of Post-18 Education and Funding*[7]) and to enable study towards a qualification at an equivalent or lower level.

- Greater flexibility in the models of learning that can be funded. This could include, as a priority, funding for individual modules, short courses and other smaller "chunks" of learning, to enable employers and individuals to access HTE in forms other than whole courses.

- Funding to better support providers to be responsive to employers, for example by building on the Innovation Code, which offered a number of learning aims through

[5] https://www.gov.uk/government/news/major-overhaul-of-higher-technical-education-announced (Accessed 23/22/2020)
[6] https://www.gov.uk/government/news/major-expansion-of-post-18-education-and-training-to-level-up-and-prepare-workers-for-post-covid-economy (Accessed 08/12/2020)
[7] HM Government *(2019) Independent Panel Report to the Review of Post-18 Education and Funding*

which providers could draw down funding to develop and deliver new provision in conjunction with employers, to address skills needs.

- A greater level of investment in providers to address the current lack of capacity in the FE college sector to deliver HTE, particularly in STEM subjects. The government is establishing Institutes of Technology, involving collaborations between FE colleges, universities and employers. They specialise in the delivery of HTE with a focus on STEM subjects.[8] In addition, the latest government spending review in November 2020 included £110 million, including £50 million of capital investment, to drive up higher technical provision.[9]
- Investment to improve the employer-facing expertise and credibility of both teaching staff and employer engagement teams, to encourage investment in HTE from employers.
- Incentives for providers to collaborate on a long-term basis to maximise the quality of provision, with funding linked to outcomes rather than learner enrolments only.
- A need to make HTE more visible and attractive to prospective learners, including careers advice with an explicit focus on the potential financial returns on HTE and local job and progression opportunities.

[8] https://www.gov.uk/government/publications/institutes-of-technology--2 (Accessed 09/12/2020)
[9] https://www.gov.uk/government/publications/spending-review-2020-documents/spending-review-2020 (Accessed 09/12/2020)

1. Introduction

Learning and Work Institute (L&W) has been commissioned by the Gatsby Charitable Foundation to carry out research to better understand the market failure in higher technical education (HTE) in England and develop approaches to "market making" in order to boost demand and provision.[10] In particular, the project focused on how providers can stimulate demand for HTE from employers. This report presents the findings from the project, including gaps in HTE provision, examples of good practice, and recommendations for implementing and testing potential approaches to supporting the growth of HTE through a demonstration pilot.

Context

At its best, HTE provides young people and adults with the industry-specific skills they need to get a job and build a career, and provides businesses with the vital skills needed to boost productivity.

While the UK has a relatively highly qualified population, it suffers from a 'missing middle' in HTE. Just one in ten (10 per cent) adults in the UK has a Level 4 or 5 qualification as their highest level of qualification, compared to one in five (20 per cent) in Germany and one in three (34 per cent) in Canada.[11] The UK comes 16th out of 20 OECD nations in the proportion of adults who have a highest-level qualification at this level.

This missing middle poses challenges, and it is a lost opportunity. The lack of qualifications at Level 4 and 5 leaves the UK's labour market excessively polarised, hampering social mobility; people who do not opt to go to university often struggle to progress to higher levels of qualification, and to higher-skilled, higher paid roles. The lack of qualifications at this level can help explain lower levels of productivity in the UK.

There is evidence that there is a growing demand for qualifications at Level 4 and 5, but the system has been slow to respond, suggesting that the education system is not working as effectively as it could to match supply with demand.[12] A lack of national assurance that qualifications meet employer needs; low awareness of Level 4-5; a lack of clear and accessible information for learners, providers and employers; and a cultural bias towards degrees all have a part to play in creating this market failure. Better understanding of how we address this challenge is critical if we are to ensure that the local skills offer meets the needs of local people, local businesses and the local economy.

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[10] Higher technical education is education and training (including apprenticeships, qualifications and short courses) that gives learners competence in higher technical occupations. In educational terms, these are courses and apprenticeships at levels 4 and 5.

[11] DfE (2019) *Higher Technical Education: the current system and the case for change.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/814938/Higher_technical_education_case_for_change.pdf

[12] Ibid

In addition to *responding* to the expressed skills needs of employers, learning providers can also play an important role in *stimulating* demand for skills among employers. This role is particularly important in those parts of the economy and areas of the country where there is a low skill equilibrium – with a predominance of low-skilled, low-wage jobs and lower levels of productivity – or where there is significant potential for economic growth. Boosting employer awareness of the benefits of higher technical skills and facilitating greater investment in workforce skills have a key role to play in supporting business development, improved productivity and economic growth.

This project was undertaken at a time of change in higher technical education. In July 2020, the Education Secretary announced measures to improve the quality and take up of higher technical education.[13] These include: new qualifications to be available from 2022, which will be aligned to the needs of employers; ensuring the quality of provision is high to improve employer and student confidence; and a public awareness campaign, including careers information, advice and guidance. The work was completed prior to the publication of the Government's FE White Paper, which will set out plans for reforms to build a world-class further education system in England.

Aim and objectives

The aim of the project was to better understand market failure in HTE and investigate approaches to increasing employer demand and provision that meets their needs. The project sought to answer the following questions:

- Why does the UK have a 'missing middle', with low levels of provision and participation in HTE?
- To what extent is there a market failure in the HTE system, and what are the drivers of that market failure?
- What would an approach to market-making look like at a local level (with a focus on particular sectors), and what would the lessons be for the wider system?
- What should be the respective roles of key actors in making the market for HTE, including employers; providers; and local government including mayoral combined authorities.

The project was completed in two stages:

- Scoping work, including a review of key literature on HTE and stakeholder interviews. Key findings from the scoping review can be found in the Annex.
- Situational appraisals in two local areas to identify potential approaches to market making in different sectors. The situational appraisals focused on advanced manufacturing and engineering in the Heart of the South West (HoSW) Local

[13] https://www.gov.uk/government/news/major-overhaul-of-higher-technical-education-announced

Enterprise Partnership (LEP) area and the digital sector in the West Midlands Combined Authority (WMCA) area.

Structure of the report

The report includes two main sections:

- Findings from the situational appraisals, including the HTE provision currently on offer, examples of good practice and gaps in provision
- Potential approaches to market-making at a local level, specifically how learning providers can stimulate and meet demand from employers.

The report concludes with recommendations for implementing and testing potential approaches through a demonstration pilot.

2. Approach

The project adopted a qualitative approach, delivered in two stages: a scoping phase and a situational appraisal in two areas.

Scoping

The purpose of the scoping phase was to summarise the factors associated with market failure in HTE in England, reasons for the current weaknesses in demand for provision of HTE at Level 4 and 5, and potential solutions that would stimulate growth.

The scoping work involved a review of key literature on HTE in England and internationally, as well as telephone interviews with national stakeholders. Stakeholders included the Department for Education, the Association of Colleges, the Federation of Small Businesses and the LEP Network. Findings from the scoping work were used to inform the geographical areas and sectors selected for the next stage of the project.

Situational appraisal

The two areas selected for the situational appraisals were Heart of South West (HoSW) LEP and West Midlands Combined Authority (WMCA). In defining the geographical scope of the situational appraisal, the following factors were taken into consideration:

- The establishment of Institutes of Technology (IoTs) in the area
- Current rates of progression to Higher Education (HE)
- Geographical profile and local infrastructure
- Devolution of the Adult Education Budget (AEB)
- Skill equilibrium[14]

Within each local area, sectors of particular significance to local strategic priorities and skills needs was selected as the core focus of the project, as determined through consultation with local area leads. HoSW LEP chose to focus on Advanced Manufacturing and Engineering sectors. WMCA chose to focus on the Digital sector.

The features of the two selected area are summarised in the table below:

Table 1: Characteristics of areas selected for situational appraisal

Heart of the South West LEP	West Midlands Combined Authority
Two IoTs, led by Exeter University and Weston College	Two IoTs, led by Dudley College of Technology and Solihull College and University Centre
South West has the lowest rate of progression of any region to HE	One of the highest rates of progression to HE outside London
Rural profile	Urban profile

[14] Areas characterised as being in a 'low skill equilibrium' have a predominance of low-skilled, low-wage jobs and have lower levels of productivity; areas in a 'high skill equilibrium' have high-skilled, high-paid jobs and high levels of productivity.

Heart of the South West LEP	West Midlands Combined Authority
Features of low skill equilibrium (e.g. heavy reliance on tourism)	Features of low skill equilibrium (e.g. skills gaps at Level 4+)
	Devolved Adult Education Budget (AEB)
Sector: Advanced Manufacturing and Engineering	Sector: Digital

The situational appraisals took a mixed method approach, involving the following activities:

- A review of key local literature to provide context for the research team, prior to engagement with stakeholders in the local area. This included the areas' local strategic priorities, labour market profile and technical education provision.
- An initial interview with representatives from HoSW LEP and WMCA, for an oversight of local economic priorities, HTE provision in the chosen sector, gaps in this provision, and suggested stakeholders to engage in the situational appraisal.
- Online workshops, attended by a range of local stakeholders such as HTE providers, employers and local government, who were identified by the respective area leads at the LEP or combined authority. The purpose of these workshops was to discuss priorities and challenges in the local area relating to HTE provision at Level 4 and 5 in the relevant sectors, and to test potential opportunities for providers to stimulate employer demand for HTE.
- Semi-structured telephone or online interviews with local stakeholders (including HTE providers, employers, local government and intermediaries such as local chambers of commerce and training provider networks) to discuss current provision, challenges and examples of good practice. Stakeholders were identified by local area leads, desk research and those attending workshops. Providers included FE colleges, universities and independent training providers. A total of 35 interviews were conducted. A breakdown of interviews by area and stakeholder type is shown in Table 2 below. The timing of the interviews, during the pandemic, meant it was difficult to engage some West Midlands stakeholders, such that the provider voice is more predominant. This was mitigated, by in-depth questioning of providers about their experiences of working with employers.

Table 2: Interviews completed by area and stakeholder type

Stakeholder type	Heart of South West LEP Interviews	West Midlands CA Interviews	Total Interviews
Employer	4	3	7
Provider	6	10	16
Local government	4	1	5
Intermediaries	4	3	7
Total	**18**	**17**	**35**

3. Current provision and challenges

This chapter sets out the findings from the situational appraisals. It starts with contextual information about each of the geographical areas in turn, before thematically exploring current HTE provision, challenges and examples of how these are being addressed across both areas.

Local context

West Midlands Combined Authority

West Midlands Combined Authority (WMCA) was formed in 2015 from 12 local authorities and brings together the three Local Enterprise Partnerships (LEPs) of Greater Birmingham and Solihull, Coventry and Warwickshire, and the Black Country. Its working-age population is just under two million people.[15] With both the largest regional economy and the youngest population profile in the UK outside London, it has shown relatively strong overall growth in gross value added (GVA), productivity and employment rates over the last five years. However, entrenched multiple disadvantage persists in some localities, notably in parts of Birmingham, Sandwell and Wolverhampton.

Through the strategic economic priorities set out for the region, WMCA aims to deliver "balanced and inclusive growth" that enables all communities to both contribute to and benefit from increased prosperity.[16] Raising the skills and qualification levels of the population is central to WMCA's inclusive growth agenda. The current skills profile of the region has been identified as a key challenge: a lower proportion of people are qualified at Level 4 and above and more people have no qualifications than the national average.

