



Trainee Finder hair and make-up trainee, Shona de Rose © Anne Binkebank

Forecast of labour market shortages and training investment needs in film and high-end TV production

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Acknowledgement

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Executive summary

Before the onset of the Covid-19 pandemic, film and high-end TV (HETV) production in the UK had been growing at an extraordinary pace. According to the British Film Institute (BFI), film and HETV production supported by tax relief had increased to an all-time record of £4.37bn in 2019 (BFI, 2022). Whilst Covid-19 did lead to a widespread stoppage in most film and HETV production in the UK between March and July 2020, these two sub-sectors experienced a robust rebound in activity during the latter half of 2020, which set the stage for a record-breaking year in 2021. BFI reported that film and HETV production had climbed by 29% compared to 2019, reaching an unprecedented £5.64bn in 2021 (BFI, 2022).

All of this recent growth in film and HETV production activity in the UK had, until Covid-19, been generating significant pressure on both the UK's physical and human infrastructure. Available soundstage space had been booked-up close to capacity and demand had necessitated the use of temporary and alternative stage space for filming and set builds. Similarly, in regard to human infrastructure, film and HETV production in the UK had been experiencing personnel shortages in a range of specific roles, where again, supply (of qualified workers) was not meeting the demand generated by a greater volume of film and HETV projects shooting in the UK (ScreenSkills and Work Foundation, 2019; ScreenSkills, 2021).

With the robust recovery of the UK's film and HETV production sub-sector in 2021 – particularly due to growing demand for content by subscription video-on-demand (SVOD) services – the personnel-supply challenges facing film and HETV production once again were exposed. Looking forward to the next three to five years, therefore, it is vital that the UK is able to build its supply of skilled personnel, so that it can continue to stay globally competitive and capture its share of global demand.

In recent years, studio operators, property developers and government have worked together to help the UK address the physical infrastructure constraints of the domestic under-supply of stage space suited to film and HETV production. According to (unpublished) research by Nordicity and Saffery Champness LLP, just under 2.7 million sq. ft. of additional soundstage space is likely to come online in the UK by 2025. This additional soundstage capacity will provide the UK with necessary additional physical infrastructure. However, without a commensurate increase in the supply of skilled crews, this additional soundstage capacity could be severely underutilised.

This forecast of labour market shortages used a combination of primary and desk research to forecast the growth in spending in the combined film and HETV production sub-sector, which was then converted into a forecast of the demand for additional crew personnel required to deliver the additional production. This study's research focused on global commissioning studios' outlook for UK production activity, the outlook for soundstage development in the UK and forecasts of continued growth in the global SVOD.

Taken together, these various research sources indicated that the UK could attract an additional £1.43bn to £2.02bn in annual film and HETV production spending by 2025, on top of the £5.64bn recorded in 2021. That additional production activity would mean that the sub-sector would require between 15,130 and 20,770 full-time equivalents (FTEs) of additional crew personnel by 2025, over the existing crew workforce size estimated to be 52,300 FTEs in 2021.

Therefore, in order for the UK to provide the additional skilled crews needed to meet the outlook for production activity growth while also maximising the benefits of recent and pending studio investments, there will be a requirement for commensurate investments in training. This training would be for both the existing workforce and for new entrants to the film and HETV production workforce – from other sectors or from education – who will be needed to fill the crew shortages on account of increased production activity. By delivering training across the whole of the UK, the industry can deepen the crew bases outside of the South East of England and help attract even more film and HETV production to the nations and English regions – thereby contributing to the levelling up agenda.

This study estimates that an investment of between £95.1m and £104.3m annually in training will be needed by 2025 to enable the continued growth of the UK's film and HETV production sub-sector. This amount will be needed to train not only workers entering the industry, but also the existing workforce. Importantly, this amount represents an estimate of the total required annual training investment and is meant to capture the existing annual investment in training not just the additional required investment in training.

The estimate of £104.3m in annual training investment represents an average of £2,097 per trainee and £1,452 per worker – both of which are consistent with economy-wide averages of £2,540 and £1,530 (Winterbotham et al., 2020).

Between 2023 and 2025, an estimated total training investment of £289.3m will be required. This training investment of £289.3m would contribute vitally towards enabling the film and HETV production sub-sector to generate an additional £4.56bn in total impact GVA (ie growth in sub-sector GVA between 2023 and 2025). Although training will not be the only contributory factor to growth, the importance of the skilled workforce to UK production is widely acknowledged and the economic return of over 15 times the training investment is compelling.

1 Introduction

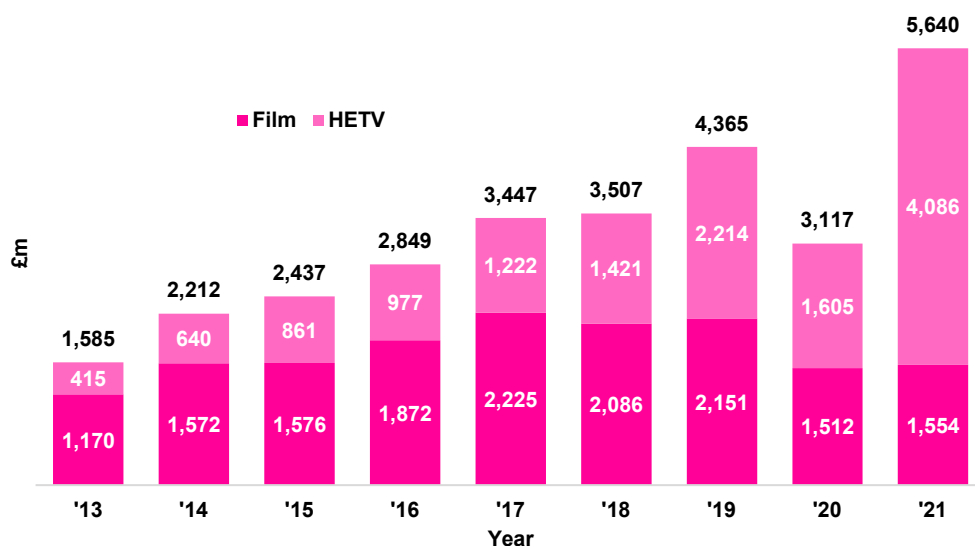
1.1 Background

Ever since the introduction of tax relief for high-end TV (HETV) production¹ in April 2013, the UK's film and HETV production² sub-sectors have experienced tremendous growth. Before the onset of the Covid-19 pandemic, film and HETV production in the UK had grown from £1.59bn in 2013 to £4.37bn in 2019 – an annual average growth rate of 18.4% (BFI, 2019 and 2022) (Figure 1).

Film and HETV production in the UK was essentially halted between March and July 2020. However, the introduction of the Working Safely During Covid-19 in Film and High-end TV Drama Production protocols helped the sub-sectors re-open and subsequently experience a robust rebound in production activity in the second half of 2020. As a result, the overall level of film and HETV production in the UK fell by only 29% compared to 2019 and finished 2020 at £3.12bn (BFI, 2022) (Figure 1).

This robust recovery continued into 2021. The industry not only resumed the growth trajectory it was on prior to the pandemic, but even increased the pace of its growth. In fact, 2021 was a record year for film and HETV production in the UK. Film production finished 2021 at £1.55bn, whilst HETV production increased to an all-time high of £4.09bn (BFI, 2022) (Figure 1). Altogether, over £5.64bn was spent on film and HETV production in the UK in 2021 (BFI, 2022). This represented a 29% increase over 2019 and translated into an average annual growth rate of 17.2% for the 2013-to-2021 period (BFI, 2019 and 2022).

Figure 1: Total spending on HETV and film production in the UK (£m)



Source: BFI (2019 and 2022)

Up until the Covid-19 pandemic, the growth in film and HETV production in the UK had been generating significant pressure on both the UK's physical and human infrastructure. In terms of physical infrastructure, there was a shortage of soundstage space in the UK. Netflix, Disney, Amazon Prime Video and other global commissioning studios had, prior to the pandemic, begun securing long-term leases on existing prime studio facilities in the UK, further exacerbating those shortages.

Studio operators and property developers have been responding to this shortage in physical infrastructure. According to Lambert Smith Hampton, as of December 2021, over 1.5m sq. ft. of new soundstage space had been approved for development and a further 1.1m sq. ft. of potential projects were awaiting planning

¹ HETV production includes television programmes supported by the HETV Tax Relief. To be eligible for the HETV Tax Relief, a project must have a budget of at least £1m per hour of running time.

² Film production in the context of this study, includes scripted film production – ie live action or animated films made with actors working from a script on projects supported by the Film Tax Relief (FTR).

approval (Lambert Smith Hampton 2021). In fact, between 2017 and 2020, an estimated £785m worth of studio developments received planning permission in the UK (Olsberg-SPI, 2021).

In terms of human infrastructure, film and HETV production in the UK was, prior to the pandemic, experiencing shortages of personnel in certain roles where the supply of qualified personnel had not been keeping up with the demand generated by a greater volume of HETV projects shooting in the UK. Many of these projects also involved significantly higher budgets than was historically the case, and thus, require a much larger workforce to deliver than was previously the case. In fact, between 2017 and 2019, the average HETV project spend in the UK rose by 30%, from £10.5m to £13.7m (BFI, 2022). Between 2019 and 2021, it rose another 42% to reach £19.4m (BFI, 2022).

These pressures on human infrastructure in the UK have been identified by several research studies. A skills audit conducted by the Work Foundation (2017) on behalf of the BFI identified several below-the-line crew roles that were experiencing skills shortages. Most of these shortage roles were concentrated in the production, art and construction departments.

In August 2019, ScreenSkills published its Annual ScreenSkills Assessment 2018-19, which, based on a survey of employers, identified nearly 200 different roles across the wider screen sector that were subject to skills shortages in 2019 (ScreenSkills and Work Foundation, 2019).

Further research published by ScreenSkills in spring 2020 identified 62 different grades for which producers of HETV programmes reported experiencing skills shortages in 2019 (ScreenSkills, 2020). Of these 62 different roles, ScreenSkills identified 10 specific roles that were likely experiencing permanent (as opposed to transitory or short-term) shortages (ScreenSkills, 2020). These 10 roles were production accountant, location manager, production coordinator, line producer, 1st assistant director, grip, editor, producer, assistant production accountant and production manager (ScreenSkills, 2020). This research also identified a further five roles as subject to emerging skill shortages: art director, 2nd assistant director, 3rd assistant director, location assistant and unit manager (ScreenSkills, 2020).

ScreenSkills Assessment 2021 revealed that many of the skills shortages observed before the pandemic continued to persist after film and HETV production resumed in August 2020 (ScreenSkills, 2021). Survey research indicated that 38% of film producers and 36% of HETV producers experienced difficulties in crewing projects in the post-pandemic environment (ScreenSkills, 2021). The most acute shortages continued to be in production department roles, including production managers, line producers, 1st assistant directors, production accountants and location assistants (ScreenSkills, 2021). Shortages were also observed for film editors and hair and make-up artists (ScreenSkills, 2021).

According to the 2021 edition of the BFI's Screen Business report (published in December 2021), film and HETV production in the UK in 2019 generated just under 95,000 full-time equivalents (FTEs) of employment, including employment for crew, cast and across the supply chain for film and TV production (Olsberg-SPI, 2021). Out of this total employment impact, crew and cast jobs accounted for an estimated 46,530 FTEs (Olsberg-SPI, 2021).

Over the long-term, it is vital that the UK is able to build its supply of skilled personnel so that it can quickly respond to the pent-up demand for screen production and related growth in film and TV production globally. To build this supply of skilled labour, there is a need continually to monitor the strategy for training and skills development to ensure that it can deliver the sector's long-term path to growth and achieve the subsequent overall benefits to the UK. This includes identifying the type and volume of training required to meet not only the pre-Covid-19 skills shortages but also those that have emerged following Covid-19 or might emerge in the future. The strategy also needs a clear picture of the financial investment required to address the forecast labour market shortages, whilst closing any skills shortages. The following research has been designed to address these questions.

1.2 Research remit

In August 2019, ScreenSkills commissioned Nordicity and Saffery Champness LLP (the “study team”) to prepare a **forecast of labour market shortages and training investment needs in film and high-end TV production**.

