DIGITAL CATAPULT – AI tools for image asset creation and augmenting existing assets in advanced media production

Understanding the future skills need due the use of AI in the generation and maintenance of image assets for optimisation of a production workflow.

Workforce Foresighting Hub findings report in collaboration with Digital Catapult.

UKRI Innovate UK

Right skills, right time, right place ✓

Acknowledgements

The Workforce Foresighting process integrates data from the following international data sets:

IfATE – Institute for Apprenticeships and Technical Education, England

ESCO – European Skills, Competencies, Qualifications & Occupations, EU

ONet – Occupational Networks Online, USA

In accordance with licence and publishing requirements of these organisations for the use of their data sets, the Workforce Foresighting Hub team states that –

The method and process used in the Workforce Foresighting process is under development and there may be errors and omissions in the data provided.

This report was produced following workshops undertaken June – August 2024 using the data set and tools available at that time.

Contents

1.0 Executive Summary

1.0 Executive Summary

Section	Title
1.1	Foresighting cycle summary
1.2	Organisational change
1.3	Future Occupational Profile highlights
1.4	Specific areas of concern
1.5	Recommended next steps
1.6	Introduction to the visualisation tool

Introduction

The convergence of technologies across the creative industries has been growing steadily over the past decade. Advanced Media Production represents one such convergence of technologies, pushing the bounds of innovation in production that has spill over in sectors beyond the creative industries.

In 2023, Digital Catapult launched its Advanced Media Production (AMP) network - a network of interlinked virtual production studios with high-spec virtual production stages, edge-compute capability and 5G local networks, in order to service a broad range of CR&D, skills and commercial applications. The studios, located in PROTO in Gateshead and Target3D in London were funded by Innovate UK. In 2023, Digital Catapult conducted an initial foresighting cycle to understand the impact that the introduction of game engine technology would have on future roles in the creative sectors. This report represents Digital Catapult's commitment to keeping up with the convergence of new technologies and their impact on organisational workflows. There is an increased trend in the adoption of AI within the content development of virtual production, and this report represents a first foray into understanding the impact of this layering of advanced technologies on organisational capability needs.

In addition, this report outlines critical insights and recommendations for the use of AI tools for image asset creation and augmenting existing assets in advanced media production within the screen sector. This is significant, as a major driver of increased screen production is that of content creation. Through industry interviews, workshops and additional research to build 'foresight' of future needs, Digital Catapult's cluster networks have identified a key challenge in this area - the need for faster, more agile and sharper content creation for the production workflow. This foresighting cycle has focused on the skills the sector needs to adopt AI technologies to meet this challenge.

The focus aligns with the ambition set out in the 2023 creative industries Sector Vision: to grow the creative industries by an extra £50 billion while creating 1 million extra jobs by 2030. It particularly aligns with the sector vision's statement that a key to future growth is embracing technological change, particularly increased digitisation and the application of AI, machine learning and virtual reality.

This cycle explored in this report sits alongside Digital Catapult's previous Workforce Foresighting Cycle - *Utilising real-time rendering engines to drive the acceleration of Advanced Media Production*. Both are aimed at increasing productivity in the screen sector, enhancing the UK's position as a leader in CreaTech - a fusion of creative skills and emerging technologies.

Key findings from this Workforce Foresighting Cycle

- The organisational capabilities that will be required to adopt AI technology into the advanced media production workflow are not currently well served by IfATE (Institute for Apprenticeships and Technical Education) apprenticeship standards across all academic levels. This could be, in part, due to the speed at which AI is entering industry and is impacting organisations already across all functions.

- Alongside AI, capabilities are centred around digitisation, automation, data, VR simulation and compliance. The data highlights the need for rapid development of short training modules to address skills gaps and longer courses to cover these.

- Few IfATE apprenticeship standards align well with the *Future Occupational Profiles* generated for this cycle. It will be important to identify and prioritise 'best-fit' apprenticeship standards to develop further educational provision.