Growing higher technical skills in digital and technology is a strategic priority for WMCA, reflecting the critical importance of digital as the fifth largest sector in the region's economy.[17] Birmingham is a major national centre for the digital industry, and there are significant concentrations of businesses in towns including Solihull, Coventry, Warwick and Leamington Spa. The UK's first large-scale 5G testbed is being delivered in the region.

As well having a particular focus on the digital sector, digital skills are also a cross-cutting theme across WMCA's industrial strategy, underpinning delivery of the high-level priorities set out in transport, health and life sciences, construction, business infrastructure and creative content, techniques and technologies. To support its work to strengthen digital skills provision, WMCA has set up the Digital Routeways group to develop T-level entry and progression pathways and a digital network within the West Midlands Colleges Group.

[15] WMCA Labour Market Profile, https://www.nomisweb.co.uk/reports/lmp/comb/1853882375/report.aspx (accessed 30/10/20)
[16] HM Government (2019) *West Midlands Combined Authority Local Industrial Strategy* https://www.wmca.org.uk/media/3094/west-midlands-local-industrial-strategy-single-page.pdf
[17] https://www.wmca.org.uk/what-we-do/productivity-skills/digital/ (accessed 30/10/20)

Heart of the South West LEP

Heart of the South West (HoSW) LEP covers Devon, Plymouth, Somerset and Torbay and has a working age population of almost 1.8 million people.[18] The economy is worth £35 billion, with 32,000 enterprises.[19] The area has traditionally benefited from strong economic growth and employment levels amongst the highest in Europe. However, wages and productivity are comparatively low, and the largest employment sectors (agriculture, tourism and hospitality) are considered to have limited growth potential.

The LEP's strategy for growth focuses on addressing productivity challenges through the creation of high-value, knowledge-based jobs, including in the advanced manufacturing and engineering sectors. However, skills gaps in technical occupations are recognised as a key limitation to growth in the local area. A lower proportion of people are qualified at Level 4 and above than the national average.

The advancement of HTE is therefore seen as crucial to improving local skills in advanced manufacturing and engineering, helping to develop and retain a highly skilled and adaptable workforce.[20] This is central to ensuring local people have the skills required to both support and benefit from future transformational opportunities in these sectors, including key developments such as Hinkley Point, the Nuclear Sector Deal, the Rotorcraft supply chain, and Oceansgate and Gravity Park Enterprise Zones.

In addition to engineering, digital is also one of the LEP's key priorities in their Local Industrial Strategy.[21] Specifically, the LEP has ambitions to grow digital and analytical expertise in environmental intelligence; agriculture and food; marine geospatial data; and health technology and healthy ageing. This is seen as key to creating higher-level jobs and raising productivity.

Current HTE provision

The skills delivery infrastructure in both areas presents a strong foundation for growing higher technical skills. The WMCA area has 22 FE colleges and six universities; the HoSW LEP area has 11 FE colleges and three universities; and both areas have a range of independent training providers. They are also home to key collaborative, industry-led

[18] Heart of the South West LEP Labour Market Profile https://www.nomisweb.co.uk/reports/lmp/lep/1925185548/report.aspx (accessed 16/11/2020)
[19] Heart of the South West Partnership (2018) *Stepping up to the challenge: Productivity strategy* https://heartofswlep.co.uk/wp-content/uploads/2018/04/HeartoftheSouthWestProductivityStrategy.pdf
[20] Ibid
[21] Heart of the South West (2019) *Local Industrial Strategy* https://heartofswlep.co.uk/wp-content/uploads/2020/11/201119-Heart-of-the-South-West-Local-Industrial-Strategy.pdf

initiatives which support advanced and higher skills development including Institutes of Technology (IoTs) in both areas[22] and two Catapult Centres in the West Midlands[23].

The provision identified through the situational appraisals broadly falls into three types: higher national certificate (HNC) / higher national diploma (HND) programmes and Foundation Degrees; higher apprenticeships; and short courses.

HNC/HND programmes and Foundation Degrees

All the colleges and one of the universities interviewed in the West Midlands deliver Level 4 and 5 HNC/HND programmes in computing. Generally, this is a small part of their overall provision and the university respondent stated that learner numbers have fallen from around 50 to 15 in the last three years. Pathways are mapped to key occupational roles where labour market intelligence shows there are local skills shortages such as network engineer, cyber technologist and app developer so students can follow their interests and preferences. Developing partnerships with local universities has enabled colleges to extend and enhance their HTE offer. One college delivers a Foundation Degree in digital media and games design in partnership with Wolverhampton University, developed in response to skills shortages identified in the local and regional labour markets. Others offer Level 6 “top ups” to their progression pathways.

In most cases, these courses are delivered full-time and students work towards the full qualification. Almost all students on full-time FE-based HTE programmes progress onto the course directly from the same college’s Level 3 courses. Typically, they are young adults who have yet to embark on their chosen career. A very small number of learners who are already in work access these courses part-time, but interviewees stressed that this is now unusual, reflecting a steep decline in part-time HTE over the past decade.

The colleges interviewed in the HoSW LEP area also offer Level 4 and 5 HNC/HND programmes. Relevant examples include electronics and communication, mechanical design, manufacturing processes and aircraft engineering. This provision is offered on both a full-time and part-time basis. For example, one college offers HNDs as a full-time, four-year course, while another offered HNCs via day release from their jobs. Most courses identified are delivered face-to-face, although some providers reported a shift to online learning since the implementation of coronavirus lockdown measures in March 2020.

While advanced manufacturing and engineering is well-established in the South West, some providers reported a recent reduction in numbers of students at Level 4 and 5, which was said to be due to young people being encouraged instead to access undergraduate degrees at higher education institutions. Interviewees reflected that provision at Level 4

[22] The four Institutes of Technology are led by Solihull College, Dudley College, University of Exeter and Weston College.

[23] High Value Manufacturing Catapult (Coventry and Warwickshire) and Energy Systems Catapult (Birmingham).

and 5 in these subjects was offered in response to demand from local employers rather than from individuals. A college representative explained that this was due to low levels of aspirations in the community, within the context of a high volume of low to medium salaried roles available in the local area. Employers have therefore taken responsibility for upskilling their employees rather than expecting to recruit individuals who are already qualified to the required level.

Apprenticeships

Providers in both areas reported that, where there has been growth in HTE, it has been in higher apprenticeships. This was attributed to the impact of the levy in driving employer preferences and behaviour. Several colleges stated explicitly that employers with whom they work have switched from accessing part time HNC/HND programmes for workforce development to employing higher apprentices in order to make use of the levy. It was also noted that higher apprenticeships are more attractive to some individuals, and that apprenticeships provided clear progression pathways from Level 3 to Level 6.

There are proportionally more apprenticeships in engineering and manufacturing in both areas compared to digital. This may reflect a longer tradition of apprenticeships in engineering and manufacturing, with the infrastructure to support new apprentices. An interviewee representing a large digital employer stated that, while apprenticeships provide a key route into digital and technology, practical considerations limit the numbers that can be employed and trained in this way. Their organisation takes on around 50 apprentices from Level 3 to Level 6 each year across England, and although in theory it would like to employ six times that number, in practice the necessary infrastructure for providing workplace mentoring and support on this scale is not yet in place.

Short courses

Interviewees in the West Midlands highlighted a range of short courses which develop higher technical skills in digital and technology. Most frequently cited were vendor qualifications offered by major companies such as Microsoft, AWS and Cisco, and professional certifications such as CompTIA. For example, one college described the suites of vendor qualifications which it offers via blended learning in networking, programming, hardware and software. This provision has good labour market currency and hence is highly valued by individuals, with the result that learners often self-fund. It was suggested by several interviewees that this kind of provision has considerable growth potential as a route to upskilling for those already in work in digital roles or with relevant digital and tech experience. It was also suggested that the inclusion of vendor/professional qualifications within the new digital apprenticeship standards makes them more attractive and industry-relevant than HNC/HNDs. One college reported that they offer funded vendor / professional qualifications to HNC/HND students to enhance their employability. A large digital employer reported that courses such as AWS's suite of training in cloud computing provide a rapid upskilling route for individuals who are already qualified at Level 3 or 4, and in particular for those who have obsolete "heritage" skills in maintaining physical digital infrastructure. WMCA's Digital Retraining Fund (see Good Practice section below) has

provided a boost to the provision of short courses in the region, albeit so far on a relatively modest scale.

In the HoSW area, some employers commented on the lack of flexible provision, such as short courses or modular provision. They noted that this would be useful in filling specific skills gaps in their workforce, without having to release staff for a full programme. One employer said that they used to be able to access a modular masters programme at a local university, which is no longer available.

Challenges and how these are addressed

Interviewees all recognised the vital role that an expansion of HTE could play in addressing local and regional skills shortages. However, they also highlighted a range of challenges which impact upon their scope for engaging employers and building demand for HTE. These challenges can be grouped into two broad categories: first, those which relate to the local labour market; and secondly, those which relate to current provision and providers' employer engagement practices. These challenges are described below, alongside examples of where providers have already taken action to strengthen their engagement with employers to build demand for upskilling through HTE. Much of this work is at an early stage or is attached to short-term funding, and interviewees stressed that more long term support is needed through the funding system if they are to drive up demand and deliver provision on the scale required to meet the level of skills needs. Implications for policy and funding are discussed in the next chapter.

Local labour market

Employer awareness of HTE and business value of higher technical skills

A common theme raised by interviewees in both areas was that employers, particularly SMEs, are often not aware of the ways in which higher technical skills could contribute to business growth and increased productivity. Lack of time to find out about opportunities and a focus on survival rather than growth tend to underpin this perspective. In addition, the technical education system, including the capability of providers, is not well understood by employers. The range of programmes and qualifications is confusing, and they struggle to equate educational "levels" to the skills needs of their organisation.

> *"Employers don't really actually understand what providers could bring to them. I don't think employers understand how good FE colleges are, in their equipment, and staffing, and abilities."* (HoSW college)

Providers are developing a range of approaches to support employers, particularly SMEs, to understand the technical skills system and the relevance of skills to their organisation. Interviewees emphasised that to be effective, the starting point for this engagement must be the *business* needs of the organisation. Therefore, support for skills development – including HTE – must be integrated within wider support for business planning and workforce development.

Heart of Worcestershire College Digital Employer Forum

Led by the curriculum manager for digital, the Digital Employer Forum aims to build employers' awareness of what education could do for businesses. Through information, advice and support to SMEs, it aims to "demystify" the technical education system by bringing all the options for employers together into one coherent offer. Opportunities for employee CPD and upskilling through short courses, vendor certification and part-time HTE are presented alongside T-levels, apprenticeships and degrees. The forum meets two to three times a year to keep employers abreast of changes and to share good practice regarding how they manage employee upskilling and recruitment. In addition, workshops are held with the forum members to help develop new curricula for the College. These activities are usually delivered face to face but have moved online for the time being. The consistent message communicated by the college is "grow your business by upskilling your workforce."