In particular, this study set out to investigate the forecast growth for the UK’s film and HETV production sub-sector and how that forecast growth scenarios would impact the demand for workers. Based on this forecast of worker demand, the analysis also set out to estimate the annual investment in training within the sub-sector that would be required to ensure that skills within the film and HETV production workforce – both among existing workers and new entrants – could keep up with the forecast demand.

To complete this forecast of labour market shortages and training investment, the study team adhered to the following approach.

- **Phase I** consisted of a **forecast of production spending** in the combined film and HETV sub-sector for the period 2022 to 2025 (ie up until 31 December 2025). This forecast of production spending was a key element in the development of a quantitative forecast of the future labour market size for film and HETV production.
- **Phase II** consisted of a **labour market forecast**. The economic analysis found in the 2021 edition of BFI’s Screen Business report was used to convert the forecast of film and HETV production spending into estimates of the growth in crew employment.
- **Phase III** consisted of the **estimation of the annual training investment** that would be required so that the UK’s film and HETV production workforce could acquire the skills needed to enable the continued growth of the sub-sector between 2022 and 2025.

1.3 Effects of Covid-19 on research

Subsequent to the launch of this research, the UK was struck by the Covid-19 pandemic. Covid-19 had an impact on business activity right across the screen sector. The majority of film and TV production in the UK was halted between mid-March and July 2020 – particularly after the Government imposed a lockdown on 23 March 2020. Cinemas were also closed. The difficulties associated with international travel during the pandemic meant that certain segments of the screen sector – namely inward investment film and HETV production – were particularly affected, as global talent and crews could not move freely across filming locations.

However, as noted in Section 1.1, the UK’s film and HETV production sub-sectors experienced robust recoveries in the second half of 2020 and into 2021. Some of the primary research conducted for the development of the labour market shortage forecasts for this study was carried out in the last four months of 2019, and therefore, reflected sector stakeholders’ views prior to the Covid-19 pandemic. To account for Covid-19 and the subsequent rebound in production within this long-term labour market forecast, the study team conducted a second stage of primary research in November 2021. In particular, the study team re-interviewed many of the Hollywood commissioning studios that it had first interviewed in late 2019 (see Section 3.2.1).

1.4 Further context for research

As indicated in Section 1.1, the demand for human infrastructure has been building and the consequent skills shortages have been documented and measured by a number of research organisations and sector support bodies over the last five years. The skills audit conducted by the Work Foundation, ScreenSkills research and the BFI’s Screen Business report each have their observations on the nature of skills shortages in the film and HETV production sub-sectors. However, it is crucial to realise that each of these analyses were fundamentally different from each other – the methodologies used to collect and forecast the data around skills gaps and shortages, and labour market forecasts in order to model future jobs demand were different and the methodologies were applied to different parts of the screen sector value chain. Hence, the very significant differences in the headline totals and why, therefore, a simple comparison is not possible without a full understanding of the scope and methodology.

Furthermore, the screen sector is a continually innovating sector in scale and ambition and one that, as our research in this report shows, has grown fast in recent years and is still expected to grow at a significant rate. And so, the demand for talent and skills will grow. In addition, the film and HETV production sub-sectors display great heterogeneity. For that reason, skills pressure felt in one career path will not necessarily be felt in the same way in another career path, ie increased production will not result in a uniform effect on the demand for each different job role.

To this baseline situation, we can also point to three complicating factors that are adding significant turbulence to the data on demand for screen jobs the UK sector.

- *Covid-19 pandemic* – as has already been mentioned, the pandemic has affected the different parts of the sector asymmetrically. Consumption of content has also been affected. Ofcom in its Media Nations 2020 report evidenced that the growth in viewing of online video, particularly subscription video-on-demand (SVOD) services such as Netflix and Disney+ accelerated during the pandemic (Ofcom, 2020). And while this growth is continuing, specific SVOD services (eg Netflix) have already started to experience slower subscriber growth and even subscriber declines in 2022.
- *Brexit* – now that free movement from the European Union (EU) has ceased, the pool of EU talent that had been available to mitigate shortages in the UK labour market is no longer accessible. This is likely to result in increased pressure on jobs.
- *New technology (eg virtual production)* – as an example, the recent innovation where video games technology is used to achieve real-time, final pixel, live action filming has created a whole new way of filmmaking and generated a need for a new suite of digital skills that allow LED screens with live on-set action. This does have an impact. Creative skills in other departments need to adapt to this change and any radical changes in workflows. Indeed, some aspects of post-production do not now need to be a downstream element of the process that follows the completion of principal photography.

Therefore, taken together we have a dynamic ecosystem facing high growth which is undergoing a number of seismic changes. Consequently, comparisons with previous analyses need to be treated with caution.

The remit for this study was to forecast what film and HETV production growth would look like between 2023 and 2025 and what that would mean in terms of the additional crew personnel to meet that growth. On the basis of this forecast, the study would estimate the level of annual financial investment that would be required to ensure that the UK's film and HETV production workforce could access the training required to maintain or acquire the skills to meet the sub-sector's forecast growth.

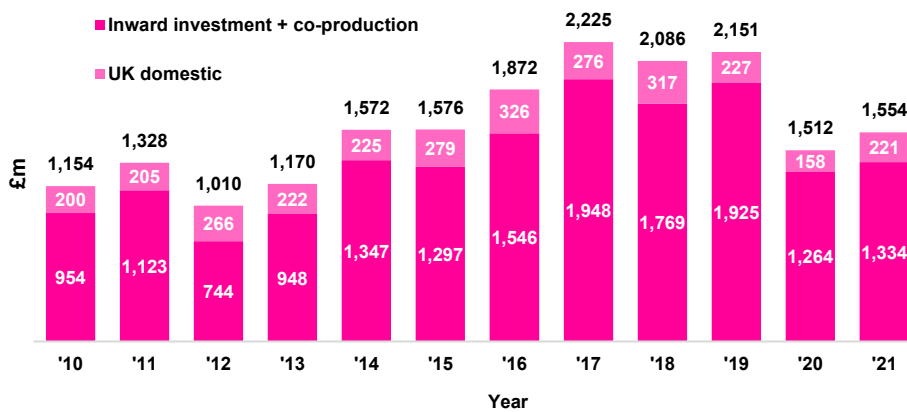
2 Historical trends

2.1 Film production

With improvements to the Film Tax Relief (FTR) and an increasingly competitive pound, spending on film production in the UK grew at a rate of 11% p.a. between 2013 and 2019 (BFI, 2019 and 2022) (Figure 2). The vast majority of this growth in film production came from inward investment production. Between 2013 and 2019, inward investment film production expanded at an annual average rate of 12% (BFI, 2019 and 2022). The year-to-year levels of domestic and co-production films were much more static during this period, however (BFI, 2019 and 2022).

Film production fell by 30% in 2020 (BFI, 2022). There was only a small rebound in production spending in 2021. Film production spending increased by only 3% to £1,544m (BFI, 2022) (Figure 2). Still, as we see in sub-section 2.3, a significant amount of long-form content was actually made in the UK under the HETV Tax Relief (BFI, 2022).

Figure 2: UK spend on film production (£m)

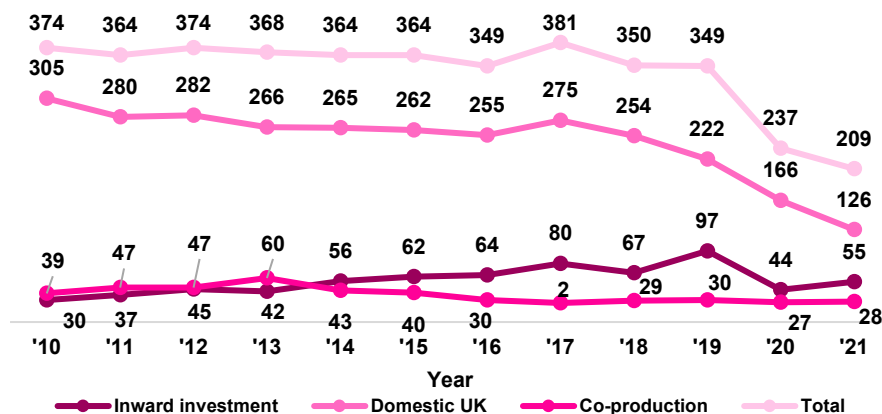


Source: BFI (2019 and 2022)

As shown in

Figure 3, steep declines in the number of domestic and co-production films in the UK meant that the total number of produced films fell from 344 in 2017 to 209 in 2021 (BFI, 2022). It is important to note, however, that the statistics for domestic and co-production films are subject to a higher degree of historical revision because it can take longer for the BFI to become aware (eg through the certification process) of many micro- and low-budget domestic or co-production films, in contrast to inward investment films. The annual number of inward investment films shot in the UK did increase to a peak of 97 in 2019; however, production then fell to 44 in 2020, before recovering slightly to 55 films in 2021 (BFI, 2022).

Figure 3: Annual number of films made in the UK

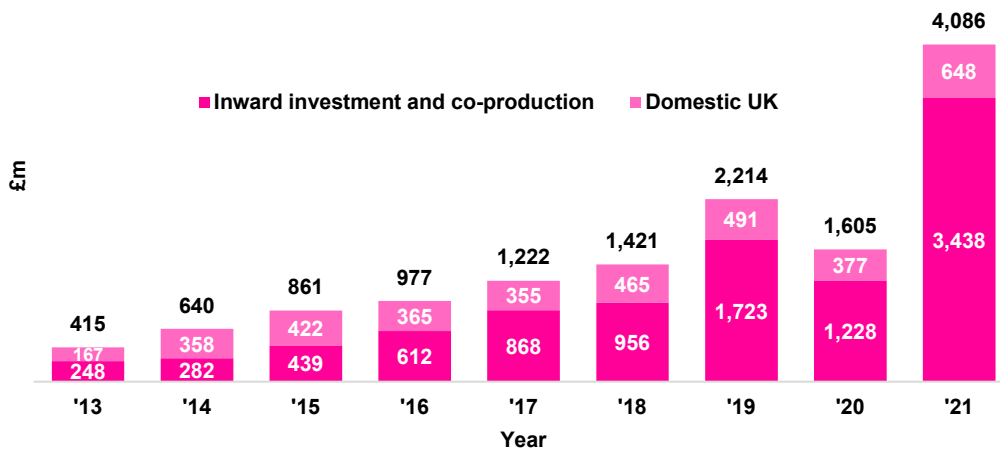


Source: BFI (2019 and 2022)

2.2 HETV production

HETV production has experienced strong growth ever since the introduction of HETV Tax Relief in April 2013. Between 2013 and 2019, annual spending on HETV production in the UK increased five-fold, from £415m to £2.214bn – expanding at an average annual rate of 33% (BFI, 2019 and 2022) (Figure 4). In 2020, of course, the annual value of total spending on HETV production dipped to £1,605m on account of Covid-19 (BFI, 2022). However, in 2021, HETV production experienced a dramatic recovery, rising by 85% over the 2019 level to reach £4.09bn (BFI, 2022).