- Many organisational capabilities are data focused, resulting in Future Occupational Profiles that are new to the screen sector. Of the few apprenticeship standards that are 'best fit', all of them are from the manufacturing sector. This highlights a need to engage a wide variety of sectors to fill skills gaps that are highly in demand across the economy.

- Capabilities for regulatory compliance within organisations exist across different parts of the workflow of production, alongside ethics and copyright capabilities for the design and implementation of AI. This reflects the importance of screen sector's usage of AI for image asset creation within the bounds of existing and newly formed compliance frameworks as AI emerges at scale into the sector and wider industry.

- There is a high level of expertise that will be required across all role levels in the future (over the next 18-24 months). The cycle also shows a flatter workforce structure than today, with most future occupational profiles sitting in the middle role level of '*Technical Leads and Specialists*'. These roles will require a high academic level or experience to carry out capabilities to expert level in their roles.

Digital Catapult will use this open-access Workforce Foresighting report and **Workforce Foresighting Insight Visualisation Tool** to develop recommendations and an action plan for the Advanced Media Production sector to move this through the steps in the skills value chain (SVC).

1.1 Foresighting cycle summary

The Foresighting Cycle is a structured, collaborative process designed to anticipate future workforce requirements in response to technological innovation. The cycle integrates insights from domain specialists, technologists, employers, and educators to inform the development of future curricula and course content. The process consists of several key stages:

1. **Considering**: Defining the challenges to be addressed and aligning foresighting topics with strategic priorities.

2. **Identifying**: Reaching consensus on the solutions to be pursued.

3. **Preparing**: Convening specialists and scheduling workshops.

4. **Carrying Out**: Conducting workshops to gather and analyse data.

5. **Communicating**: Reporting insights, findings, and recommendations.

6. **Causing Action**: Driving actions based on the recommendations to address skills gaps and align training provision with future needs.

The foresighting cycle employs a combination of workshops, surveys, and advanced AI tools to capture and analyse data. AI tools assist in comparing capability statements with existing apprenticeship standards, with outputs validated by participant groups. This ensures the identification of necessary changes in knowledge, skills, and behaviours for future roles.

The outcomes of the foresighting process include detailed insights and recommendations for industry sponsors and stakeholders. This includes prototype future occupational profiles, changes required to current training provisions, and dynamic data sets for ongoing analysis. These insights help in identifying short-term CPD needs, medium-term updates to current provisions, and long-term requirements for new qualifications and standards in this industry.

In summary, the Foresighting Cycle is crucial for aligning workforce capabilities with emerging technological demands, ensuring that educational and training systems are prepared to equip the future workforce effectively.

1.2 Organisational change

The organisational insight within this report highlights the necessary functional changes diverse organisations in the value chain must undertake to align their capabilities with future demands. These changes are driven by the need to address the challenges posed by AI in image asset creation and the transition to advanced technologies and processes

The foresighting process identifies how these organisations will need to adapt, providing a comprehensive understanding of the future occupational skill sets required to meet these challenges.

Presented in three parts, the findings of the workshops and analysis provide key insight into the future organisational and occupational changes required.

Organisational Functions

Organisational functions are categorised into five primary areas, each critical to business operations:

1. **Design**: Focuses on product, service, or solution design.
2. **Implement**: Concerns the production or provision of products or services.
3. **Logistics**: Involves procurement and delivery of materials or services necessary for operations.
4. **Support**: Relates to in-service support, repair, maintenance, and end-of-life disposal.
5. **Enterprise**: Covers core organisational functions such as strategic planning, human resources, and regulatory compliance.

These functions are further divided into approximately 40 domains and 140 functional areas, forming a detailed architecture used to position around 25,000 capability statements that underpin the workforce foresight process.

The analysis includes visual representations of the current and future capabilities across these functions, indicating shifts in relative importance.