Solihull College *Business Elevator*

Business Elevator is a project funded by the European Social Fund (ESF)[24], which targets SMEs and micros. It is led by Solihull College and delivered in collaboration with BMet College and South and City College Birmingham. Specialist staff work with employers to improve their engagement with training organisations and show how providers can help them to identify and address skills needs. Employers may be supported to access formal programmes such as apprenticeships where this is appropriate, but *Business Elevator* also aims to provide a more holistic offer, which includes workshops on using social media to develop the business and providing work placement and project students to address specific digital needs such as app design. A full training needs analysis is carried out with participating employers, and this has helped to move conversation on from simply responding to what business says it wants to working with the organisation to build skills into business planning. Delivery of *Business Elevator* is led by employer engagement staff who work closely with subject specialists to explore what they can offer.

In both areas, stakeholders reflected on the need to improve the digital skills of the workforce *outside* of the digital sector, as a means of harnessing opportunities for business growth and improvements in products and services presented by digital innovation. Providers had sought to engage employers through offering technology demonstrations, student placements and establishing partnership projects. Both providers and employers stated that large tech companies have an important role to play in

[24] The UK Shared Prosperity Fund is proposed as the successor to ESF but is yet to be established.

supporting such activities, for example by partnering colleges as described in the EdTech Fund vignette below and in engaging SMEs.

It was also suggested that more could be done to integrate support for employers to identify and address digital skills gaps into wider skills needs analysis and business support related to the organisation's core business. In addition, interest is growing among providers in developing digital skills training which can be overlaid onto HTE programmes in other curriculum areas as a way of strengthening digital skills in organisations for whom digital and technology is not their core purpose. This work is at an early stage, but several providers indicated that they are looking at developing an interdisciplinary digital skills component for apprentices or as CPD for employees in areas such as construction, health, engineering and business administration.

Coventry University Digital Demonstrator project

Coventry University has secured European Regional Development Fund (ERDF) funding to run a digital demonstrator project to work with businesses to identify how they can better utilise digital connectivity to develop their processes, products and services. Starting with the business issue that a participating organisation wants to resolve, the university will provide support to understand how technology can help and to integrate it into business practices. The focus on digital connectivity encompasses both existing and potential future digital technologies.

WMCA Ed Tech Programme

With the Department for Education, WMCA is co-funding a £1m Ed Tech Fund. Two colleges have demonstrator sites designed to promote innovation and inspire individuals and organisations in the local community to engage with digital and technology. State-of-the-art equipment is available to stimulate employers' understanding of how technology could support their business and generate interest in digital upskilling. Walsall College is partnering with Fujitsu and Sandwell College with Microsoft LinkedIn. Working together, the corporations and providers are exploring how curriculum and delivery can be developed to teach learners the real digital skills that they will need for employment. The demonstrator sites are intended to showcase the potential for new ways of working to other providers.

Two employers (one large and one small) in the South West also discussed the value of student placements to businesses. Both employers currently host three-month industry placements for higher education students. They described these as "low risk" opportunities for individuals to have exposure to the workplace and that they can bring an "injection of ideas, passion and knowledge of technology" to the business. They noted that T-level

industry placements could have the same impact in showing employers the potential for technical skills, as they start to be rolled out in engineering and manufacturing.

Local economy limits demand for higher level skills

Providers based in some economically disadvantaged parts of the WM region, in particular areas of the Black Country, stated that wages are low and demand for higher level skills among local businesses is weak. Where employers do want to upskill their workforce in digital it is usually only to Level 3, and they resist employing individuals with higher level skills who may have higher salary expectations. There was little recognition, among interviews with providers, of the role that they might play in stimulating – rather than simply meeting – demand from employers for higher level skills. In part, this is related to the issue articulated by one provider that, "Before you can grow provision, you've got to grow the economy".

One interviewee from a college that serves a disadvantaged town and provides a digital progression pathway up to Level 6 explained that individuals achieving higher technical and degree level qualifications generally find employment in the region's more prosperous cities such as Birmingham or Wolverhampton. This provider described how their local employers are overwhelmingly SMEs and are not in high-value added industries. They are very willing to give their time with IAG-type support but have low demand for digital HTE themselves.

> *"We find with some employers you know, they don't want their staff overqualified because they've got to pay more. They want those digital upskills for their staff and they're happy go to Level 2 or 3, but we don't get as much calls for the specialists."* (WMCA provider)

Similarly, in the HoSW LEP area, with dominant sectors offering low paid work with limited options for progression, the aspirations within the local community can be comparatively low. Providers described challenges with keeping learners beyond Level 3, due to limited understanding of the benefits of continuing to higher technical provision or local opportunities for work requiring these skills.

Graduate recruitment is the norm

Stakeholders in both areas confirmed that employers recruit graduates whether or not they have the specific skills they require, and this reflects the buoyancy of the graduate market. Providers in the West Midlands said that, among employers, a degree is generally accepted to be the way into a career in the digital sector. Although large digital employers have developed apprenticeship career pathways, these make up a small part of the overall picture. One college stated that digital has been the most difficult curriculum area on which to engage employers around HTE. As several other providers also stated, employers' preference for graduates makes it difficult to build interest in Level 4 and 5, and there is limited appreciation of what value an individual qualified at that level could add to the organisation.

> *"Computing has really struggled more than other areas to engage with business. Level 4/5 in the digital space is a really difficult one to get employers on board with. I think they are still looking for graduates and the graduate market is buoyant. There are a lot of graduates coming out."* (WMCA provider)

In the HoSW area, employers in the advanced manufacturing and engineering sectors commonly recruit a combination of graduates and apprentices. They reflected on some of the challenges of being reliant on graduates who have good theoretical knowledge but lack practical experience, with one employer explaining that they have to update graduate's skills and another commenting that apprentices tend to be "better value, quicker". This might be exacerbated by the Covid-19 pandemic, where university students may have less opportunity to practice skills due to social distancing and remote working in some businesses. A smaller employer said that they could not compete with larger employers when trying to attract the most accomplished graduates. Another employer had experienced higher turnover of graduates as they tend to seek progression quickly, whereas apprentices are believed to be "more open-minded about their career and tend to stay longer".

Provider engagement with employers

Employer engagement practices

A range of approaches to employer engagement were described by interviewees, some of which were considered to be particularly effective and are highlighted in this section. Evidence suggests, however, that some aspects of providers' practices in engaging employers hamper a focus on HTE. Most significantly, it was stated that colleges' business engagement teams tend to be "product driven", with a sales-type approach which promotes whichever programmes are currently prioritised through national policy and funding. Thus engaging employers on apprenticeships and T-level industry placements have attracted much attention, while HTE has been relatively overlooked. A stronger higher technical offer would go some way to address this, however it is important to note that stakeholders felt that it was more important to develop a business-drive approach, rather than simply to add in another product for providers to "sell".

Some providers in the HoSW reflected that they have limited resources to engage with employers and for efficiency they often focus on those they have a long-standing relationship with and/or larger employers who can offer a sufficient pipeline of learners. In addition to limitations in their own capacity, providers said that many smaller businesses do not themselves have the resource to engage with providers and explore training options.

> *"The smaller businesses also are probably one-man bands, very small, they don't have time to answer their emails, they don't have time to be sat talking to a training provider, they're working, they're busy, they actually do need support to develop, grow, to actually access some support but they just don't have time to do it."* (HoSW college)

In addition to limited resource to engage with employers, an interviewee representing an intermediary organisation in the South West said that approaches to account management could be improved. They explained that some employer engagement teams working in FE colleges lack expertise in commercialisation and often expect employers will approach them about skills and training needs. The interviewee suggested that providers needed to ensure they had employer engagement strategies, informed by local labour market information, in place. This would help them to identify local SMEs to engage with, in addition to the larger employers they already have relationships with.

The geography of the South West was also said by providers to greatly influence their relationships with employers. Long distances and limited public transport between providers and employers in the region encourage organisations to work together based on proximity rather than expertise. Employers said this could have a negative impact on quality, with a single college trying to meet all employers' needs in one place. Employers and providers both said that employers often approached providers about skills provision rather than the other way around, based on their location.

Some providers in the West Midlands also reported experiencing difficulties in trying to engage employers, including SMEs, via formal methods such as subject-specific employer forums. Although this method has worked for some, others stated that they experience persistent problems with non-attendance which undermines the value of the approach.

Petroc College: Engineering employer group

Petroc College convenes expert employer groups, representing different sectors. The engineering group includes HR or Engineering managers from nine local employers. Group meetings are used to brief employers on the courses that are available, local and national skills policy developments, and to consult employers on their skills needs. This is an effective way of sustaining engagement with employers and ensuring the college is responsive to their needs. Participation in the group also gives employers the opportunity to contribute to curriculum development.

Petroc College is also represented in employer-led networks, such as the North Devon Manufacturers Association.

Given LEPs and combined authorities have a key role in determining economic priorities and growth, as well as raising workforce skills within their areas, they can play a valuable role in encouraging collaboration between employers and learning providers. This includes providing information and signposting to employers, as well as convening networks and forums and coordinating Skills Advisory Panels (SAPs). To support digital upskilling, WMCA has established partnerships with large tech companies to provide secondment and development opportunities for staff to work with large datasets that local authorities hold.

Heart of the South West LEP: *Skills Launchpad*[25]

The Heart of the South West LEP developed the Skills Launchpad, in part in response to the Covid-19 pandemic, to provide individuals and employers a single place to find out about skills and careers related activity. The website provides information about local initiatives, such as the Career Hub, which supports careers education for young people; the Digital Skills Partnership, which aims to ensure people have access to digital technology and training to support workplace mobility; and the **Skills Advisory Panel**, a local partnership between employers, local authorities and education providers to better understand local skills needs and labour market challenges. The LEP is continuing to develop the site, using it as a hub for delivery and information linked to Covid recovery, including the government's Kickstart programme and digital bootcamps.

Attendees at the Heart of the South West workshop highlighted the role of intermediary services such as *Skill Up Somerset*, an apprenticeship and skills advisory service, which are set up to support businesses and individuals with their skills. However, like providers, these services tend to have few staff and lack the resource to engage with SMEs at the scale required.

Provision does not match employer needs

Stakeholders in both areas discussed the extent to which current provision meets the articulated skills needs of employers, and the challenges that providers face in meeting these needs. Two common issues were raised in relation to both sectors: firstly, the diversity of roles and specialist skills required for these; and secondly, the pace of industrial and technological change, which makes it difficult to maintain the currency of curricula, the knowledge of teaching staff, and equipment.

One provider in the West Midlands summarised a key challenge of seeking to offer Level 4 and 5 digital programmes to employers as continuing professional development (CPD) by stating, "No two jobs are the same". Other interviewees conveyed a similar message, pointing to the sheer diversity of organisational contexts and digital skills needs. Consequently, it has proved challenging for providers to stimulate demand from employers for workforce upskilling. Due to the specific nature of the skills need, employers are not demanding full qualifications because not enough of the content in a full qualification is considered to be directly relevant to the particular role or business. This is held in tension with providers needing a large enough cohort to make development and delivery financially viable. On the one hand, the offer is seen as too generic and insufficiently tailored to needs of individual employers, while on the other hand, more bespoke provision is unable to attract sufficient numbers to make it viable to deliver, as a business may only want to train one or two people.