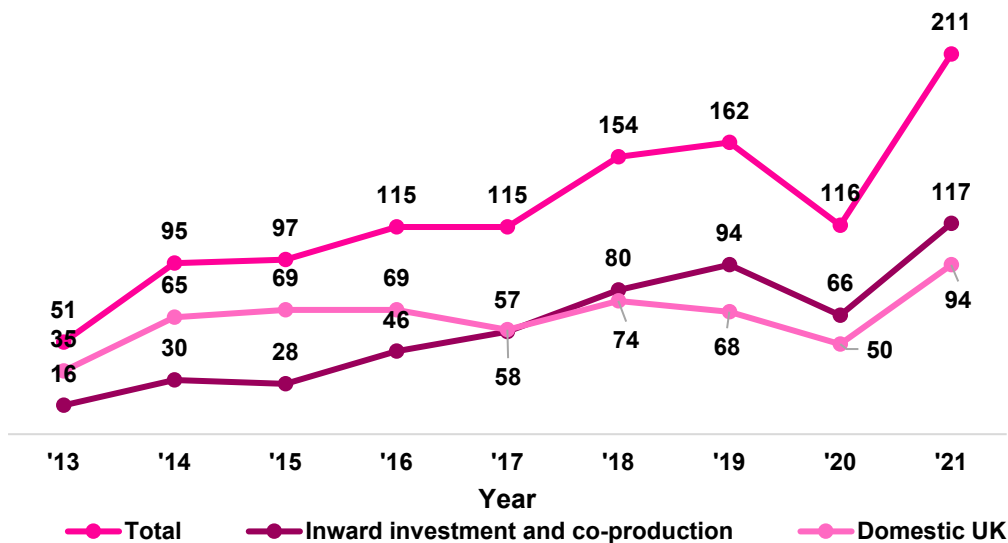
Figure 4: UK spend on HETV production (£m)



Source: BFI (2019 and 2022)

The annual number of HETV projects produced in the UK – including TV series and single-episode programmes – has also been steadily increasing since 2013 (BFI, 2019 and 2022). In 2019, the UK hosted the production of 162 HETV projects, most of which were multi-episode TV series (BFI, 2022). The number of projects dipped in 2020 before rebounding to 211 in 2021 (BFI, 2022). Overall, between 2013 and 2021, the annual number of HETV projects filmed in the UK grew at an annual average rate of 19% (BFI 2019 and 2022).

Figure 5: Annual number of HETV projects shot in the UK



Source: BFI (2019 and 2022)

The strong growth in the UK's HETV production sub-sector is not surprising. According to Ampere Analysis (2019), SVOD services increased their annual spending on content from \$2bn in 2013 to \$19bn in 2018.³ Indeed, the global SVOD services are in the midst of an unprecedented phase of content investment. In late 2019, Disney and Apple launched their own SVOD services to compete directly with Netflix and Amazon. In May 2020, WarnerMedia⁴ launched its own SVOD service, HBO Max, in the US. NBCUniversal launched its own Peacock SVOD service in July 2020. In late 2020, Discovery⁵ launched Discovery+ in the UK, followed by its global rollout in January 2021.

All of these SVOD services have been engaged in a fierce battle for subscribers. They also have globally-facing business models. This has meant that they have not shied away from leaving Southern California to produce their content in other parts of the US and even outside the US.

The UK has been a big beneficiary of SVOD services' global business models and increased spending on content production. Indeed, in 2020, Netflix entered into an exclusive multi-year lease for studio space at Pinewood Studios, whilst NBCUniversal and Sky announced the development of new soundstages at Elstree Studios (Szalai, 2020). However, several industry stakeholders who were interviewed suggested that this rate of growth cannot continue forever. Eventually growth within the global SVOD market will slow and potentially reach a plateau. Their production spending would likely reach a plateau as well.

2.3 Combined HETV and film production sub-sector

While film and HETV projects in the UK are subject to two distinct tax relief programmes – which dictates how the BFI compiles and publishes official statistics – there is, in fact, increasing overlap or convergence between these two sub-sectors, particularly in terms of the personnel working on projects.

We note that this study's forecast of additional crew personnel may be understated because of the increased mobility of personnel between film and HETV production. Historically, there was a distinction between crew who worked in film and those who worked in scripted TV. However, since the introduction of tax relief for HETV production and the subsequent growth in that sub-sector, that distinction has diminished to a degree for a variety of reasons.

In some cases, HETV production can provide more reliable employment than film production. TV series shooting often takes place over a longer period of time and when a series is renewed can recur for several years. The HETV tax relief and consumers' demand for higher quality TV drama has raised the technical quality of TV drama production thereby requiring more personnel and personnel with film experience (eg complex special effects). Additionally, this higher quality TV programming has reduced the 'esteem gap' that may have previously existed between film and HETV production.

In fact, whilst the FTR includes films made for theatrical release, SVOD platforms have in recent years produced numerous films that have gone straight to their Internet-based platforms rather than have a theatrical release. For this reason, the HETV statistics published by BFI also include spending by SVOD services on the production of single episode long-form content for their platforms. According to BFI, long-form content accounted for £737m of the £4.09bn in HETV production spending in 2021, or 18% of total HETV spending (BFI, 2022).

When viewed on a combined basis, film and HETV production in the UK increased from £3.45bn in 2013 to £4.37bn in 2019 (BFI, 2019 and 2022)(Figure 6). It dropped to £3.12bn in 2020, but then rebounded sharply to £5.64bn in 2021 (BFI, 2022). Overall, film and HETV production grew at an annual average rate of 17.2% between 2013 and 2021 (BFI, 2019 and 2022).

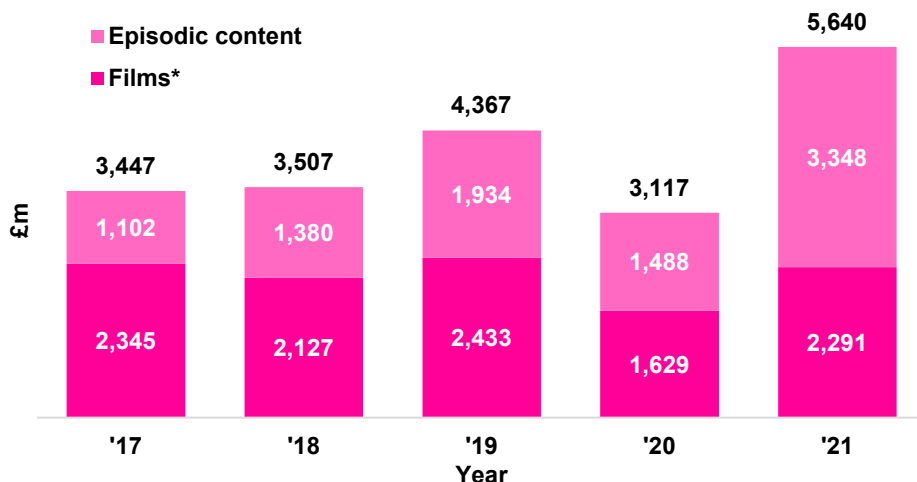
Of this combined total in production spending, films (including long-form content made with support of the HETV Tax Relief) accounted for £2.29bn in 2021 – a 6% decline from 2019 (BFI, 2022) (Figure 6). Episodic content made with support of the HETV Tax Relief accounted for £3.35bn – a 73% increase over spending in 2019 (BFI, 2022).

³ Whilst this includes all forms of television and not just HETV programming, a significant share of SVODs' content investment is going into television series with high on-screen values and TV movies or mini-series. All of these types of programming qualify as HETV, and so, the overall trends in SVODs' content spend provides a very good proxy for the trends in the demand for HETV programming.

⁴ Since 8 April 2022, WarnerMedia has been operating as Warner Bros. Discovery.

⁵ Since 8 April 2022, Discovery has been operating as Warner Bros. Discovery.

Figure 6: Film and HETV production in the UK (£m)

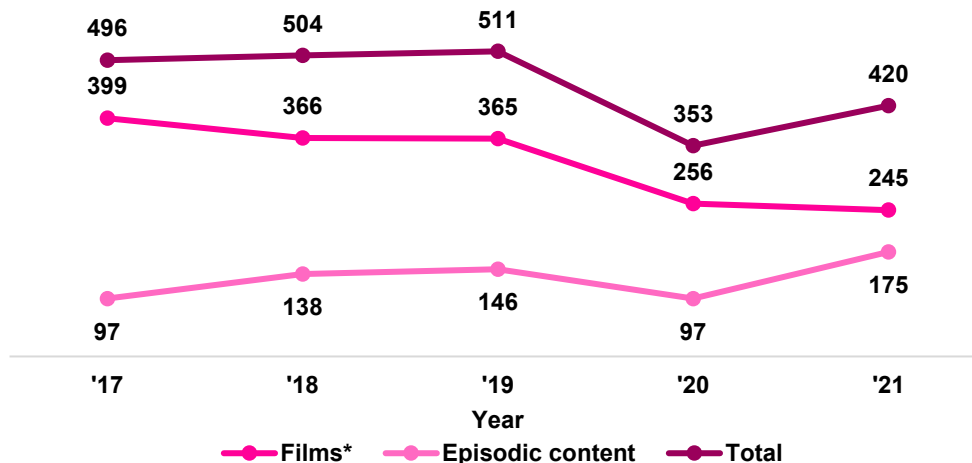


Source: BFI (2019 and 2022)

* Includes long-form content made with support of HETV Tax Relief

The increase in spending on episodic content outpaced the increase in the number of projects, which rose by only 20% between 2019 and 2021. This suggests that average project budgets increased by approximately 45%. This could have been due to higher hourly budgets or more episodes per project. The average budget for each film also increased by 40% between 2019 and 2021 – from £6.7m to £9.4m. This increase appears to have been linked to the changing composition of film production in the UK – shifting from smaller budget UK domestic films to more inward investment films with much larger budgets.

Figure 7: Number of HETV and film projects produced in the UK



Source: BFI (2022)

* Includes long-form content made with support of HETV Tax Relief

2.4 Employment

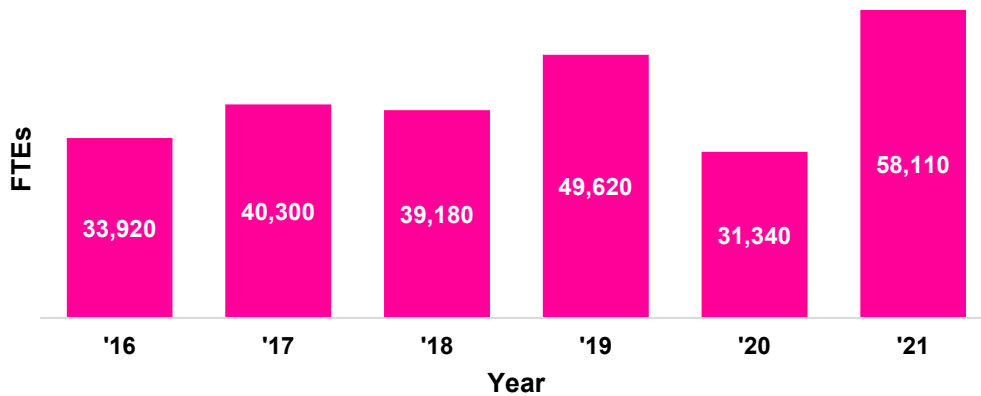
According to the 2021 edition of BFI’s Screen Business report, the film and HETV and production sub-sectors generated 46,530 FTEs of direct employment in 2019 (Olsberg-SPI, 2021). This included personnel working as crews or performers in live production. Note that whilst the employment statistics published by BFI include performers (ie cast and extras), this particular labour market forecast only analyses crew personnel. Later in the study, the employment statistics are adjusted to remove cast and extras from the annual number of FTEs. It also includes personnel employed in post-production or VFX, but excludes employment at supplier businesses (ie indirect impact employment) and induced impact employment generated across the UK economy.

Forecast of labour market shortages and training investment needs in film and HETV production

The latest calendar-year statistics released by BFI indicate that total spending on film and HETV production was, in fact, higher in 2019 than first thought – £4.37bn vs. £4.09bn (BFI, 2022) This upward revision also means that the direct employment impact was higher in 2019. The study team estimates that film and HETV production ultimately generated 49,620 FTEs of employment in 2019, based on this higher level of production spending (Figure 8).

The direct employment impact ratios implied by the statistics in the 2021 edition of the BFI’s Screen Business report also suggest that film and HETV production generated 31,430 FTEs of employment in 2020 and 58,110 FTEs in 2021 (Figure 8).

Figure 8: Direct employment generated by HETV and film production in the UK (FTEs)



Source: Nordicity / Saffery Champness estimates based on data from Olsberg-SPI (2021)

3 Production spending forecast

3.1 Methodology

In general, the long-term forecast of film and HETV production was based on a combination of data and observations collected from primary and secondary research sources – both before and after the start of the Covid-19 pandemic in March 2020.