Key findings include:

- Increased Capabilities: Design and Enterprise are expected to see an increase in required capabilities.
- Decreased Capabilities: The Implement function is expected to see a decrease in required capabilities, with the Enterprise function taking 24% share.
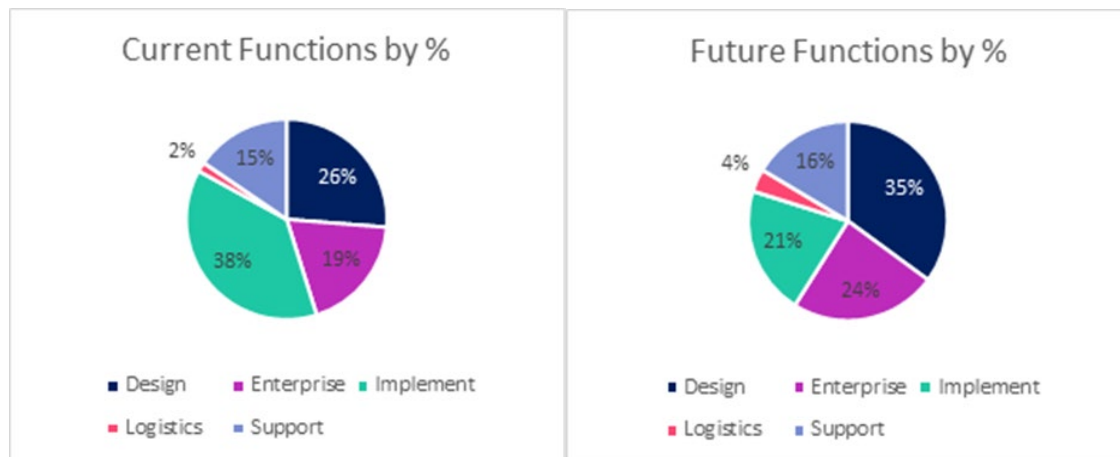
Figure 1: Current and Future Workflow - Capability Functions summary by %

Data Architecture and Foresight Process

This report utilises a bespoke 'data-cube'[1] to capture and analyse data through workshops, enabling dynamic updated and detailed foresight. This data analysis and architecture supports the extensive use of AI tools to parse and analyse content, ensuring the insights remain relevant and up to date. This process is integral to identifying the future workflow capabilities and ensuring that the foresight outputs are robust and actionable.

By understanding these organisational changes, stakeholders can better prepare for future workforce development, ensuring that capabilities are aligned with the evolving demands of the advanced media production and screen sectors.

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[1] The data architecture is implemented in a bespoke 'data-cube' which underpins the foresight process, workshops, and enables extensive use of LLM and AI tools. Additionally, a key feature of the data-cube is that the data from each foresight topic cycle is added into the data set and can then be used, where relevant, in future cycles. This ensures that the capabilities of the system are dynamic and up to date.

1.3 Future Occupational Profile Highlights

The Workforce Foresighting Hub's recent findings from the Digital Catapult's Cycle on 'AI tools for image asset creation and augmenting existing asset in advanced media production within the screen sector', emphasise the evolution and future needs of occupational profiles across various role levels. The highlights provide valuable insights into the anticipated changes and requirements in the workforce to align with technological advancements and industry demands.

Use of Future Occupational Profiles (FOPs): FOPs should be leveraged to address skills gaps by updating standards and providing continuing professional development (CPD) courses for both current workers and those transitioning to new roles. There is a strong recommendation to revise standards in alignment with future workforce needs.

Focus on the Screen Sector: The majority of FOPs concentrate on capabilities in design, enterprise and implementation within the screen sector. This emphasis stems from the sector's increasing reliance on AI tools for image asset creation in visual production and the surrounding capabilities required across workflow partners to support this. The report warns that failing to address these gaps could result in a shortage of skilled workers, potentially hindering the UK's screen sector objectives.

Short-Term and Medium-Term Actions:

- **Short-Term**: Reskill and upskill the current workforce to meet immediate technology demands, and recruit individuals with transferable skills from other industries, particularly for high-demand roles like Business Systems Analysts.