[25] https://skillslaunchpad.org.uk/

Similarly, in the HoSW LEP area, employers also identified specific gaps in provision for specialist roles, most notably in electrical engineering. One employer explained that, while the engineering provision their staff accessed was useful, large elements of the courses were “off-the-shelf” and too generic. This meant there were limitations to the relevance of the content to their business, particularly in relation to niche roles requiring advanced technical skills. Where providers recognised these gaps, they explained that they often lack the resource to invest in new, tailored courses – along with the facilities needed – without the guarantee of a high volume of learners.

> *“Even with the biggest employers, they will say, 'We would love a course that does X, Y and Z'. What we have to do then, as a provider, is go away and build that course, set it up, write the curriculum, get it signed off, market it, and then get learners onto the course. And, even at the point where we've done that, and we're talking about a 12 to 18 months cycle there, we haven't seen a penny of funding. We're doing all of that at risk.”* (HoSW provider)

Several providers in the West Midlands stated that they are exploring models for bringing together SMEs with similar digital training needs so that they can build cohorts of learners which will make courses viable to deliver. One college, which is in the early stages of planning such an approach, explained that courses would be offered to SMEs on a cooperative basis and the group of employers would agree to release staff to form a cohort. In the South West, a college said that they had already done this effectively with SMEs, where an employer did not have sufficient numbers to justify a tailored apprenticeship programme. Through engagement with other local SMEs, the college was able to achieve a financially viable cohort. It was also suggested that IoTs could provide a mechanism for promoting and extending this approach.

It was noted that the rapid pace of industrial and technological change presents a range of challenges for providers in both areas. Courses can quickly lose currency and relevance in the labour market. Two WMCA providers (a college and a university) attributed the decline in their digital HNC/HND programmes in part due to the fact that they no longer match employer needs and stated that the provision is under review.

> *“When you speak to employers they just want the training that meets their business needs, they don’t necessarily want a qualification attached to it as well. If they just want their staff upskilled in a certain area to do a job role, why do they have to do a full HNC/HND just for something that is covered in one unit?”* (WMCA provider)

The need for ongoing training, which may include maintenance as well as updating skills, means that full qualifications may be perceived as costly and irrelevant if the business need is just for one or two individuals to develop a specific skill. In the HoSW area, an employer highlighted the need for short courses in avionics and aviation to fill specific skills gaps, noting that modular provision used to be available.

A variety of initiatives were reported by providers in the West Midlands who are seeking to develop short, focused and targeted digital provision, which meets the needs of employers across sectors. This includes the design and delivery in partnership with employers of short courses and the delivery of standalone units from larger HTE programmes which can be accumulated over time into full qualifications. Examples were also cited of flexible delivery modes including greater use of online delivery to enable participation by adults in work. The move towards online delivery has of course been accelerated as providers respond to the new teaching and learning requirements produced by Covid-19.

WMCA Digital Retraining Fund

Funded through the National Retraining Scheme, the Digital Retraining Fund provides funding for employment-focused projects to deliver digital training to support upskilling and reskilling for individuals who are out of work, disadvantaged or under-represented in the digital workforce, or at risk of redundancy or skills obsolescence. Projects have been developed and delivered through partnerships between providers, employers and other stakeholders in touch with target learners. Around 40 projects have been supported to date. Courses are designed to develop skills in areas such as coding, virtual reality, cloud technology and robotics, with some delivery of professional certifications. A range of flexible delivery models and intensive "boot camp" approaches are being used.

Dudley College mixed HNC/HND programme

Through funding flexibilities granted by WMCA, Dudley College has put in an offer of mixed part time provision in which the content of some L4/5 Creative Industries, Leadership & Management and Computing & Digital programmes are being delivered flexibly. Students can work towards single units in any of the programmes included on the course. Classes are delivered in the evening, two nights per week (or one night per week over a longer period). The course is open to employed and unemployed students who are looking for reskilling and upskilling opportunities. Currently, students who complete a unit will not necessarily receive accreditation, although this is being further explored. The key driver is skills development rather than qualification.

The pace of change can also mean that the knowledge and industry experience of teaching staff can rapidly become out of date. One college respondent in the West Midlands stated that the modules taught on their HNC/HND programme are selected on the basis of what staff are able to cover rather than what employers want. However, providers lack the funding to upskill the workforce, either through CPD or by attracting new staff with relevant industry experience. An interviewee representing an intermediary organisation in the South West suggested that teaching staff should spend a limited period of time each year in industry to support their CPD. They explained this would help to

strengthen relationships between providers and employers, and ensure that teaching staff have up-to-date skills, particularly in relation to the latest technology.

Providers in the South West explained that they find it difficult to attract teaching staff when in competition with well-paid jobs in industry. To help address this, an interviewee suggested that providers should try to engage industry professionals to support course delivery. For example, this could include those who are nearing retirement or secondments, as well as employers offering one-off masterclasses for students. They explained that this would support employer engagement activity and help to improve quality or students' experience, as well as filling gaps in providers' capacity.

Providers in the West Midlands pointed to a variety of ways in which they are seeking to ensure that teaching staff have up-to-date, industry relevant knowledge and skills, including upskilling existing staff and bringing in specialists to deliver certain elements of the curriculum. One college reported that they been working in partnership with a university to upskill their digital workforce, drawing on its expertise to carry out a gap analysis and provide appropriate support and training via short, flexibly delivered courses.

Dudley College: a strategic approach to workforce capacity-building in digital

Dudley College is working to engage staff across all curriculum areas in understanding how they can support the growth of digital skills. Outstanding practitioners are being supported to act as digital leads, and a network of e-learning champions has been created across the college to support the development and implementation of digital as a pedagogical tool and identify what that means for each sector. An enhanced programme of CPD is in place for staff focusing on digital skills. For example, tech companies have been engaged to demonstrate new technology such as virtual reality to curriculum managers and work with them to explore how it could be used to enhance teaching.

The college also supports dual professionalism to ensure that its digital skills teaching meets current industry needs, with industry specialists engaged to co-deliver and support teaching staff. Having recognised that teaching salaries would not encourage industry specialists into teaching, the college introduced an advanced lecturer pay scale to attract dual professionals with highly sought-after skill sets.

In the HoSW LEP area, some colleges have longstanding relationships with employers who are involved in the design and delivery of provision. This includes co-design and co-delivery of courses, as well as donating state-of-the-art equipment so that students have experience of this before they enter the workplace.

Yeovil College: Leonardo Helicopters

Yeovil College's Engineering department has a particular focus on rotary wing aircraft and the college has a strong and long-standing relationship with Leonardo Helicopters. Working collaboratively with Leonardo and Pearson, the college has developed curriculum content to meet training requirements, and they offer full qualifications from Level 2 to Level 6. This has benefited other local business, such as Heli Operations, BAE Systems and Honeywell.

Leonardo has also shared workshop equipment with the college, including helicopter gear boxes, landing gear, flight controls and, with the support of the MoD, a Lynx airframe. This helps to ensure that learners have the opportunity to apply their theoretical knowledge using state-of-the-art equipment.

South Devon College: Princess Yachts

In 2019, South Devon College formalised their partnership with Princess Yachts, one of the largest employers in the region, by opening the South Devon Marine Academy. The college and employer have worked closely to ensure the programme meets the needs of the business. The partnership has enabled Princess Yachts to double their intake of apprentices, and has given apprentices access to workshops that have been designed by Princess Yachts.

4. Growing the market for higher technical education

This chapter presents potential approaches to expanding the market for higher technical education (HTE) at a local level. These seek to address some of the challenges set out in the previous chapter, and draw on some of the examples of practice described by stakeholders. In line with the specific aim of this project, the approaches focus on what providers can do to stimulate demand from employers.

The chapter begins by presenting a conceptual model for boosting employer demand for HTE, before describing approaches for implementing the model and a potential pilot. Although the suggestions could be accommodated within the existing policy and funding arrangements, the chapter concludes with implications for policy and funding that would support these approaches to be enhanced and embedded more widely.

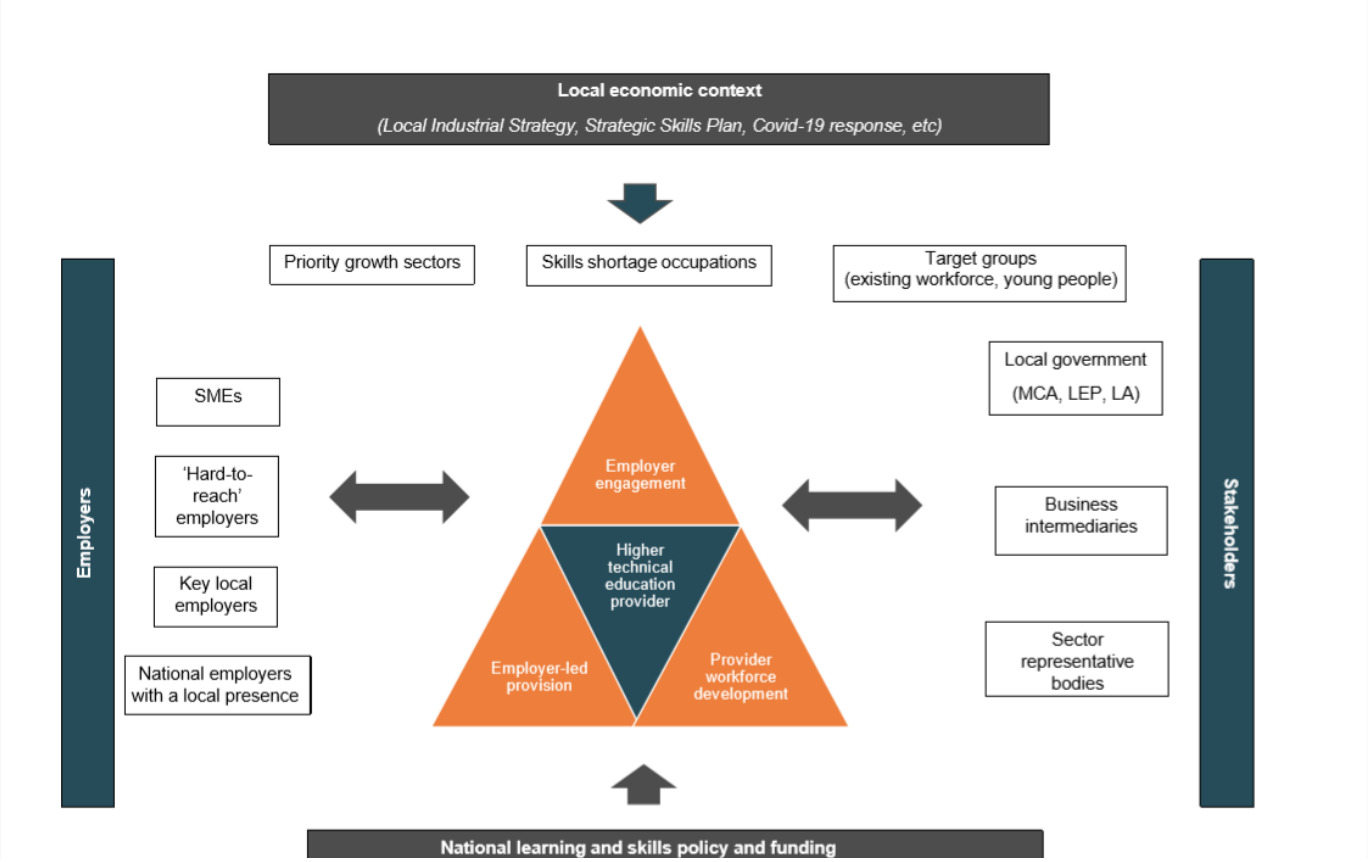
Conceptual model for stimulating employer demand

When considering what providers can do to stimulate employer demand for HTE and offer provision that meets their needs, three elements emerge:

- Providers' approaches to engaging employers in HTE. This includes strategic targeting of employers to include those who are perceived to be hard-to-reach and smaller employers; and a focus on supporting business growth rather than meeting short-term skills needs only.
- The extent to which HTE provision is led or influenced by employers' needs. This includes the availability of courses that develop specialist technical skills; refreshing or developing course content to reflect changes in industry; delivery of short or modular provision; and learners' access to state-of-the-art equipment.
- Development of the provider workforce. This includes continuing professional development (CPD) for existing teaching staff; attracting new teaching staff; and CPD for staff who lead employer engagement activities, so they are equipped to discuss business needs as opposed to products.