- **Confidential interviews** (telephone and online) conducted between October 2019 and January 2020 with 45 screen sector stakeholders at 37 separate organisations in the UK.
- Three rounds of **confidential and anonymous interviews** with representatives from eight of the major global commissioning studios, including HBO, NBCUniversal Films, Netflix, Paramount (both the film and TV divisions), Sony Pictures, The Walt Disney Company (including Marvel, Lucas, Fox, Disney+) and Warner Bros. The first round of interviews was held in August/September 2019. Subsequent rounds were held in November 2020 and 2021. As part of these interviews, studio representatives were asked to report their levels of film and HETV production in the UK in 2019 and forecast what their annual levels of film and HETV production would likely be in 2025, under a scenario in which soundstage space and crew availability was not a constraint. In November 2020 and 2021, this same group of global commissioning studios was asked to update the forecasts they provided in 2019.
- An analysis of the increase in film and HETV production capacity in the UK that may accompany the **expected increase in soundstage space** suited to film and HETV production. This was based on research of the supply of soundstage space in the UK as of December 2021 and the amount of soundstage space expected to become available in the UK before 2025 on the basis of planning-approved studio developments.
- A publicly available **third party forecast of revenue and subscriber growth in the global SVOD market** – a key driver of the growth in HETV production spending in the UK in recent years – was sourced in May 2022 to inform the production spending forecast (See Section 3.2.4).

3.2 Forecast research

3.2.1 Global commissioning studios' outlook

The consultation interviews suggested that HETV production would continue to grow but that the growth would likely be slower going forward, primarily because: (i) growth in the UK is being constrained by the limited availability of soundstage space, and (ii) within the next five years there could be some consolidation of the global SVOD services – which have been fuelling growth in HETV production in the UK in recent years. In fact, subsequent to these interviews, we have already started to observe some of this predicted consolidation in the SVOD industry, with the merger of WarnerMedia and Discovery in April 2022 to form Warner Bros. Discovery. This consolidation trend was already emerging before the start of the pandemic with Disney's acquisition of 21st Century Fox in March 2019 (Disney, 2019) and Comcast's combination of its NBCUniversal and Sky operations in April 2019 (Ritman, 2019).

Interviews with the major global commissioning studios themselves indicated that the annual level of inward investment in HETV production in the UK could, by 2025, increase by as much as 90% over 2019 levels. This translates into an annual average growth rate of 11.5% during the 2020-to-2025 period.

The reality, however, is that by 2021, HETV production in the UK was already 85% higher than it was in 2019 (BFI, 2022). On the surface, therefore, it would appear that the vast majority of the growth was frontloaded – much in the same way that SVOD subscription growth accelerated during the pandemic and thereby also appeared to be frontloaded. However, there are two aspects of the global commissioning studios' forecast – made originally in summer 2019 – that suggest that there should still be some room for continued growth by 2025 in the monetary value of their HETV and film production spending in the UK.

Firstly, according to the Office for National Statistics (ONS), average hourly wages in the UK's Information and Communications sector (ie the sector that includes film and TV production) rose by 10.3% between 2019 and 2021 (ONS, 2021, Table 7). Since the global commissioning studios were commenting on growth

in real inflation-adjusted terms when first interviewed in 2019, the 85% growth between 2019 and 2021 is actually equivalent to 67% real spending growth – after removing the effects of wage-cost inflation.

Secondly, when the commissioning studios forecast 90% growth in HETV production in summer 2019, they did not contemplate the additional costs associated with Covid-19 protocols and safety measures. Data from the Broadcast Indie Survey 2022 suggests that the UK's independent production companies faced a Covid-19 cost premium in the neighbourhood of 12% (Conlan, 2022).

Adding this 12% Covid-19 cost premium to the 10.3% in wage inflation suggests that the real (inflation-adjusted) level of production spending in 2021 was £3.34bn, or only 50% above the 2019 level of £2.21bn. In other words, by 2021, HETV production in the UK had achieved 55% (ie $50\% \div 90\%$) of the global commissioning studios' 2025 growth forecast.

Therefore, once taking into account the differences in the cost of production between 2019 and 2021, the commissioning studios' original forecast implies that HETV production in the UK could still grow by a further 45% between 2021 and 2025, or the equivalent of an annual average growth of 9.7%.

The interviews with the major global commissioning studios did indicate there was the potential for the UK to capture a greater share of the commissioning studios' annual slate of theatrical films – which is tending to decline as the studios move to fewer bigger-budget releases each year – and thereby result in growth for film production in the UK. However, statistics published by BFI indicate that theatrical film production in the UK in 2021 was still 26% lower than it was in 2019 (BFI, 2022). What is more, as noted in Section 2.3 some of the feature film (ie long-form) production in the UK in recent years has been done under the HETV Tax Relief (BFI, 2022). With that in mind, the study has simply assumed that spending on film production, (ie production supported by the FTR), will remain unchanged in real terms between 2021 and 2025.⁶

Taken together, this outlook for film and HETV production implies that on a combined basis, film and HETV production in the UK is likely to grow at an annual average rate of 7.3% between 2022 and 2025. **By 2025, therefore, film and HETV production would reach an estimated £7.48bn, or 32.6% higher in real terms than the level in 2021.**

3.2.2 Soundstage capacity forecast

Our consultation interviews indicated that there are two key constraints on the level of film and HETV production in the UK: (i) the availability of skilled crews and (ii) the availability of soundstage space. In particular, the global commissioning studios noted that with a favourable exchange rate and competitive fiscal incentive, film and HETV production in the UK could continue to grow as long as there was available soundstage space and crews to work at those soundstages.

Since the purpose of this study is to forecast skills shortages, we have focused on how much additional production could be attracted to the UK, if the availability of skilled crews was increased to match the expected increase in soundstage space. In other words, we have fixed the level of soundstage space and varied the number of crew personnel within the sector.

In recent years, there has been significant momentum in terms of the development of new soundstage space in the UK. There have been numerous announcements of new soundstage developments in the UK – in the South East and in the nations and English regions. From a production-function⁷ perspective, as these soundstage spaces open and thereby add necessary infrastructure capital to the UK's production industry, the implication will be that labour will have to be added to the industry to convert this infrastructure capital (ie soundstages) into output (ie production spending and finished films and HETV content).

According to Lambert Smith and Hampton, as of December 2021, the UK had approximately 4.2m sq. ft. of stages in dedicated film and TV studios, with at least an additional 1.2m sq. ft. in a variety of alternative build spaces marketed for studio use (Lambert Smith Hampton, 2021). In total, therefore, the UK had approximately 5.4m sq. ft. of stage space as of December 2021 that was being marketed for the filming of HETV and film projects, particularly inward investment projects or domestic HETV episodic projects.

⁶ The actual value of spending on film production may increase, however, we are assuming that those increases would be linked to higher costs. Since part of these higher costs would be due to higher crew wages the effect on employment levels – the focus of this study and modelling – would be nil. That is, the higher average wages would cancel out the higher costs.

⁷ In the field of microeconomics, the production function embodies the theory that most, if not all, industries require a combination of labour and capital inputs to generate their finished products (ie output).

Nordicity and Saffery Champness LLP have prepared an unpublished forecast of the growth in the supply of soundstage space in the UK. The authors assessed each announcement of new soundstage space development, but focused only on developments with soundstages with floorspace of 20,000 sq. ft. and ceiling heights of at least 30 ft., since these configuration parameters are considered the minimum specification for inward investment film and HETV projects – the segment of the industry that is expected to drive most of the growth in the scripted production in the UK. Altogether, Nordicity and Saffery Champness found that development announcements totalling 3.4m sq. ft. in soundstage space met these criteria.

For each soundstage development project that met this minimum specification, Nordicity and Saffery Champness also assessed:

- **Planning status:** Has planning permission formally been granted, not just proposed or submitted?
- **Financing status:** Has finance been signed, not just announced or agreed?
- **Construction status:** Has building work commenced, not just preparatory work?

A red, amber, green (RAG) traffic light system was used to assess each soundstage development against these three criteria. A development project was assigned a:

- 0% likelihood (red), if the answer was 'no' for all three assessment questions
- 50% likelihood (amber), if the answer was 'yes' to at least one of the three assessment questions
- 100% likelihood (green), if the answer was 'yes' to all three assessment questions

Based on this RAG assessment approach, Nordicity and Saffery Champness concluded that, as of May 2022, a total of **2.69m sq. ft. of soundstage was likely to be added to overall supply in the UK by 2025.**

As part of the consultation interviews for this research, we sought validation of this soundstage supply forecast with the BFC, which also closely monitors and assesses individual soundstage developments. Whilst not equivalent, the BFC and Nordicity/Saffery Champness forecasts were very similar.

Through the consultations with the global commissioning studios and the economic analysis of studio facilities in the UK, we separately determined that a 20,000 sq. ft. of soundstage could support an average of £15m in production spending on an annual basis (Nordicity and Saffery Champness, 2022).⁸ This relationship between soundstage space and production spending implies that **an additional 2.69m sq. ft. in soundstage space would allow the UK to attract an additional £2.08bn in annual film and HETV production spending by 2025 and lift the total value of film and HETV production spending in 2025 to £7.66bn.**

3.2.3 SVOD market outlook

As noted in Section 2, a significant share of the 'growth' in HETV production – and thereby film and HETV production – in the UK in recent years has been driven by increased content spending by the global SVOD services. With that in mind, the outlook for continued growth within global SVOD market provides a further indication of how overall SVOD content spending should increase in the years to come although it is important to recognise that some of this growth in the SVOD production market is offset by declining levels of production for traditional linear broadcasting and independent mid- to low-budget film production.

Assuming that the UK maintains its existing share of this growth, this SVOD market growth also provides an indication of how film and HETV production in the UK should also grow. In fact, although much of the growth in the SVOD market is expected to occur outside of the UK and other traditional markets (ie North America and Europe), the UK is considered a true global hub for content production for many media markets beyond North America and Europe (Knight Frank, 2022).

In May 2022, Digital TV Research published an updated forecast of revenue and subscribers in the global SVOD market out to 2026. According to those forecasts, SVOD revenue is likely to increase from \$88.4bn in 2021 to \$136.2bn in 2026 – an annual average growth rate of 7.5% (Digital TV Research, 2022a). **If film and HETV production spending in the UK grew at the same rate, it would reach £7.532bn by 2025.** The number of global SVOD subscriptions is forecast to increase from 1.205bn in 2021 to 1.690bn in 2026

⁸ Comparing the £5.64bn in HETV and film production spending in 2021 to the estimated 5.4m sq. ft. of stage space implies that 20,000 sq. ft. stage space would support approximately up to £21m in production spending on an annual basis.

(Digital TV Research, 2022b). **If film and HETV production spending in the UK grew at the same rate as global subscriptions, it would reach £7.07bn by 2025.**

3.3 Projected film and HETV production spending

Table 1 provides a summary of how the various forecast research sources (see Section 3.2) translate into forecasts of film and HETV production spending in the UK. The production spending forecasts range from as high as £7,658m (ie Nordicity/Saffery Champness soundstage forecast) to as low as £7,067m (ie Digital TV Research global SVOD subscriptions forecast). These high- and low-end forecast scenarios were used as boundaries for the forecast of film and HETV production spending.