- **Medium-Term**: Integrate future skills training into apprenticeship standards and training programs for new entrants and adopt a modular approach to course updates for flexibility and quick adaptation to evolving industry needs.

- **Additional Recommendations**: Regular review and adaptation of the FOPs, along with broad dissemination of findings among stakeholders, are crucial to ensure that the workforce remains aligned with future demands.

These highlights stress the importance of coordinated efforts by educators, employers, and other stakeholders to bridge the anticipated skills gap, particularly in the rapidly evolving screen sector.

1.4 Specific areas of concern

1. **Failure to Address Skill Gaps**: One of the major concerns is the potential shortage of skilled workers in the screen sector, which could hinder the UK's overall objectives in this area. The report emphasises that many of the Future Occupational Profiles target design and implementation around AI in image asset creation, but there is a cluster of FOPs that may be new to this sector around data, automation and simulation. If these gaps are not addressed, there will be significant challenges in meeting the demand for skilled professionals.

2. **Anticipated Skills Gap**: The report warns about an anticipated skills gap in the screen sector, particularly as AI tools for image asset creation in visual production continue to evolve. The need for immediate and coordinated efforts by educators, employers, and stakeholders is emphasised to bridge this gap and support the UK's ambitions to lead in the screen economy.

These concerns suggest that the success of the project heavily depends on proactive measures to develop and implement training programs that align with future workforce needs.

1.5 Summary of recommended next steps

To ensure the UK screen sector is prepared to meet future demands, particularly in the area of AI tools for image asset creation and visual production, the following actions are recommended:

1. **Leverage Future Occupational Profiles (FOPs):**
   - Utilise FOPs to address current and anticipated skill gaps by updating industry standards and creating Continuing Professional Development courses for both, those currently employed in this sector and those transitioning from other sectors.
   - Advocate for the revision of apprenticeship standards to align with future workforce needs, ensuring the sector remains competitive.
2. **Short-term Actions:**
   - Reskilling and Upskilling:
     - Educators, awarding bodies, and employers should collaborate to tailor course content that aligns with new capabilities and existing apprenticeship standards, focusing on design and lifecycle activities.
     - Immediate efforts are needed to prepare short-term training solutions that meet the current demands of technology.
   - Recruitment from Other Industries:
     - Identify and reskill individuals with transferable skills from other sectors to fill high-demand roles, from Data Scientists to Digital Twin Engineers and Automation Maintenance Technicians.
3. **Mid-term Actions:**
   - Integration of Future Skills Training:
     - Formalise the integration of future skills requirements into existing apprenticeship standards and training programs, particularly for new entrants, based on prioritised FOPs.
   - Modular Course Updates:
     - Implement modular changes to existing educational programs rather than complete overhauls. This approach allows for quicker adaptation to evolving industry needs, ensuring flexibility and responsiveness.
4. **General Actions for Educators:**
   - Assessment and Feedback:
     - Continuous review of the Institute for Apprenticeships and Technical Education (IfATE) standards and relevant qualifications in partnership with employers is essential. This process should focus on identifying gaps and providing necessary feedback.
   - Commissioning New CPD Courses:
     - Evaluate existing CPD provisions and commission new courses where necessary, promoting collaboration among stakeholders and industry to maintain a unified approach to workforce development.
5. **Dissemination and Review:**
   - Dissemination of Findings:

- Establish a working group to create an action plan and widely share the findings among stakeholders. This will influence workforce development initiatives and ensure strategic alignment.
  - Ongoing Review and Adaptation:
    - Regularly review findings with stakeholders, adapting Future Occupational Profiles (FOPs) as needed to better fit emerging roles. This will ensure that actions remain robust and validated.

By addressing these recommended actions, the screen sector is significantly more likely to secure a skilled workforce capable of meeting the demands of evolving technologies, particularly in AI-driven visual production. These strategies emphasise the importance of coordinated efforts from educators, employers, and stakeholders to bridge the skills gap and support the UK's ambition to lead in the global screen economy.