The diagram below sets out a conceptual model for stimulating employer demand for HTE, including these three elements (see Figure 1). The HTE provider is at the centre of the model as they are both driving activity and responding to the demand. The local economic context is represented at the top, including priority growth sectors, skills shortages and individuals who fall into target groups (for example young people or the existing workforce who have Level 3 qualifications). Local stakeholders are included on both sides, with employers separated out as the main group of stakeholders that providers are engaging with. Wider stakeholders include intermediary and representative organisations, as well as local government, who may help to facilitate employer engagement and influence providers' offer. Underpinning this activity is national learning and skills policy and funding, which can both enable and/or inhibit providers' responsiveness to employer needs.

Figure 1: Conceptual model for stimulating employer demand for HTE

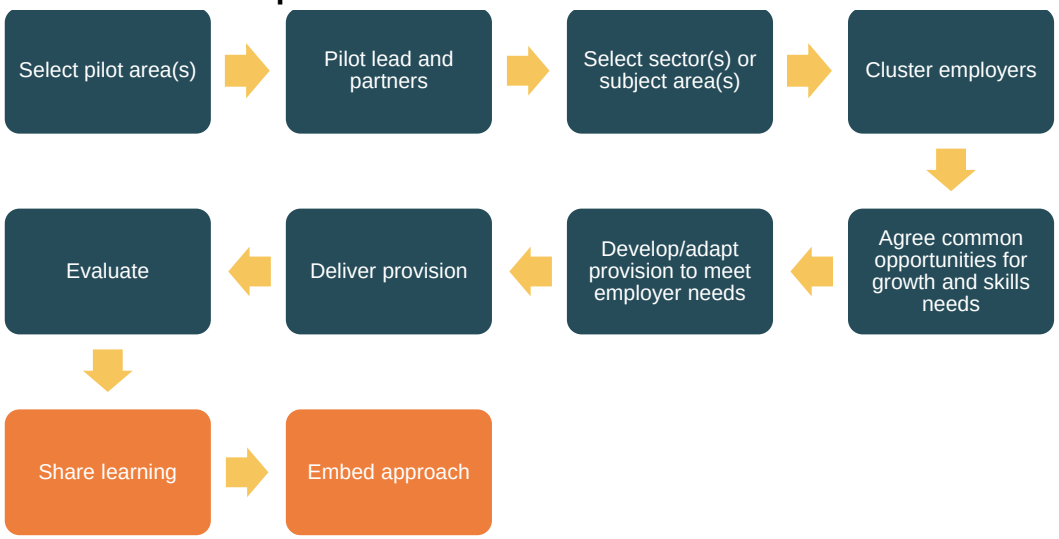


Towards a pilot

This section describes approaches that could be developed and tested as part of a demonstration pilot. They predominantly focus on the two elements of the model that can be most readily addressed through pilot activity: employer engagement and aligning provision to meet employer needs. The third element, workforce development, will be addressed in part through the enhanced employer engagement within the model. Feedback from providers reflect that more broadly, this is predominantly a capacity issue, which can only be addressed through longer term changes to funding policy, supported by investment in workforce training programmes for the FE sector. Both of these issues are picked up in the final section on considerations for policy and funding.

Figure 2 below sets out the process for implementation of the pilot, from selection of, and engagement with the pilot areas, to sharing learning with other areas and embedding this approach within the wider HTE offer.

Figure 2: Process for implementation



Pilot aim

The aim of the pilot is to address the two key challenges identified through the situational appraisals: FE colleges' capacity to engage with SMEs with HTE and building a cohort of learners that makes course development and delivery financially viable for providers.

The pilot will test whether employer demand for HTE can be stimulated by:

- Providing additional investment in FE colleges' employer engagement and business development capacity
- Bringing clusters of SMEs together around a sector or subject area to identify common opportunities for business growth and skills needs

Although not a primary aim of the pilot, we expect that the activities involved will also support the development of FE provider staff involved in the pilot.

Selecting pilot area(s)

The ideal area for a pilot would be one with:

- A need or potential for growth in higher technical skills
- A strong provider base who is able to deliver high-quality provision and be flexible to employers' needs
- Existing relationships between employers and providers, with recognition that this can be enhanced

The willingness of stakeholders to engage in a solutions-focused pilot is also crucial to ensure that activities are implemented efficiently. Given the time investment that stakeholders have already made in the project, it would be beneficial for the pilot to be run in the West Midlands or Heart of the South West. The groundwork to understand the local

areas, provider base and economic priorities has also already been done through the situational appraisals.

Pilot lead and partners

A successful pilot requires an effective partnership between a range of stakeholder organisations. However, it would also be necessary to identify an anchor institution to lead and coordinate pilot activity. The ideal lead organisation would need to:

- Be strategic and align activity to local economic priorities
- Drive collaboration rather than competition between providers and employers
- Be well-connected to local providers, employers and any other key stakeholders
- Have a track record of using skills budgets to meet local economic needs

Given the key role of LEPs and combined authorities in determining economic priorities and growth, as well as raising workforce skills within their areas, they would be well-placed to be the anchor institution within this demonstration pilot.

Providers involved in the pilot should include FE colleges, as well as universities or independent training providers, depending on the sector and provider base in the local area. Diversity of providers should ensure coverage across different specialisms and access to different facilities.

The pilots should also involve other stakeholders and intermediary organisations, including the LEP or combined authority if they are not leading. These should include the local Skills Advisory Panel (SAP), business forums and membership organisations, such as the local chambers of commerce and Federation of Small Businesses, as well as national organisations like trade unions or the TUC.

Where there is only one provider in the area who is not in competition with others, it would be possible for this provider to be the anchor institution. The government is planning to introduce new college "business centres" to give employers greater influence over training.[26] This idea also links to a recommendation made by the Independent Commission on the College of the Future, that colleges should establish employer hubs. Details on how the centres will be implemented is yet to be announced but it may be appropriate for the pilot to be led by a college if they host a business centre.

Engaging and clustering employers

As outlined in the previous chapter, there is a tension between designing and delivering specialist HTE provision that meets individual employer needs and achieving a sufficient pipeline of learners that makes delivery financially viable for a provider. This is particularly

[26] https://feweek.co.uk/2020/11/16/government-set-to-create-college-business-centres/ (Accessed 08/12/2020)

risky for providers when working with SMEs who may only have a small number of staff who require training at any one time.

To address this tension at a local level, the pilot would bring together employers in clusters, to identify common skills needs, that could then be responded to by providers. Employers could be clustered by sector, occupation or cross-cutting higher technical skills needs. To maximise the impact of the pilot, SMEs who are unlikely to otherwise benefit from tailored and specialist provision, should be prioritised. Bringing employers together to collaborate with each other would also help foster a relationship of co-investment and help to allay any concerns about poaching. It could also facilitate other collaborations, for example collaborating in the delivery of apprenticeships or T-level industry placements across different employers. This approach to apprenticeships already exists in construction, whereby a Construction Industry Training Board, such as Shared Apprenticeships South West[27], recruits and manages apprentices who have placements with multiple employers.

By also involving a range of providers with these clusters, this approach could also help to facilitate greater collaboration between providers, both in terms of their response to employer needs through curriculum development and delivery of provision. This would enable providers to play to their strengths, based on the equipment they have and skills of their existing teaching staff, and specialise in specific subject areas. Although this approach could involve and build on the IoTs, it would likely be distinct with the focus on smaller employers.

Employer awareness and understanding of HTE and how it can benefit their business is frequently cited as a key barrier to engagement with the skills system. Stakeholders explained that many employers lack time, and a focus on business survival rather than growth means they are unlikely to proactively seek skills support. This has been exacerbated by the economic impact of the Covid-19 pandemic. Outreach messages to employers to engage them in the pilot should therefore focus on how providers and workforce development can support this. The starting point for this engagement should be on the business needs of the organisation, rather than the sale of specific products or courses. Employers involvement in the pilot should start informally with something that is immediately relevant to their business, for example inviting them to a session about changes in their sector or the local area, or by offering an initial session that involves some form of business support

The anchor organisation leading the pilot should have a strong understanding of the local labour market and be well connected to employers. However, the pilot should also provide multiple points of entry for employers, recognising that they may be in contact with different stakeholders locally. Employers are also most likely to respond to organisations they have established relationships with and trust. It is therefore important that pilot

[27] https://www.swsharedapprenticeships.com/

delivery partners (including the lead organisation, providers and intermediaries) communicate consistent messages, including case studies of local employers who are investing in higher technical skills.

In order to facilitate this activity, the pilot would fund additional staff capacity: to engage employers directly and through local business support organisations; to facilitate discussion and activity that identifies the role of skills in supporting their business development; to identify commons skills needs; to raise awareness of the benefits of HTE; to introduce potential early wins that can demonstrate the value of skills investment.

Sector(s) or subject area(s)

The choice of sector or subject area should be underpinned by local data and evidence of need, as well as opportunities for growth, identified through local data on jobs and employment profile, employment outcomes, skills profile, skills needs and skills flows. The pilots should draw on the evidence base developed by the local SAP.

The situational appraisals indicate that a focus on digital in non-digital sectors may present potential for business growth and a genuine opportunity to expand HTE provision across a wide range of sectors. This could include embedding the development of digital skills in other curriculum areas, for example engineering, manufacturing, construction and health. While interviewees stressed that bringing about change on the scale needed to address skills shortages requires fundamental reform of HTE funding at a national level, evidence of current practice suggests that there is scope for providers to do more to build demand for digital HTE through approaches to employer engagement and curriculum development.

As part of its Lifetime Skills Guarantee, the Government has recently announced digital bootcamps, which will be funded through the National Skills Fund. This is an employer-led training initiative whereby adults can access flexible, short courses to upskill, which lead to guaranteed interviews with employers. The first wave of bootcamps will be delivered in two combined authority areas, including WMCA, and their bootcamps build on activities delivered as part of the WMCA Digital Retraining Fund (described in the previous chapter). The bootcamps will be expanded to other sectors, such as engineering, and HoSW LEP will be included in the second wave of the initiative. A focus on digital in the pilot would complement the digital bootcamps, which focus on individuals. The pilot would focus on employers and help them to understand how they can use these skills to benefit and grow their business, as well as supporting progression to Level 4 and 5.