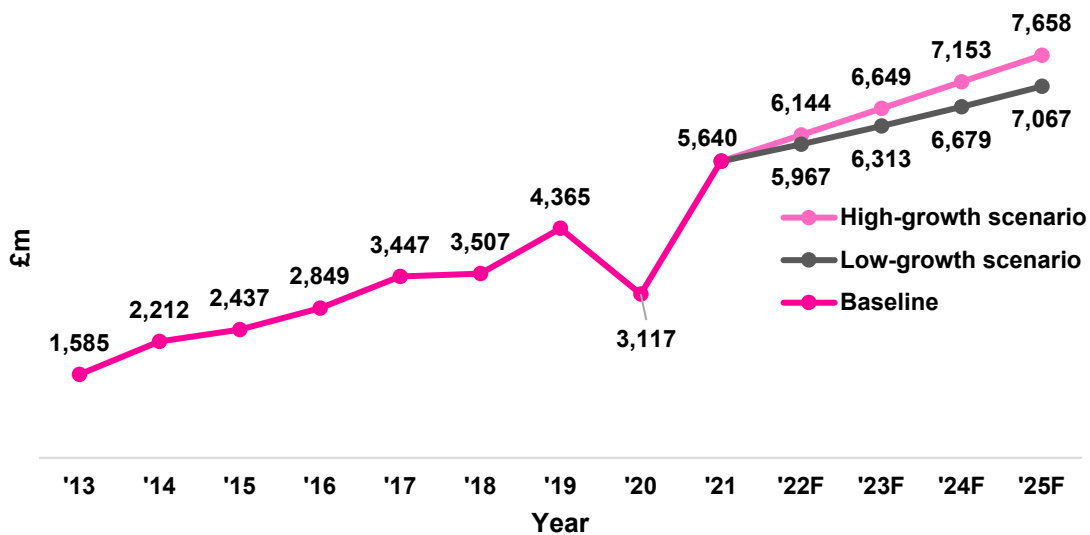
Table 1 Summary of film and HETV production spending forecasts

Source	Description	Implied 2025 film and HETV production spending in the UK
Nordicity / Saffery Champness soundstage capacity forecast (May 2022)	2.69m sq. ft. of additional soundstage space by 2025	£7,658m
Digital TV Research SVOD revenue forecast (April 2022)	7.5% annual average growth in SVOD subscriptions globally to 2027	£7,532m
Global commissioning studios' UK production outlook (November 2021)	Film and HETV production spend to increase 32.6% in real terms between 2021 and 2025	£7,479m
Digital TV Research SVOD subscriptions forecast (April 2022)	5.8% annual average growth in SVOD subscriptions globally to 2027	£7,067m

Source: Nordicity/Saffery Champness research, BFI, LSH, interviews, Digital TV Research and ONS

Based on the forecast research, therefore, we project that spending on film and HETV production in the UK will reach between £7.07bn and £7.66bn by 2025 (Figure 9).

Figure 9: Forecast of film and HETV production spending in UK (real 2021 £m)



Source: Nordicity/Saffery Champness forecast based on data from BFI, industry interviews and ONS

F - Forecast

4 Labour market shortage forecast

In this section we outline how the forecasts of combined spending on film and HETV production in the UK presented in Section 3 would translate into forecasts of additional crew personnel required within the film and HETV production sub-sector.

4.1 Methodology

Given the strong correlation between production spending and job creation, we developed the following model to forecast the increase in demand for crew personnel⁹ in film and HETV production between 2022 and 2025.

1. The study team obtained data on film and HETV production spending and direct employment in 2019 from the 2021 edition of BFI's Screen Business report.
2. The annual changes in film and HETV production spending between 2019 and 2021 were used to estimate the levels of direct employment generated by film and HETV production in each year (BFI, 2022; Olsberg-SPI, 2021). The annual rates of wage inflation in the Information and Communications sector (ONS, 2021, Table 7) in the UK economy were used to account for the reduced purchasing power of £1 in 2021 compared to 2019 (ie wage inflation).¹⁰
3. The forecast levels of film and HETV production spending for 2022 to 2025 generated by this study were then used to forecast the annual levels of direct employment (ie crew and cast employment) generated by that production spending. The model assumed no annual increases in real wages during that period, although that does not rule out the effects of wage inflation on production industry wages between 2022 and 2025.¹¹
4. Since the scope of forecast research is meant to exclude the labour market for cast, extras and other performers, a further adjustment was made to the year-by-year forecast of crew and cast FTE to exclude cast from the historical and forecast employment levels. Specifically, a review of a sample of film and HETV production budgets indicated that expenditures on below-the-line (BTL) cast accounted for 5% to 10% of total expenditures on BTL crew and cast. On that basis, we removed 10% of FTEs from the crew and cast FTE time series. The crew-only time series can be found in Figure 3 and indicates that crew employment is forecast to increase from an estimated 52,300 FTEs in 2021 to 68,810 FTEs in 2025.
5. The resulting annual levels of direct employment in the years 2022 to 2025 were compared to the estimated baseline level of direct employment in 2021 to derive estimates of the size of the skills shortage in HETV and film production.

4.2 Crew shortage (gross)

The results of this modelling exercise can be found in Figure 10 and indicate that:

- Under the **low-growth scenario** (ie the addition of 2.2m sq. ft. of stage space), the employment generated by film and HETV production is forecast to grow from 58,110 FTEs¹² to 75,090 FTEs by 2025.
- Under the **high-growth scenario** (ie the cost-inflation adjusted outlook by global commissioning studios), the employment generated by film and HETV production is forecast to grow from 58,110 FTEs to 77,040 FTEs by 2025.

⁹ We note that whilst the employment FTE statistics published by BFI in Screen Business and used as the basis for the skills shortages forecasts in this study include cast along with crew personnel, ScreenSkills' purview only covers crew personnel.

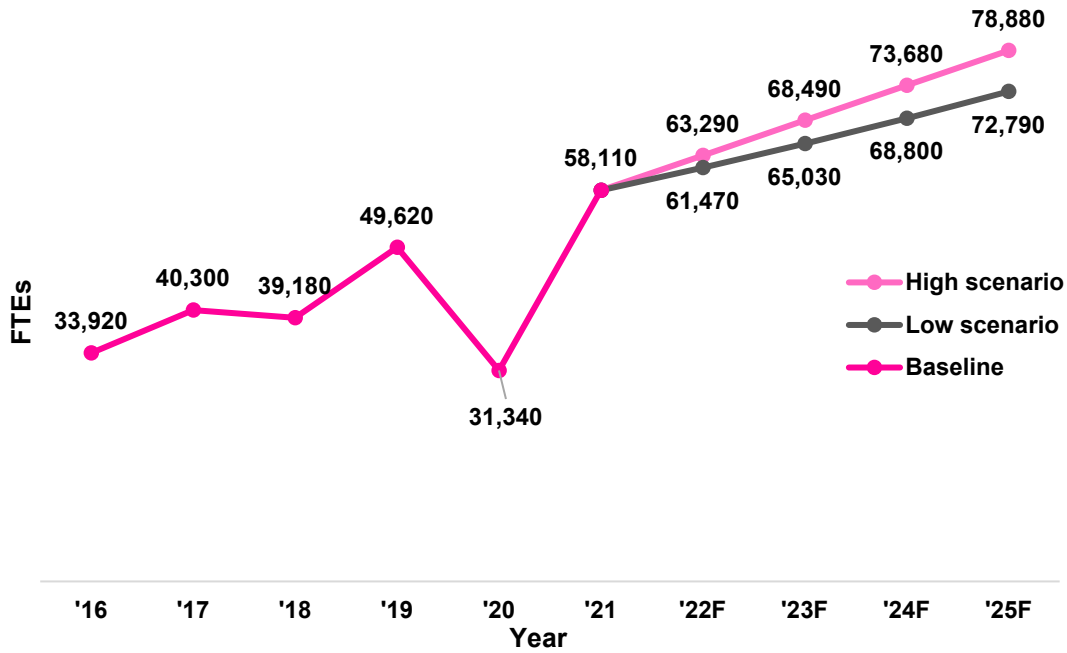
¹⁰ As a result of reduced purchasing power due to inflation, the number of direct FTEs of employment generated by £1m of HETV production spending in 2019 would be lower than that observed for £1m of production spending in 2016.

¹¹ Since this study is focused on modelling future levels of employment and skills shortages, and the forecasts of production spending are also in real terms, there is no need to also model the unknown trajectory of wage inflation.

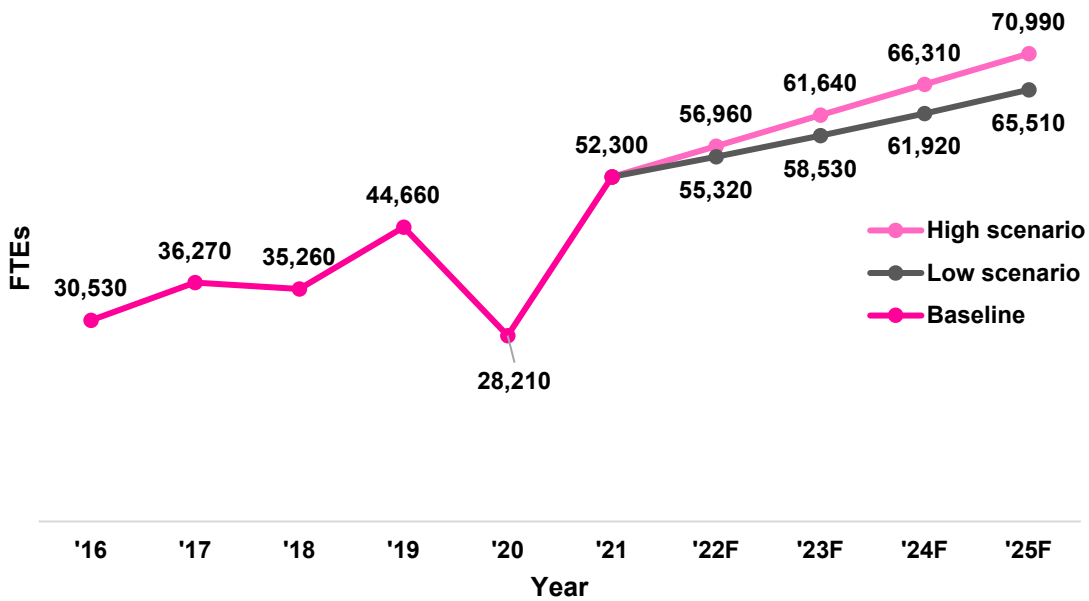
¹² This baseline 2021 employment estimate of 58,110 FTEs is based on an extrapolation of the employment estimates for 2019 published by BFI in Screen Business. See Section 2.4 of this study for a summary of the Screen Business employment figures and a description of the derivation of the 2021 baseline figure of 58,110 FTEs.

Figure 10: Forecast of direct employment, film and HETV production (FTEs)

a. Crew and cast



b. Crew only



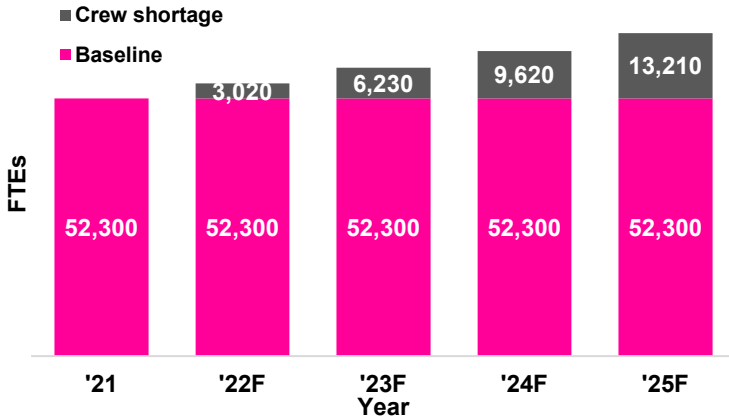
Source: Nordicity/Saffery Champness forecast based on data from BFI (2019 and 2022), Olsberg-SPI (2021), industry interviews and ONS (2021)

F - Forecast

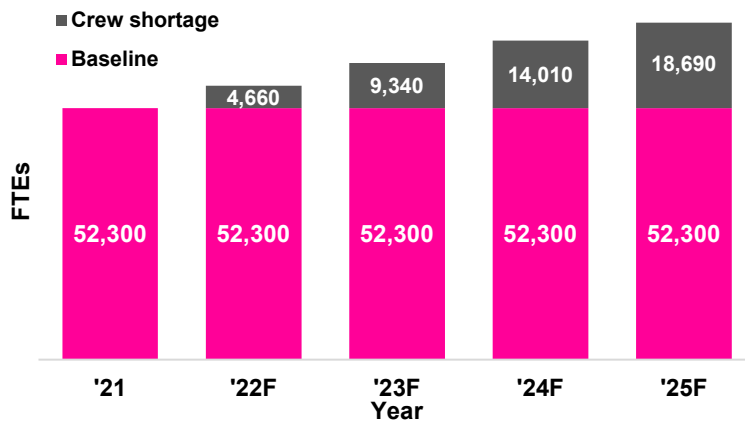
Based on these forecast levels of employment growth, the UK’s film and HETV production sub-sector would require between 13,210 and 18,960 FTEs of additional crew, on a gross basis¹³, by 2025.

Figure 11: Forecast labour market shortage (gross basis)

a. Low-growth scenario



b. High-growth scenario



Source: Nordicity/Saffery Champness forecast based on data from BFI (2019 and 2022), Olsberg-SPI (2021), industry interviews and ONS (2021)

F - Forecast

4.3 Crew shortage (net)

The gross skills shortage forecasts in Section 4.1 do not take into account the additional personnel that would have to be attracted to the film and HETV production sub-sector in order to offset the effects of outflows due to retirement, family care responsibilities and general voluntary workforce attrition¹⁴.

Given the lack of reliable statistics on general voluntary workforce attrition in the HETV and film sub-sector, we have focused only on outflows due to retirement or family care responsibilities. In that respect, our estimates of overall workforce attrition and the net skills shortage may be understated.

Our research indicates that the gross skills shortage (see Section 4.1) should be increased by at least 2.93% in order to account for retirements (0.83% annual adjustment) and outflows for family-care responsibilities

¹³ Gross basis refers to skills shortage estimate before making adjustments for workforce outflows due to retirement or family-care responsibilities.

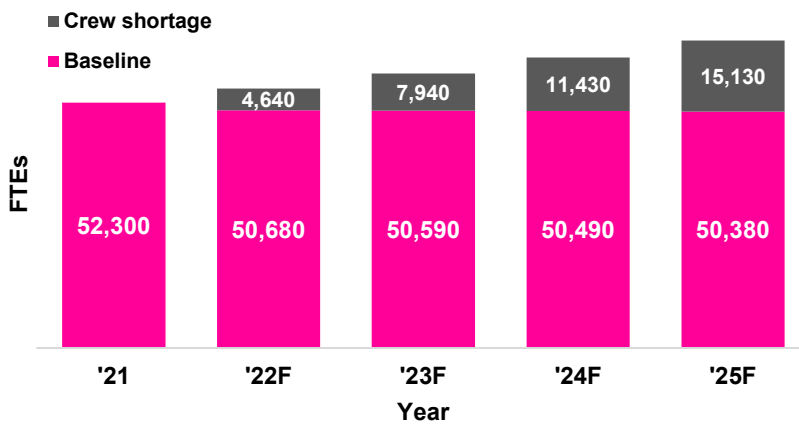
¹⁴ General workforce attrition refers to workers who decide to leave the HETV and film production industry to work in other segments of the film and TV sector, or leave the sector entirely.

(2.1% annual adjustment). The calculation of these outflow adjustments can be found in Box 1 below. We note that the outflow rate of 2.93% should be viewed as a lower boundary since it does not take into account other motivations for exiting the film and HETV production workforce. For that reason, the forecast of outflows and the net crew shortage should be viewed as conservative; the actual levels are likely to be higher than forecast.

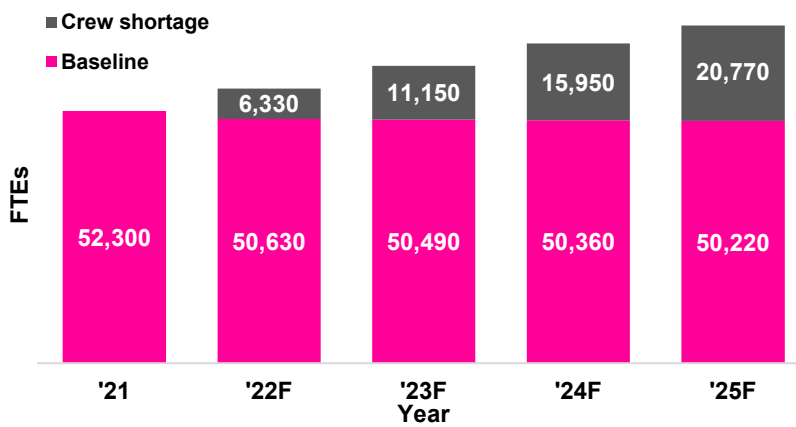
After taking into account these outflows, we estimate that the net crew shortage in the film and HETV production sub-sector is likely to reach between 15,130 and 20,770 FTEs by 2025 (Figure 12).

Figure 12: Forecast labour market shortage (net basis)

a. Low-growth scenario



b. High-growth scenario



Source: Nordicity/Saffery Champness forecast based on data from BFI (2019 and 2022), Olsberg-SPI (2021), industry interviews and ONS (2021)

F – Forecast

Box 1: Forecasting workforce outflows due to retirement and family care responsibilities¹⁵

To forecast retirement outflows across the film and HETV production sub-sector, we combined data from the Labour Force Survey (LFS) on the age structure of the screen sector with other data from ONS for labour force participation rates by age group, to construct a model to forecast the annual rates of retirement outflows between ages 50 and 64 and 65 and over.

The LFS data indicated that workers aged 50+ accounted for 20% of the screen sector workforce – compared to 31% across the entire UK economy (ScreenSkills and Work Foundation, 2019, p25).¹⁶

This ONS data indicated that the participation rate in the third quarter of 2019 dropped from 89.6% for 25-49-year-olds to 74.6% for people aged 50 to 64. In other words, 15.0% of the labour force became inactive – most likely due to retirement – between the ages of 50 and 65. This translates into an annual retirement rate of 1.00%.

This also implies that the remaining 85.0% of the screen sector workforce would retire after age 65. Whilst ONS participation-rates data indicates that some people work until they are 93 (ie the participation rate drops to zero at age 94), for our modelling of retirement outflows we have assumed that all retirements are complete by age 70.

Combining the age structure data for the screen sector and our retirement model (based on ONS labour force participation rate data), we estimate that the annual retirement rate for the screen sector is 0.84%. In other words, in each year between 2021 and 2025, we can expect that the labour force shortage will be higher by 0.84% due to retirement outflows.

We also developed a model to forecast the outflows from the screen sector associated with individuals leaving the workforce due to family care responsibilities. An analysis of ONS data for labour force participation by age and gender indicates that that participation rate (ie the number of active workers) among female workers in the 25-49 age group is 5-6% lower than it would be if the ratio of female-to-male participation rate for 18- 24-year-olds was maintained (0.941).

In other words, across the UK economy, the participation of female workers in the 25-49 age group is 5-6% lower than it would likely be if women were not assuming the majority of family care responsibilities.

Whilst women accounted for 47% of the labour force across the UK economy, within the screen sector, they accounted for 38%. That being the case, rather than use an overall labour-force exit rate of 2.6% (ie 47% x 5.5%), we used a rate of 2.1% (ie 38% x 5.5%) to account for the additional skills shortages that would likely accompany outflows due to family care responsibilities.

Altogether, therefore, we increased the labour market shortage forecast by 2.93% (ie 0.83% + 2.10%) to account for the impact of outflows due to retirement and family-care responsibilities. This included 2.93% increase applied to the shortage FTEs as well as the existing workforce, which would also be subject to the outflows.

We note that the derivation of this outflow rate was based on historical sector-wide averages and may understate the higher degree of workforce outflow being currently experienced in the film and HETV production sub-sector.

¹⁵With regards to supply outflows, we forecast the annual number of people who would likely exit due to retirement and family care. No other types of outflows (eg voluntary attrition or international emigration) were included in the forecast. For this reason, the actual levels of annual outflows are likely to be higher than those forecast in this analysis, and the skills shortages larger than we have forecast.

¹⁶Note that the age-structure data for the screen sector only reflects the 169,000 workers working in the film and TV production, post-production, distribution and exhibition sub-sectors in 2017, and excludes workers working in the video games sector.

5 Training investment forecast

The following section provides estimates of the annual cost of providing training to the film and HETV production workforce. These estimates were arrived at by combining the forecast of labour market shortages found in Section 4 with ScreenSkills' data on training expenditures and other industry-training intelligence held by ScreenSkills. In this regard, the forecast of training investment uses ScreenSkills' averages for training spend and other variables to approximate the average costs and other key variables across the entire film and HETV production training segment in the UK. This approach yields industry-wide estimates of the cost of training for the film and HETV production workforce, and not just an estimate of the cost of ScreenSkills own funding or provisioning of training for the film and HETV production workforce.

5.1 Modelling assumptions

To estimate the annual cost of providing training to the film and HETV production workforce – including the existing workforce and the forecast of additional workers required to meet the increase in production activity (ie labour market shortage) – the existing workforce and cohort of new workers (ie new workforce) were subdivided into two seniority groups.

- Entry/early personnel (ie 0 - 3 years of experience)
- Mid-level/senior personnel (ie 3+ years of experience)

The new workforce was assumed to consist of a higher proportion of entry/early workers (75%) than the existing workforce (40%).

The forecast model also incorporated two types of training:

- **Intensive training:** Classroom-based training that may complement a placement, for example, or schemes that run longer than two weeks. Within ScreenSkills, this would include programmes such as Film Forward, Trainee Finder and Leaders of Tomorrow.
- **Light-touch training:** All other shorter in-person or virtual classroom-based training/modules and interventions. Within ScreenSkills, this would include programmes such as positive mental health training, resilience workshops and mentoring schemes.

This two-dimension taxonomy helps to achieve a calculation that takes into account different training expenditures for differing levels of experience and different types of training activities or interventions offered.

ScreenSkills intelligence, including a job roles analysis conducted by ScreenSkills, indicated that entry/early personnel account for 40% of the total film and HETV workforce, while mid-level/senior personnel account for the other 60%.

The frequency of training among the workforce (ie the share of the workforce in training in any given year) was modelled based on the assumptions found in Table 2. For example, in any given year, 40% of entry/early personnel were assumed to have participated in some form of intensive training (ie the equivalent of two training interventions over a five-year period) and 50% were assumed to have participated in some form of light-touch training in any given year (ie the equivalent of 2.5 training interventions across a five-year period). These assumptions were derived from ScreenSkills intelligence, estimating how frequently someone would be expected to receive training (eg classroom-based training) or other supportive interventions (eg bursaries, mentoring) in a five-year period.

Table 2: Training frequency assumptions

	Intensive	Light touch
Entry/early	40% (2 training interventions every five years)	50% (2.5 training interventions every five years)
Mid/senior	20% (1 training intervention every five years)	30% (1.5 training interventions every five years)

The four types of training also have different average per-person costs. An analysis of ScreenSkills’ historical training cost data and training delivery plans for 2022-23 indicated the per-person averages shown in Table 3. According to ScreenSkills data, intensive training courses typically cost an average of £3,749 per person to deliver to early/entry personnel and £4,133 per person for mid-level/senior personnel. Light-touch courses typically cost an average of £795 per person to deliver for early/entry personnel, and £678 per person for mid-level/senior personnel.

The costs of intensive training exclude any placement costs that are incurred by industry and, in some cases supplemented via ScreenSkills. These placement costs pay all or some of the placement participant’s wages whilst they complete their training and gain on-the-job experience. ScreenSkills training data indicates that these placement costs would raise the overall per-trainee cost of intensive training to £13,819 for entry/early personnel and £23,198 for mid-level/senior personnel.

Table 3 Average per-person training delivery costs

		Without placement	With placement & industry contribution
Entry/early	Intensive	£3,749	£13,819
	Light touch	£795	£795
Mid/senior	Intensive	£4,133	£23,198
	Light touch	£678	£678

Source: ScreenSkills

In addition to these per-person cost estimates, ScreenSkills estimates that the total annual cost to deliver e-learning within the film and HETV production sub-sector will be £300,000, independent of the overall size or seniority composition of the workforce.

Box 2: Training investment forecast notes and caveats

- When reviewing the results of this forecast of training investment, readers should keep in mind the following:
- This training includes new entrant training as well as continuing professional development.
 - The analysis uses ScreenSkills data as a proxy for industry-wide training costs and the average number of training interventions needed.
 - Excludes pre-entry training, which is aimed at those not yet working in the industry (eg Open Doors or ScreenSkills Select).
 - Includes a fixed annual sum of £300,000 to cover the cost of delivering e-learning, independent of the overall size or seniority composition of the workforce.
 - The estimates of training investment do not take into account inflation and increases in the cost-of-living. Taking these into account would mean that the actual monetary levels of training investment in the future may need to be higher than reported in this forecast.
 - Workflow changes and new technologies (eg virtual production) may mean that average and total training investment requirements may be higher than forecast.