Identifying common opportunities for growth and skills needs

The overall aim of the pilot would be to test how employer demand for skills can be raised, not just responded to. This is particularly important where there is low skill equilibrium, in a low-skill and low-pay economy. Providers will therefore need to work closely with employers to understand their ambitions for business growth and explore how HTE can support them to achieve this. This could include, for example, provider visits to employers and involvement of both the employer engagement and curriculum teams. To ensure a

joined up approach, employers and providers should also be brought together for workshops to share intelligence and identify overlapping interests and skills needs. In order to facilitate this activity, the pilot would fund additional capacity within the FE provider to both engage employers and develop new provision.

One option would be for providers, in collaboration with business support organisations such as chambers of commerce, to work with employers to identify ways in which they could develop their business through adopting new digital technology or processes. This would include support with business planning and development, as well as identifying digital gaps and solutions for the business. SMEs or employers who have limited experience of engaging with the system may be reluctant to make a significant early investment, for example funding to upskill and releasing them from work. A T-level industry placement or HE student project placement could help to raise employers' understanding of what digital innovation could bring to their business and the value that higher skilled individuals could add, creating an opening for providers to promote HTE at Level 4 and 5. This approach might also be helpful in areas where low wage, low skill employers predominate, as a relatively low-risk way of engaging with skills.

Responding to employer needs

The aim of the pilot would be to test how employer demand for HTE can be increased, rather than simply how existing needs can be met. However, it is critically important to consider how providers will respond to employer needs once this demand has been raised, and ensure provision aligns with employer expectations and industry standards. It is likely that course content will need to be adapted or developed, and collaboration between providers – and potentially employers – should be encouraged. To ensure unnecessary competition is reduced and enable providers work to their strengths, this activity could be coordinated by the pilot lead, or other appropriate stakeholder.

In addition to content, consideration should be given to how the learning will be accredited and how this can be delivered in a flexible way, for example through short courses, modules and/or part-time. An approach highlighted through the situational appraisal in the West Midlands was offering units from a range of qualifications, which students can select from depending on their needs. This may also be an attractive offer to SMEs a route to workforce upskilling as training could be delivered in chunks of time rather than a full qualification without a break. In addition to partnership working between a provider's employer engagement and curriculum teams, development of this approach will require collaboration with awarding organisations to explore how individuals can be supported to achieve qualifications. For example, Pearson has recently made their higher national qualifications at Level 4 and 5 available as 15 credit modules, which individuals can stack to full qualifications if they wish.

Learning from the pilots

Pilot activity should be robustly evaluated and reviewed that lessons can be captured, shared and embedded into future delivery. Evaluation should be planned into the pilot from

the outset, follow a staged process, and ideally include a formative element so that progress can be assessed and learning from the initiative can be incorporated along the way.

The evaluation methodology should include:

- Development of a Theory of Change to establish the causal pathway through which the pilot activities should lead to intended outputs, outcomes and impacts. Illustrating the cause and effect relationships of the pilot can help to build consensus between delivery partners.
- Collection and analysis of monitoring information (MI) data, to capture the scale and nature of activity delivered.
- Secondary data analysis of administrative data on the take up and completion of HTE provision, for example Education and Skills Funding Agency Individualised Learner Record (ILR) data.
- Qualitative interviews with pilot leads and delivery partners, learning providers, employers and other local stakeholders to capture their involvement and perspectives on what has worked well, challenges and lessons learnt.
- Development of case studies to illustrate how the pilot has been implemented and the outcomes and impact of this activity.

The findings from the evaluation should be shared with other local and national stakeholders to inform practice and any policy changes required to embed the model. This dissemination activity would include the production of practical guides for providers, LEPs or combined authorities and potentially employers, as well as webinars.

Considerations for policy and funding

In shaping this demonstration pilot, we sought to provide a model which can be implemented within current policy and funding arrangements. However, it is also important to consider how changes to policy and funding could support these approaches to be enhanced and embedded more widely. The scoping report (see annex) identified a range of changes at a national level that could help to grow the market for HTE. Those changes most relevant to the pilot and the challenges identified through the situational appraisals are outlined below, alongside implications for policy highlighted by the situational appraisals.

Evidence reviewed at the scoping stage emphasised the need for employers to have confidence in the quality, relevance and consistency of provision and qualifications in order to invest.[28] The evidence pointed towards the need for a national quality framework for

[28] DfE (2019) *Higher Technical Education: government consultation;* Field, Simon (2018) *The Missing Middle: Higher Technical Education in England;* Frontier Economics (2017) *Assessing the Vocational*

higher technical qualifications, with a streamlined number of recognised qualifications. In July 2020, the Education Secretary announced new higher technical qualifications, to be introduced in 2022, which are aligned to employer needs and supported by a government-backed brand and quality mark.[29] The speech also set out an intention to remove qualifications that were no longer fit for purpose.

This project has explored how employer demand for HTE can be stimulated at a local level. Alongside this, national reform of funding and student finance is needed to encourage providers to meet this demand and individuals to access provision. The research reviewed at the scoping stage suggests that the following measures are widely recognised as being critical for growing the HTE market[30]:

- Establishing a level playing field of funding to support HTE and degree-level study, with equivalent access to funding and finance for students on either route, in order to promote HTE as a credible and appealing alternative to Level 6 study. In September 2020, the Prime Minister set out intentions to make HE loans more flexible, allowing young people and adults to take up technical courses at FE colleges and universities.[31]
- Reform of funding policy to open up maintenance loans for part time HE (recommended in the *Review of Post-18 Education and Funding*[32]) and to enable study towards a qualification at an equivalent or lower level (ELQ). These would be particularly helpful in facilitating uptake of HTE by adults who wish to upskill or retrain. Allied to these changes, systems for the recognition of prior learning would facilitate access and completion for adults already in the workforce.
- Greater flexibility in the models of learning that can be funded. This could include, as a priority, funding for individual modules, short courses and other smaller "chunks" of learning, to enable employers and individuals to access HTE in forms other than whole courses. Modularisation/unitisation, underpinned by a robust credit accumulation and transfer system, would allow individuals to build up qualifications incrementally and move in and out of learning as their circumstances and needs required. Flexible delivery models for both learning and IAG are also widely seen as crucial to support upskilling and retraining of the workforce, as well as successful participation by

Qualifications Market in England: research report; York Consulting (2018) *Level 4 and 5 Provision in England: Provider perspectives*.

[29] https://www.gov.uk/government/news/major-overhaul-of-higher-technical-education-announced (Accessed 23/22/2020)

[30] AoC (2020) *Briefing Paper on Modular Level 4 and 5 Qualifications;* DfE (2019) *Higher Technical Education: government consultation*; Field, Simon (2018) *The Missing Middle: Higher Technical Education in England;* Goodhart, D. (ed.) (2020) *The Training We Need Now: Essays on Technical Training, Lifelong Learning and Apprenticeships;* HM Government (2019) *Independent Panel Report to the Review of Post-18 Education and Funding;* York Consulting (2018) *Level 4 and 5 Provision in England: Provider perspectives*.

[31] https://www.gov.uk/government/news/major-expansion-of-post-18-education-and-training-to-level-up-and-prepare-workers-for-post-covid-economy (Accessed 08/12/2020)

[32] HM Government *(2019) Independent Panel Report to the Review of Post-18 Education and Funding*

students in disadvantaged circumstances. In addition, tailored and targeted on-programme support may be needed to enable individuals to persist with their studies and achieve.

Through the situational appraisal, providers highlighted the financial risk investing resource in the development of provision that meets employers' needs, which often leads them instead to focus on existing "products" and "off-the-shelf" curriculum. To address this, the funding system needs to better support providers to be responsive to employers. One way of doing this could be by building on the Innovation Code, which offered a number of learning aims, through which providers could draw down funding to develop and deliver new provision in conjunction with employers, to address skills needs.

To identify employer needs, the suggested pilot approach involves clustering employers around a specific sector or set of skills. This could help to embed new college "business centres", which the government intends to launch to give employers greater influence over training. This links to the "employer hubs" recommended in the final report from the the Commission on the College of the Future.[33]

To address the current lack of capacity in the FE college sector to deliver HTE, particularly in STEM subjects, it is generally recognised that a much greater level of investment in providers is required.[34] While IoTs are an important part of the solution, the evidence also suggests that wider investment, particularly in colleges, is required to grow breadth and depth in HTE opportunities beyond IoTs' priority sectors. This would allow providers to update their facilities and build the capacity of their workforce, which would in turn contribute towards raising the status and prestige of HTE. The latest government spending review in November 2020 included £110 million, including £50 million of capital investment, to drive up higher technical provision.[35]

Interviews with stakeholders during the scoping stage and situational appraisals indicated that investment is also needed to improve the employer-facing expertise and credibility of both teaching staff and business engagement teams, to encourage investment in HTE from employers. It was also suggested that salary limits for teaching staff reduce the attraction to the job, as providers cannot compete with the salaries by the industries they serve.

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[33] Commission on the College of the Future (2020) *The College of the Future: UK-wide final report* https://static1.squarespace.com/static/5c8847f58dfc8c45fa705366/t/5fa281933c71c92e01556060/1604485524723/CofT+October+report+-+English.pdf

[34] AOC (2019) *Skills Shortages and Funding Gaps: an analysis of the cost of the under-investment in skills*; DfE (2019) *Higher Technical Education: government*; HM Government (2019) *Independent Panel Report to the Review of Post-18 Education and Funding*; York Consulting (2018) *Level 4 and 5 Provision in England: Provider perspectives*

[35] https://www.gov.uk/government/publications/spending-review-2020-documents/spending-review-2020 (Accessed 09/12/2020)

Feedback gathered through the situational appraisal indicates that the capacity and capability of employer engagement staff should also be developed further. The Education and Training Foundation (ETF) could provide funding and support for workforce development projects whereby providers link up with employers to better understand their business and identify opportunities for skills development to support business growth. This could be delivered as part of ETF's Teach Too programme, which aims to address quality improvement in technical and vocational teaching and learning, including resources to support employer-provider partnerships.

National skills policy has promoted competition to increase choice and improve quality standards. However, with funding linked to the number of enrolments, providers compete for learners with no incentive to align their provision to local economic priorities. An interviewee in the South West commented that it also affects quality, with providers bidding for whole contracts independently despite only having expertise in some of the provision. Future policy should therefore provide incentives for providers to collaborate on a long-term basis to maximise the quality of provision. Changes would need to include financial investment to support providers to establish partnerships and increase their capacity for partnership working, as well as funding linked to outcomes rather than enrolments only.

Growing the market for HTE also requires it to be more visible and attractive to prospective learners. Careers information, advice and guidance (IAG) was is widely noted as a priority in the evidence reviewed at the scoping stage.[36] The evidence stressed that IAG should include an explicit focus on the potential financial returns on HTE, particularly in critical STEM-related occupations and in light of the lower cost of undertaking Level 4-5 study compared with a degree. To ensure learners have a line of sight to work in the local labour market, at a local level, IAG should make explicit the opportunities that exist locally for career progression and the steps that are needed to access them. Where possible local earnings data should be shared, so that potential learners can see the relevance of HTE to their own needs and circumstances.