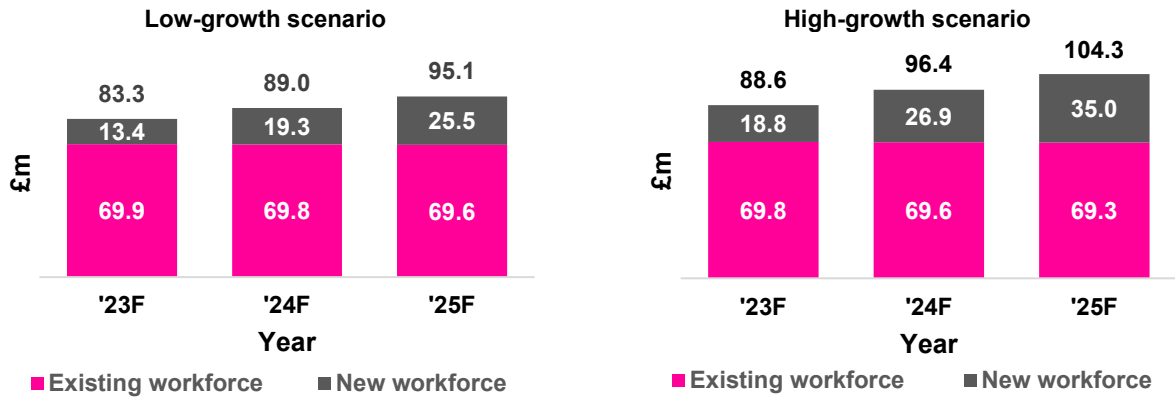
5.2 Forecast results

Based on the two seniority groups (ie entry/early and mid-level/senior) and two training types (ie intensive and light-touch) assumptions and the average per-person costs, we forecast that by 2025, an annual investment of between £95.1m and £104.3m will be needed to meet the training requirements of the film and HETV production workforce (Figure 13). This excludes the costs of any job placements that might accompany intensive training programmes. Furthermore, it is not possible to say with authority what portion of this £95.1m to £104.3m will be additional to existing levels of investment in training, since comprehensive collated data on current levels of training investment is not available.

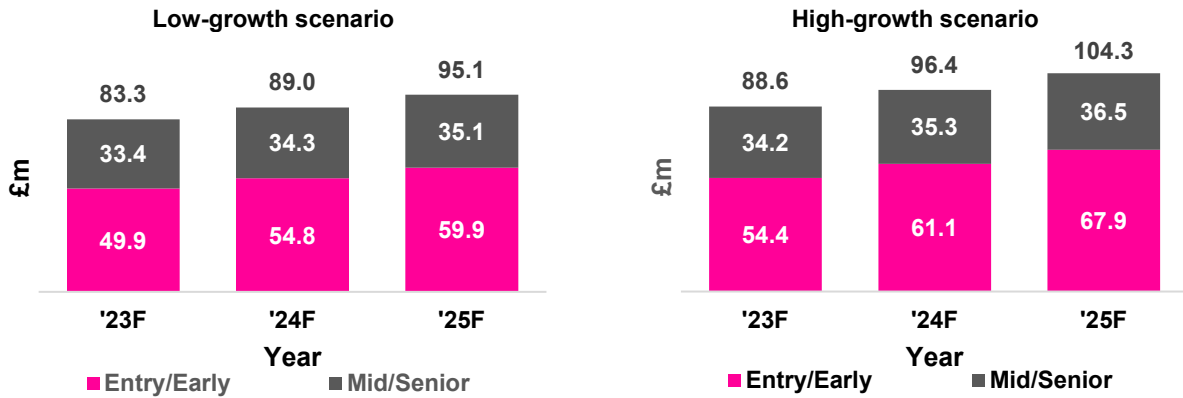
Approximately 76% of this required investment will be needed to train the existing workforce, with the other 24% devoted to new entrants brought into the production workforce to meet the forecast growth in production spend (Figure 13a). Approximately 55% of the total required investment will be needed to train entry/early workers, with the other 45% devoted to mid-level/senior workers (Figure 13b). Approximately 80% of the total required investment will be directed to intensive training programmes, with 20% directed to light-touch training, and under 1% for e-learning (Figure 13c).

Figure 13: Forecast of required annual training investment in film and HETV production sub-sector (£m)

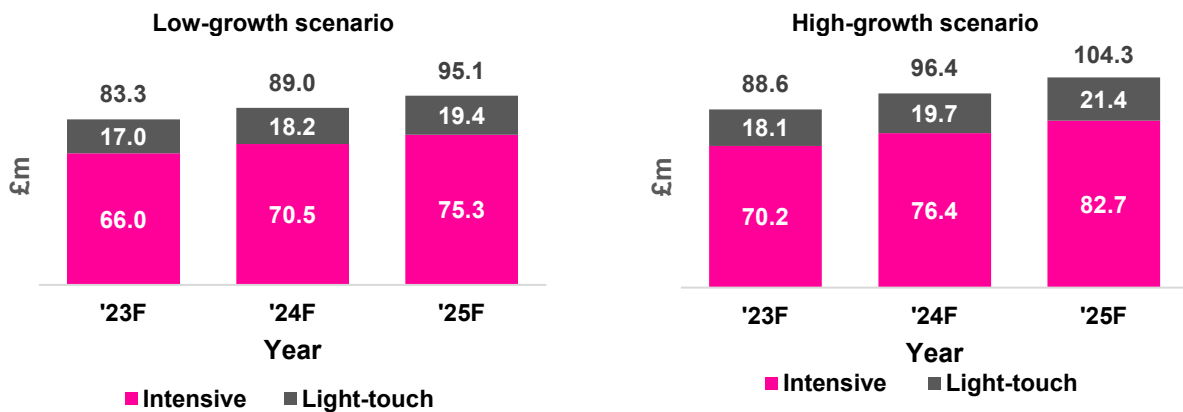
a. By workforce cohort



b. By seniority



c. By training type*



Source: Nordicity/Saffery Champness forecast based on data from ScreenSkills, BFI (2019 and 2022), Olsberg-SPI (2021), industry interviews and ONS (2021)

F – Forecast

* Includes £300,000 in annual investment in e-learning, not broken out in the chart.

An analysis of the sensitivity of these training investment estimates to selected variables (subject to a relatively high degree of uncertainty) can be found in Appendix A.

5.3 Benchmarking

Our analysis indicates that by 2025, the film and HETV production sub-sector would, at a minimum, require an average per person-trained investment of £2,097. On a per-FTE basis, the average training investment would be £1,452.

Both average training cost rates are consistent with the average levels of training investment observed in other sectors in 2019. For example, across the UK economy, training costs were £2,540 per person-trained and £1,530 per employee in 2019 (Winterbotham et al., 2020, p. 89). In fact, within the construction and business services sectors, per person-trained costs were as high as £4,370 and £3,770, respectively (Winterbotham et al., 2020, p. 89).

The total 2025 training investment of £104.3m (ie high-growth scenario) will, of course, be affected by the size of the film and HETV production workforce, and therefore, should be viewed in the context of total sub-sector turnover, or in this case, total spending on film and HETV production (ie essentially the turnover of production companies). On this basis, the total 2025 training investment of £104.3m (ie high-growth scenario) would represent 1.4% of the forecast level of film and HETV production spending in 2025 (ie £7,658m). At 1.4%, the rate of investment would be higher than many other sectors (eg manufacturing, construction, and information and communications), but lower than the business services, and hotels and restaurants sector, where training investment rates were 3.5% and 2.5%, respectively, in 2019 (the most recent year of published statistics for training investment by industry).

Table 4 Comparison of training investment rates in the UK economy*

	Per person trained (£)	Per employee (£)	Total training spend (£m)	Total turnover** (£m)	Share of turnover
Film and HETV production (2025F)	2,097	1,452	104	7,658	1.4%
Primary sector and utilities	2,540	1,400	900	n.a.	n.a.
Manufacturing	2,500	1,200	2,700	570,611	0.5%
Construction	4,370	2,290	2,600	309,123	0.8%
Wholesale and retail	2,060	1,400	4,600	1,543,378	0.3%
Hotels and restaurants	2,060	1,480	2,700	107,184	2.5%
Transport and storage	2,100	1,140	1,400	202,831	0.7%
Information and communications	2,840	1,420	1,600	279,568	0.6%
Financial services	2,160	1,320	1,300	n.a.	n.a.
Business services	3,770	1,830	11,400	323,140	3.5%
Public administration	2,050	1,620	1,700	n.a.	n.a.
Education	1,930	1,460	3,500	n.a.	n.a.
Health and social work	2,140	1,470	4,900	n.a.	n.a.
Arts and other services	2,380	1,730	1,700	138,960	1.2%
Total UK (excl. Scotland)	2,540	1,530	42,000	n.a.	n.a.

Source: Nordicity/Saffery Champness, Winterbotham (2020), ScreenSkills, BFI (2019 and 2022), Olsberg-SPI (2021), interviews and ONS (2021)

* Whilst the figures for film and HETV production are for 2025, all other amounts are for 2019 (the most recent year of published statistics for training investment by industry).

** For film and HETV production, production spending has been used to represent sector turnover.

n.a. Data not available

F - Forecast

6 Conclusion

In 2021, a record £5.64bn was spent on film and HETV production in the UK. Our research indicates that there is the potential for the annual level of film and HETV production to reach between £7.07bn and £7.66bn by 2025. This higher level of production spending will generate the need for between 15,130 and 20,770 FTEs of additional crew personnel.

To ensure that these new workers as well as the existing film and HETV production workforce can access the training required to enable this future growth, an annual investment of £95.1m to £104.3m will be needed by 2025. This includes the existing amounts being spent on training for the film and HETV production workforce (eg apprenticeships pilots, training funded by the National Lottery or the Film Skills Fund and High-end TV Skills Fund), and so, is not the additional investment required, but the total annual estimated investment.

On a per-person-trained or per-FTE basis, this level of investment in training would be consistent with economy-wide averages in the UK (excluding Scotland) and even lower than some other sectors of the economy. Moreover, the total training investment would represent only 1.4% of forecast £7.66bn in film and HETV production expenditures in 2025.

The analysis of the economic impact of film and HETV production found in BFI's Screen Business report indicates that £1m in film and HETV production expenditures generates, on average, 10.5 FTEs of direct impact employment, and 11.3 FTEs of indirect and induced impact employment is generated (see Box 3), bringing the total employment impact to 21.6 FTEs per £1m. Every £1m in film and HETV production spending also generates £1.01m in gross value added (GVA) – including direct, indirect and induced impact GVA.

Box 3: Types of economic impact

Direct economic impact refers to the employment and GVA generated directly within the film and HETV production sub-sector (ie crew and case employment and wages).

Indirect economic impact refers to the increased employment and GVA experienced in industries that provide supplies and services to film and HETV production projects (eg equipment hire, construction materials).

Induced economic impact refers to the increased employment and GVA experienced that occurs when direct- and indirect-impact workers spend their earnings within the UK economy (eg purchases of new automobiles).

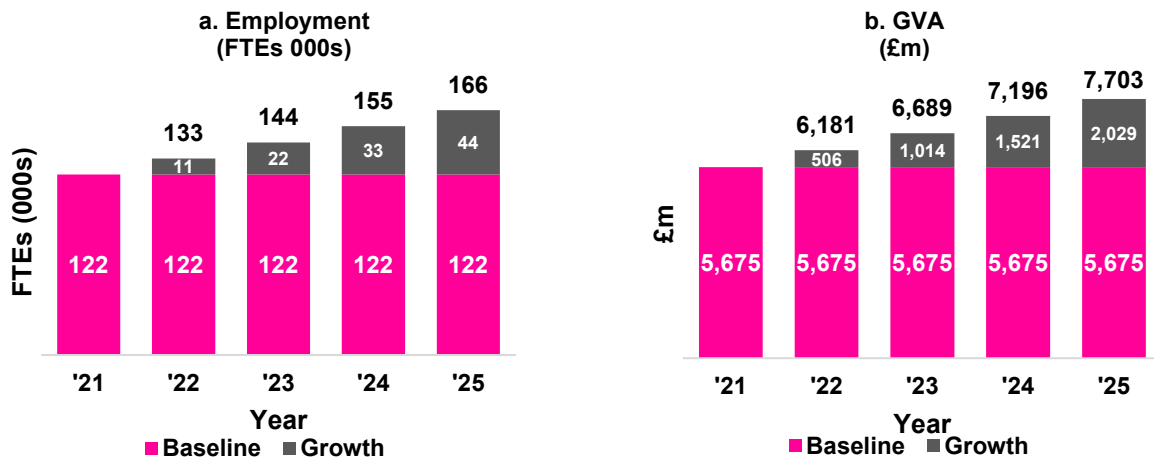
Total economic impact is the sum of the direct, indirect and induced economic impacts. Note, however, that in the context of the film and HETV production sub-sector, this total economic impact excludes screen tourism, which is classified as a spillover economic impact.

Training for existing and new crew is not the only prerequisite for continued growth of film and HETV production in the coming years. However, given that it is a people industry and that skills shortages and gaps have become very acute within the sub-sector, workforce training is an extremely important factor. These economic multipliers suggest that the any investment in training could help underpin a significant economic return for the UK.

The indirect and induced employment and GVA impacts of an annual investment in the order of £104.3m would go a long way towards the creation of not only 20,270 FTEs of crew employment, but an additional 23,270 FTEs of indirect and induced impact employment across the UK economy. These impacts would be on top of the estimated 122,000 FTEs of employment already generated by the sub-sector (Figure 14a).

Between 2023 and 2025, an estimated total training investment of £289.3m will be required. This training investment of £289.3m would contribute vitally towards enabling the film and HETV production sub-sector to generate an additional £4.56bn in total impact GVA (ie growth in sub-sector GVA between 2023 and 2025) (Figure 14b). Although training will not be the only contributory factor to growth, the importance of the skilled workforce to UK production is widely acknowledged and the economic return of over 15 times the training investment is compelling.

Figure 14: Total economic impact¹ of growth in film and HETV production



Nordicity/Saffery Champness forecast based on data from BFI (2019 and 2022), Olsberg-SPI (2021), industry interviews and ONS (2021)

1. Total economic impact equals the sum of direct, indirect and induced economic impacts.

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Appendix A: Sensitivity analysis

The following appendix presents an analysis of the sensitivity of the forecast of total training investment in 2025 to two variables: (i) the share of training consisting of intensive training (separately for entry/early and mid-senior crew personnel), and (ii) the forecast of total film and HETV production spending in 2025.

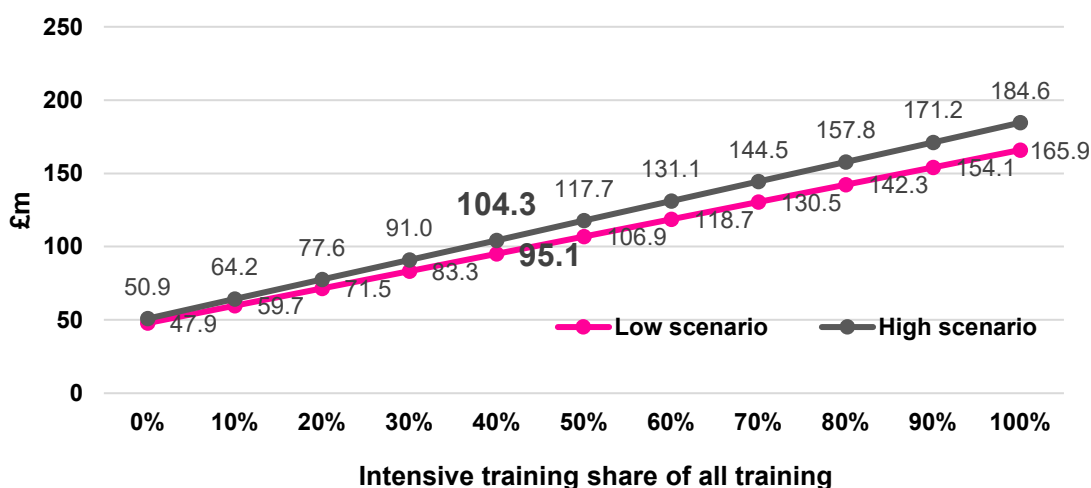
Intensive-training share:

In the baseline forecast, 40% of entry/early personnel were assumed to be engaged in intensive training in any given year (ie two trainings per five years). The sensitivity analysis indicates that as this percentage rises to 100% (ie one intensive training per year), the forecast annual level of training investment rises from £95.1m to £165.9m in the low-growth scenario and from £104.3m to £184.6m in the high-growth scenario (Figure A - 1).

The baseline forecast also assumed that 20% of mid/senior-level crew were engaged in intensive training in any given year (ie one intensive training every five years). The sensitivity analysis indicates that as this percentage rises to 100% (ie one intensive training per year), the forecast annual level of training investment rises from £95.1m to £207.5m in the low-growth scenario and from £104.3m to £221.1m in the high-growth scenario (

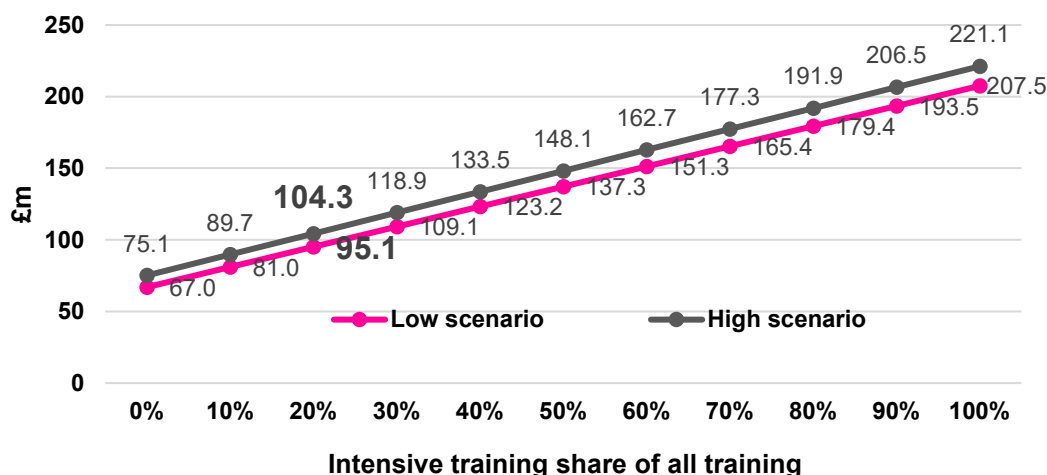
Figure A - 2).

Figure A - 1 Sensitivity analysis, intensive-training share for entry/early crew personnel



Source: Nordicity/Saffery Champness analysis based on data from BFI (2019 and 2022), Olsberg-SPI (2021), industry interviews and ONS (2021)

Figure A - 2 Sensitivity analysis, intensive-training share for mid/senior-level crew personnel



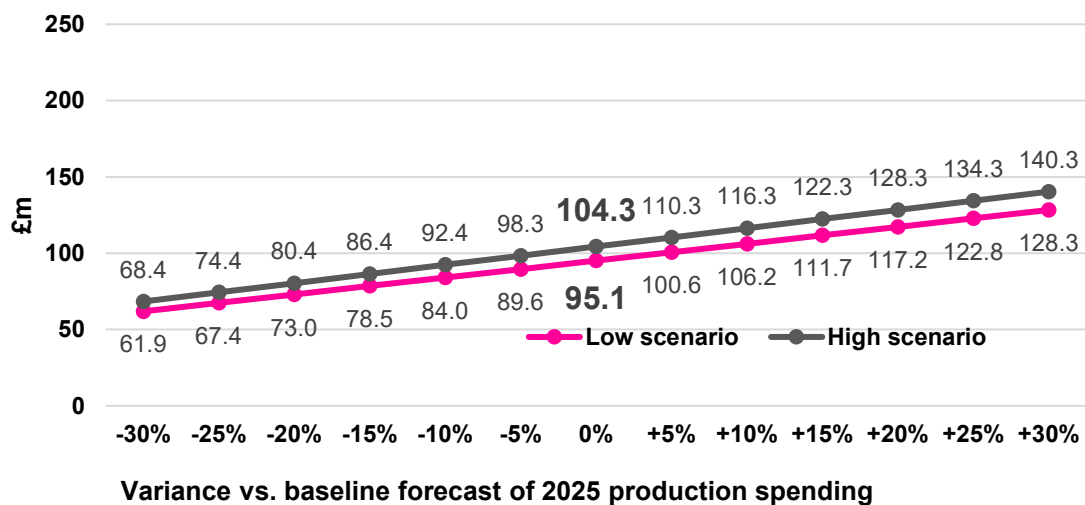
Forecast of labour market shortages and training investment needs in film and HETV production

Source: Nordicity/Saffery Champness analysis based on data from BFI (2019 and 2022), Olsberg-SPI (2021), industry interviews and ONS (2021)

Film and HETV production spending in 2025:

Under the baseline forecast, film and HETV production spending was expected to reach £7.66bn under the high-growth scenario and £7.07bn under the low-growth scenario. If film and HETV production spending in 2025 was 10% below this baseline forecast, then the forecast total training investment would decline from £95.1m to £84.0m (Figure A - 3). Conversely, if film and HETV production in 2025 was 10% higher than upper boundary of the forecast (ie £8.42bn), the total annual training investment in 2025 would increase from £104.3m to £116.3m. If film and HETV production spending was 30% higher in 2025 than forecast (ie £9.95bn), the total annual training investment requirement would rise to £140.3m.

Figure A - 3 Sensitivity analysis, variance in film and HETV production spending in 2025



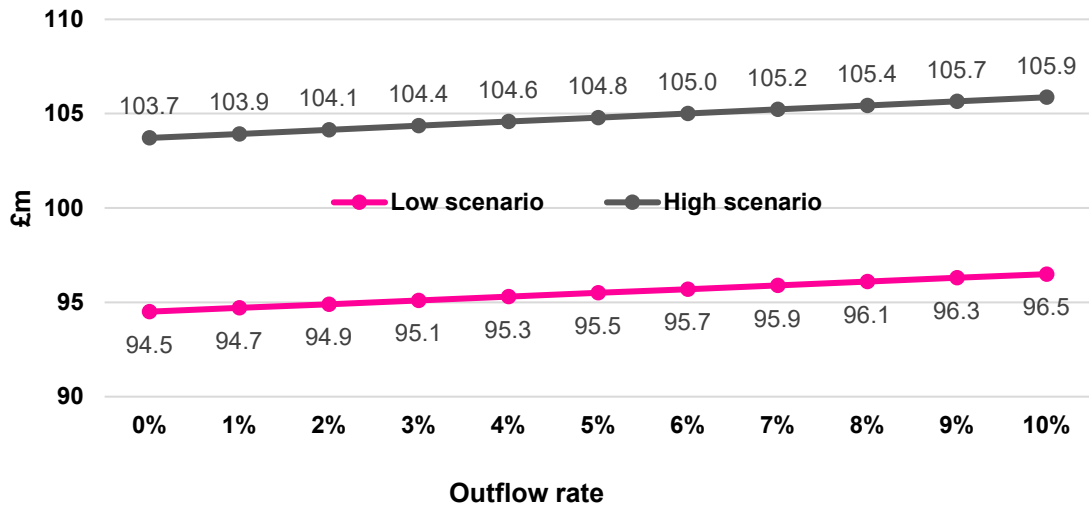
Source: Nordicity/Saffery Champness analysis based on data from BFI (2019 and 2022), Olsberg-SPI (2021), industry interviews and ONS (2021)

Outflow rate:

In the baseline forecast, the film and HETV production workforce was assumed to be subject to an annual outflow rate of 2.93%, due to retirements and workers exiting for family responsibilities (see Box 1). The sensitivity analysis indicates that as the rate rises to 100%, the forecast annual level of training investment rises from £95.1m to £96.5m in the low-growth scenario and from £104.3m to £105.9m in the high-growth scenario (Figure A - 4).

Figure A - 4 Sensitivity analysis, labour market outflow rate

Forecast of labour market shortages and training investment needs in film and HETV production



Source: Nordicity/Saffery Champness analysis based on data from BFI (2019 and 2022), Olsberg-SPI (2021), industry interviews and ONS (2021)