[36] DfE (2019) *Higher Technical Education: the current system and the case for change*; Field, Simon (2018) *The Missing Middle: Higher Technical Education in England;* Frontier Economics (2017) *Assessing the Vocational Qualifications Market in England: research report;* HM Government (2019) *Independent Panel Report to the Review of Post-18 Education and Funding; L* L&W (2016) *Progression Pathways into STEM Careers: a strategy for Birmingham;* York Consulting (2018) *Level 4 and 5 Provision in England: Provider perspectives.*

Annex: Findings from the scoping phase

Evidence of market failure

There is strong evidence of market failure in relation to HTE in England. Current and projected future demand in the economy for higher technical skills is not being matched by supply. The scoping research consistently highlights a range of indicators which reveal the extent of the challenge:

- Employers report skills shortages in higher technical occupations. Skills shortages are particularly acute in some key STEM sectors such as IT, construction and advanced manufacturing. However, the proportion of people now qualified to higher technical level in England is low by both historical and international comparisons. Just 10 per cent of people aged 16-64 have Level 4-5 as their highest level of qualification, and this includes older workers who completed their qualification when more students in HE studies at this level.[37]
- Labour market analysis shows that demand is growing for higher technical skills and more people qualified at this level will be needed in the future. Automation is forecast to affect one in three jobs in the UK, with the greatest impact on lower level roles. Therefore, adults of working age need opportunities to upskill/reskill into higher technical roles with skills shortages. The end of free movement is likely to accelerate the need for upskilling and reskilling of the existing workforce.[38]
- Despite this evident need, HTE represents a small proportion of higher education provision, both historically relative to other countries. For example, in 2014/15, just four per cent of full time HE students in England were studying at Level 4-5, in comparison to 18 per cent in Scotland and 11 per cent in Northern Ireland.[39]
- There is an over-supply of graduates in the labour market. The *Review of Post-18 Education* found from 30 to 50 per cent of graduates may be employed in roles that do not require a degree. Employers recruit graduates to higher technical roles in the absence of skilled technicians but find that they have skills gaps and are difficult to retain. Graduates in higher technical roles are characterised in the literature as "overqualified but under skilled." This approach to workforce management is inefficient

[37] DfE (2019) *Higher Technical Education: The current system and the case for change*; DfE (2019) *Higher Technical Education: Government consultation; Field, Simon (2018) The Missing Middle: Higher Technical Education in England;* HM Government *(2019) Independent Panel Report to the Review of Post-18 Education and Funding.*

[38] DfE, *The current system;* DfE, Government consultation; Field, *The Missing Middle;* HM Government, *Review of Post-18 Education.*

[39] DfE, *The current system;* DfE, Government consultation; Field, *The Missing Middle;* HM Government, *Review of Post-18 Education.*

in terms of skills utilisation and expensive for both individuals and the public purse due to the relatively high costs of degree-level study.[40]

- While there has been growth in the uptake of Level 4 apprenticeships, driven primarily by employers responding to the levy, this is not on a scale sufficient to meet the need for skills at this level.[41]

Furthermore, evidence suggests this market failure has detrimental consequences for the economy, society and individuals:

- The weakness of the higher technical skills base has been identified as an important factor explaining the UK's low productivity relative to comparable economies and its weak productivity growth over the past decade.[42]
- The lack of opportunities for individuals to gain higher technical skills is impeding social mobility and career and educational progression. HTE provides a bridge from lower-level, low-paid jobs to higher paid positions, and offers an important access point to HE for individuals who would not otherwise access degree-level study for various reasons.[43]
- HTE offers positive financial returns to individuals and the public purse. Comparative econometric analysis of the returns of STEM-based higher technical qualifications and degrees suggests that both routes can offer substantial net financial benefits. Moreover, in some cases the rates of return for HTE students undertaking certain programmes can be greater than for graduates. For example, the internal rate of return for men undertaking full time STEM-based HNCs/HNDs is 24.8 per cent compared to 19.5 per cent for men taking full time STEM-based undergraduate degrees.[44]

Reasons for market failure

The declining supply of higher technical skills in the labour market is attributed in the evidence to a range of overlapping and mutually reinforcing factors. A lack of suitable provision from providers and a lack of demand from employers and individuals are now operating in a vicious circle. Literature and interviews indicate that these reasons have

[40] Field, *The Missing Middle;* HM Government, *Review of Post-18 Education*; D Goodhart (ed.) (2020) *The Trainings We Need Now Essays on Technical Training, Lifelong Learning and Apprenticeships (Policy Exchange).*
[41] DfE, *The Current System;* Goodhart, *The Training We Need Now.*
[42] DfE, *Government consultation;* Field, *The Missing Middle;* HM Government*, Review of Post-18 Education;* RCU (2018) *Mapping the Higher Technical Landscape.*
[43] DfE, *Government consultation;* Field, *The Missing Middle;* London Economics *(2017) Assessing the Economic Returns to Level 4 and 5 STEM-based Qualifications; York Consulting (2018) Level 4 and 5 Provision in England: Provider perspectives.*
[44] DfE, *The Current System*; HM Government, *Review of Post-18 Education;* London Economics, *Economic Returns to Level 4 and 5 STEM;* RCU, *Mapping the Higher Technical Landscape.*

their origins in national policy, which in turn has driven a set of behaviour among providers, employers and individuals.

HE funding policy

Through successive reforms to the funding and finance of HE, public policy has incentivised providers to supply and individuals to demand degree level study. A "cultural preference" for degrees over HTE has been established over the past decade.[45]

- Raising tuition fees and lifting the cap on student numbers encouraged providers to expand and promote more lucrative degree-level opportunities and contract HTE provision.
- The growth in unconditional offers from higher education institutions (HEIs) to undergraduate applicants has contributed to steering prospective students away from HTE. HE loans repayment policy acts as a disincentive for students to undertake cheaper HTE courses.
- Funding rules that deny funding for the study of qualifications at an equivalent or lower level (ELQ) or for single modules or chunks of learning act as a barrier to adults accessing HTE as a route to reskilling.
- Denying individuals access to maintenance loans for part time study led to a collapse in demand for Foundation degrees. The impact has been particularly acute on adults in work, with disabilities or from disadvantaged areas.

Limited delivery capacity in the FE sector

A history of under-investment in the FE college sector means that many providers lack the resources to enable them to offer HTE courses, particularly in STEM subjects where delivery costs tend to be higher. They are not able to fund industry-standard teaching facilities or to offer salaries that would attract teaching staff with up-to-date industry experience (dual professionals). Exacerbating the problem, the low level of demand articulated by individuals and employers means that such courses appear prohibitively expensive to deliver, which further discourages colleges from seeking to offer them. As a result, many colleges have become orientated towards lower level, lower cost provision, rather than towards responding to employer demand for higher technical skills. Where colleges do offer HTE, with the exception of niche specialisms, this tends to be in service orientated subject areas which have lower delivery costs.[46]

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[45] AoC (2020) *Briefing Paper on Modular Level 4 and 5 Qualifications.* DfE, *The current system;* Field, *The Missing Middle*; Goodhart, *The Training We Need Now;* HM Government, *Review of Post-18 Education;* London Economics *(2017) Assessing the Economic Returns to Level 4 and 5 STEM-based Qualifications; York Consulting (2018) Level 4 and 5 Provision in England: Provider perspectives.*

[46] AOC (2019) *Skills Shortages and Funding Gaps: an analysis of the cost of the under-investment in skills;* DfE, *The Current System;* Field, *The Missing Middle;* Goodhart, *The Training We Need Now;* HM Government*, Review of Post-18 Education.*

Lack of demand from employers

Despite the skills shortages reported by employers at higher technical level, demand for people qualified at Level 4 and 5 articulated through recruitment and workforce development practices is weak. The evidence attributes this paradox to a number of factors:[47]

- HTE as a component of technical education presents a complex picture and is consequently poorly understood by employers and lacks credibility. Faced with a plethora of qualifications, terminology and provider types, and no national quality assurance framework to give confidence that qualifications meet industry needs, many employers are unable to see how HTE relates to the skills that they require in their organisation. This challenge is particularly acute for small and medium-sized enterprises (SMEs) and micro-businesses without HR professionals. With notable exceptions in some sectors (for example construction, where Higher Nationals are well-established and well-regarded), employers do not perceive higher technical qualifications as robust indicators of the skills and knowledge that study would confer on an individual. While graduates or school leavers may have skills gaps, employers at least have a sense of what to expect from them.
- Funding rules prevent employers and providers working together to develop responsive HTE solutions to skills shortages and skills gaps. Funding can only be accessed for full courses, meaning that individual modules and what one interviewee referred to as "right on time" approaches to training cannot be offered. This puts the potential cost of HTE beyond the reach of SMEs in particular.
- There is an information gap. Research shows that all sectors report a lack of information on qualifications at Level 4-5. Many employers do not know what courses and qualifications exist and how any of these relate to their business needs, and there is little support to address this.
- Some industries, such as catering and childcare, currently operate with a base of skills and qualifications at Level 3 and below and make only limited demands in the labour market for higher technical skills.

Lack of demand from individuals

Several reasons are suggested by the evidence to explain the low uptake of HTE among individuals:[48]

- Levels of awareness about HTE qualifications are low among the population in general.

[47] DfE, *The Current System;* DfE, *Government Consultation;* York Consulting, *Provider Perspectives.*
[48] AoC, *Skills Shortages and Funding Gaps;* DfE, *The Current System,* DfE, *Government Consultation;* Field, *The Missing Middle,* HM Government, *Review of Post-18 Education;* York Consulting, *Level 4 and 5 Provision in England.*

- The complexity of the HTE landscape makes it confusing and off-putting.
- HTE is losing out in competition with degrees and is not promoted to young people. Information, advice and guidance (IAG) is focused on progressing students into undergraduate study, with a lack of visibility of HTE options. In addition, HTE does not enjoy the cultural prestige of degree-level study. Teachers, parents and carers/family members, friends and careers advisers are all more likely to encourage prospective students towards academic degrees.
- Employers in general do not demand HTE qualifications, which gives them low currency in the labour market and therefore does not encourage individuals to pursue them.

Potential approaches to support local market making

Addressing the market failure in HTE means increasing the supply of skills at this level and linking it with unmet demand. The evidence from the scoping study sheds light on how this outcome could be achieved, and includes important pointers from comparative international research based on approaches found in thriving HTE systems overseas that could be adapted and applied in the England context.[49]

To grow the market for HTE on the kind of the scale that the evidence suggests is required demands system change, and interventions are needed at both national and local levels. The reform of national funding is essential for creating an overarching framework which will drive investment in HTE and build the visibility, prestige and appeal of the sector, particularly relative to degree-level HE. International evidence consistently shows that, where HTE flourishes, a strong and consistent commitment to the sector is articulated through national skills and employment policy.

Nevertheless, it is also evident that making the market for HTE will depend upon implementation at local levels, in order to engage providers, employers and individuals and to target funding in response to regional skills shortages and priorities. Indeed, a strength of HTE is its orientation towards local needs and circumstances. Critical for building demand is clear evidence that the learning provision on offer reflects and responds to the needs of the local labour market. There must be a tangible link between learning opportunities and skills shortages at a local level. Employers need to be confident that HTE will deliver the skills they need, whether via prospective recruits or through workforce upskilling. Potential HTE students are typically those who wish to access provision locally and prepare for jobs which they can be reasonably confident of securing in the local labour market. For instance, this may be because they are opportunities which can be accessed alongside existing work, caring or wider commitments; or because they are disadvantaged by factors such as economic circumstances or disability. However, they need encouragement and motivation to opt for this route.

[49] International examples cited in this section are from Field, *Making the Market.*

A localised approach to HTE growth, within the context of vigorous stimulus from national policy, would appear to be the most likely to be effective. The following intersecting and mutually reinforcing areas of action are suggested by the literature and interviews:

Funding reform[50]

Fundamentally, national reform of funding and student finance is needed to remove the disincentives for providers to offer and individuals to access HTE opportunities. The research suggests that the following measures are widely recognised as being critical for growing the HTE market:

- Establishing a level playing field of funding to support HTE and degree-level study, with equivalent access to funding and finance for students on either route, in order to promote HTE as a credible and appealing alternative to Level 6 study.
- Reform of funding policy to open up maintenance loans for part time HE (recently announced) and to enable study towards a qualification at an equivalent or lower level (ELQ). These would be particularly helpful in facilitating uptake of HTE by adults who wish to upskill or retrain. Allied to these changes, systems for the recognition of prior learning would facilitate access and completion for adults already in the workforce.
- Greater flexibility in the models of learning that can be funded. This could include, as a priority, funding for individual modules, short courses and other smaller "chunks" of learning, to enable employers and individuals to access HTE in forms other than whole courses. Modularisation/unitisation, underpinned by a robust credit accumulation and transfer system, would allow individuals to build up qualifications incrementally and move in and out of learning as their circumstances and needs required. Flexible delivery models for both learning and IAG are also widely seen as crucial to support upskilling and retraining of the workforce, as well as successful participation by students in disadvantaged circumstances. In addition, tailored and targeted on-programme support may be needed to enable individuals to persist with their studies and achieve.

Industry led[51]

The HTE offer must have credibility with employers and prospective students and ultimately that is based on its alignment with and relevance to labour market need. Interventions at both national and local level will help to build its quality, appeal and reputation.

A national quality framework for higher technical qualifications, with a streamlined number of recognised qualifications is seen as critical for bringing clarity, consistency and certainty

[50] AoC, *Modular Level 4 and 5;* DfE, *Government Consultation*; Field, *The Missing Middle;* Goodhart, *The Training We Need Now;* HM Government*, Review of Post-18 Education;* York Consulting, *Level 4 and 5 Provision.*

[51] DfE, *Government Consultation;* Field, *The Missing Middle;* Frontier Economics (2017) *Assessing the Vocational Qualifications Market in England: research report;* York Consulting, *Level 4 and 5 Provision.*

to the overall HTE landscape. To ensure their labour market currency, it is argued that the qualifications should be developed with employers, linked to established national occupational standards and overseen by the Institute of Apprenticeships and Technical Education (IfATE). Public funding and student finance would generally be restricted to those qualifications which meet these national standards.

At the same time, there needs to be clear alignment with local labour markets, so that employers can see how provision relates to their business needs and individuals have a clear "line of sight" to achievable jobs. "Making the market" is about both growing the supply of skills and linking it effectively to unmet demand. The research reveals a prevailing view that a proportion of HTE funding should be prioritised locally to address key skills shortages and priority growth areas. Several interviewees anticipate that the Skills Advisory Panels (SAPs) will have a key role to play in identifying need, while the National Retraining Scheme (NRS) and National Skills Fund (NSF) are seen as likely sources of funding. The international evidence stresses the importance of strong partnerships between providers and employers to underpin locally responsive provision, and highlights models from Sweden, Germany and Romania to show how provider-employer partnerships involve employers in the design and delivery of qualifications. Current local skills initiatives in England such as the Sheffield Skills Bank and West Midlands Digital Skills Partnership programmes demonstrate how mayoral combined authorities (MCAs) and local enterprise partnerships (LEPs) are providing strategic leadership for partnerships involving providers and employers to channel funding from national sources to address regional priorities. In Greater Manchester Combined Authority, the Fast Track Digital Workforce Fund is piloting the use of NRS funding to support employers and providers to co-design and co-deliver training courses to address specialist digital skills needs aligned to business growth plans. One interviewee stressed the importance of providers having access to robust labour market information (LMI) to assist their engagement with employers.

Integration of HTE with wider skills and education[52]

HTE has been characterised as the "missing middle" between study up to Level 3 and degrees. The research suggests that developing the market for HTE requires its integration and articulation both downwards and upwards, with:

- The wider technical education system, including T-levels and apprenticeships, to facilitate progression to Level 4 and 5 and, for those that want it, to degree level study, including degree apprenticeships, and beyond. An interviewee from a LEP stated that lessons from the T-level pilots are already prompting consideration of how HTE provision will need to re-evaluate its delivery models to meet the changing expectations of students. These students will have spent a substantial proportion of time in the

[52] DfE, *Government Consultation*; Field, *The Missing Middle*; L&W (2018) *Engaging with Local Employers on Apprenticeships: final report.*

workplace while undertaking Level 3 qualifications and may be reluctant to return to predominantly classroom-based study.

- The wider HE system, to promote HTE's distinctiveness, to establish it as a credible alternative to degree level study, and to encourage segmentation of the local Level 4-5 market between HEIs and FE colleges to avoid inefficient and destabilising competition. Linked to this point about raising the profile of HTE relative to degree-level HE, the evidence suggested that a single, unifying brand for HTE would be helpful.

The new Institutes of Technology (IoTs) are intended to provide this integration at a local level. HTE is integrated through the IoTs downwards to Level 3 provision and upwards to Level 6 HE. Not only are IoTs required to develop progression pathways from Level 3, they can also deliver a proportion of Level 3 provision as a key way of building demand. Most IoTs will be involved in T-level delivery. Level 6 progression is expected to be mainly to degree apprenticeships or part time provision, rather than "traditional" degrees. In offering this breadth of approach, IoTs reflect features found in models of integrated programmes for career preparation in Austria and Japan that are highlighted in the international evidence.

More broadly, LEPs and MCAs have an important role to play in providing strategic leadership and coordination to bring together the various interested parties within the local HTE landscape, building on the work of the SAPs and their links with employer and provider networks.

Support for providers[53]

To address the current lack of capacity in the FE college sector to deliver HTE, particularly in STEM subjects, it is generally recognised that a much greater level of investment is required. While IoTs are recognised as being an important part of the solution, the evidence also suggests that wider investment, particularly in colleges, is required to grow breadth and depth in HTE opportunities beyond IoTs' priority sectors. This would allow providers to update their facilities and build the capacity of their workforce, which would in turn contribute towards raising the status and prestige of HTE. A particular need was noted by one interviewee to improve the employer-facing expertise and credibility of both teaching staff and business engagement teams, and the potential that this could unlock investment in HTE from employers.

IAG and support for individuals[54]

Raising the visibility, profile and appeal of HTE among prospective students through IAG is widely seen as a priority. It needs to build awareness of the relevance, value and benefits of HTE in relation to career aspirations and support effective decision-making. The

[53] AoC, *Skills Shortages and Funding Gaps;* DfE, *Government Consultation;* HM Government, *Review of Post-18 Education;* York Consulting, *Level 4 and 5 Provision.*

[54] DfE, *The Current System*; Field, *The Missing Middle;* Frontier Economics, *Assessing the Vocational Qualifications Market;* HM Government, *Review of Post-18 Education; L&W (2016) Progression Pathways into STEM Careers: a strategy for Birmingham;* York Consulting, *Level 4 and 5 Provision.*

evidence stressed that IAG should include an explicit focus on the potential financial returns on HTE, particularly in critical STEM-related occupations and in light of the lower cost of undertaking Level 4-5 study compared with a degree.

As was noted above, HTE students will predominantly want a line of sight to work in the local labour market. Therefore, IAG should make explicit the opportunities that exist locally for educational and career progression and the steps that are needed to access them, and where possible base financial returns information on local earnings data, so that potential students can see the relevance of HTE to their own needs and circumstances.

Support for employers[55]

Ensuring a strong role for employers within an integrated local HTE system is seen as critical for building demand from individuals because it directly connects learning opportunities with labour market outcomes. Examples of effective employer involvement at local level include: articulating skills shortages; providing work experience and work placement opportunities; promoting and supporting reskilling opportunities for existing staff; and offering vacancy information and guaranteed job interviews to students who complete certain courses.

Evidence shows that action is needed to address the low levels of awareness and lack of understanding of the potential of HTE among employers. This is likely to be particularly pressing for SMEs who do not have the resources to focus routinely on questions of workforce skills and development. It was suggested that support in relation to HTE could include:

- Support to understand the wider technical education landscape, how HTE fits into this, and what it means in terms of skills and knowledge if an individual holds a certain higher technical qualification. The aim must be to give technical education clarity with employers on a par with that of academic routes.
- Targeted promotion of Level 4-5 to employers, including as an approach to upskilling the existing workforce, in order to shift the mindset away from a focus on graduate recruitment.
- Information on the business benefits of investing in HTE, including cost-benefits and demonstrable added value.
- Practical support with issues such as finding the right provider and identifying the most appropriate qualifications to address business needs.

While the development of support and resources nationally is efficient, evidence shows that local delivery is critical for securing employer engagement and promoting the value

[55] DfE, *The Current System;* Frontier Economics, *Assessing the Vocational Qualifications Market;* L&W, *Engaging with Local Employers on Apprenticeships;* L&W (2020), *Cost and Outreach Pilot Evaluation: Final Report.*

and relevance of skills initiatives. Furthermore, lessons from other work carried out by L&W to support employer engagement in skills, confirmed by interviews for this research, shows that, to be effective, employer-facing support should be grounded in support for wider business growth. Trusted intermediaries including industry bodies, Chambers of Commerce, business networks, Growth Hub advisers and learning providers have a key role to play in communicating with employers on skills.

Differentiated approaches

Implicit in much of the evidence, and made explicit by several interviewees, is the sense that there is not a single, unified "HTE market". To be effective, models for making the market will need to be segmented so that they recognise and respond a number of key variables. In particular:

- The different requirements of preparing young adults for entry to the labour market and providing retraining and upskilling opportunities for adults who are already in work or who wish to return to the workplace. While provider, learner and employer engagement are key, factors such as messaging in outreach and IAG, delivery models and funding and finance are likely to require tailored and targeted approaches.
- The different local labour market conditions presented by high value employers which are currently struggling to fill higher technical skills gaps, and by sectors where demand for higher technical skills remains low. The latter presents a potentially challenging situation in which aspects of a low skill equilibrium may need to be tackled, by both building the capacity of employers to utilise higher level skills and developing the skills of individuals in anticipation of their being able to take on higher skilled roles.

The Covid-19 context

Several interviewees reflected on possible ways in which the evolving situation in response to the coronavirus pandemic provides relevant context, and opportunities, for the growth of HTE. The following points were made:

- Re-instituting the cap on student numbers for degree-level study has the potential to invigorate interest among young adults in alternative options for entering HE.
- The impact of social distancing on the undergraduate experience may encourage young adults to explore alternatives to the traditional three-year residential degree model.
- The move towards more flexible delivery models is being accelerated.
- Unemployment and underemployment mean that there is potentially a wider pool of individuals with industry experience from which learning providers can recruit to the HTE teaching workforce.

- The channelling of funding for Covid-19-related support schemes for SMEs through local authorities has created a route that could be expanded to include support for workforce skills development, and could complement activities led by LEPs and MCAs.

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