The recommendations in this report emphasise the importance of immediate and coordinated efforts by educators, employers, and other stakeholders to address the anticipated skills gap in the screen sector as AI tools for image asset creation in visual production continue to be developed and utilised. The actions are divided into short-term and mid-term strategies to ensure a smooth transition towards the UKs objective to be a global leader in the Creative Industries[2].

	Topic	Actions	Who	When	Result
Short Term Actions	Reskilling and Upskilling Current Workforce	Tailor course content to match new capabilities with existing apprenticeship standards, focusing on design and other lifecycle activities.	Educators, Awarding Bodies, Employers	Prepare ahead of the scale-up need	Availability of short-term training for the current workforce to meet immediate technology demands.
	Recruitment from Other Industries	Identify and reskill individuals with transferable skills from other sectors, particularly for high-demand roles such as Maintenance and Operations Engineering Technicians.	Employers, Training Providers	Immediate	Mitigation of workforce shortages in high-demand areas through targeted recruitment and training initiatives.
Medium term actions	Integration of Future Skills Training	Formalise changes to apprenticeship standards and training programs for new entrants, integrating future skills requirements defined by the	Educators, Awarding Bodies, Employers	As soon as possible for prioritised FOPs	Development of training programs that meet both current and future skills needs, reducing lead time for new workforce entrants

[2] Department for Culture Media and Sport (2023). *Creative industries sector vision: a joint plan to drive growth, build talent and develop skills.* HMSO: London. Retrieved from: https://www.gov.uk/government/publications/creative-industries-sector-vision/creative-industries-sector-vision-a-joint-plan-to-drive-growth-build-talent-and-develop-skills

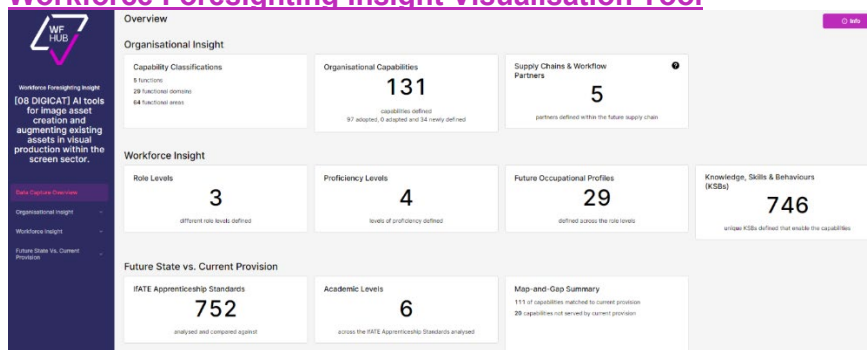|		Future Occupational Profiles (FOPs).			
	Modular Approach to Course Updates	Implement modular changes to existing courses rather than complete redesigns, facilitating quicker adaptation to evolving skills requirements.	Educators, Training Providers	Ongoing	Flexibility in educational programs, enabling rapid response to industry needs.
General Actions for Educators	Assessment and Feedback	Review Institute for Apprenticeships and Technical Education (IfATE) standards and relevant qualifications with employers, providing feedback and identifying gaps.	Educators, Employers	Ongoing	Comprehensive understanding of current training provisions and identification of areas for improvement.
	Commissioning New Continuing Professional Development (CPD) Courses	Evaluate existing CPD provisions, commission new courses where necessary, and facilitate collaboration to maintain a unified approach.	Educators, Training Providers	Short-term	Enhanced CPD offerings to upskill current workforce members across all role families.
Additional Recommendations	Dissemination of Findings	Set up a working group to create an action plan, share findings widely among stakeholders to influence workforce development initiatives.	Convener, Sponsor, Stakeholders, Industry Groups	Following Publication	Broad access to insights and strategic direction for workforce initiatives
	Ongoing Review and Adaptation	Regularly review findings with stakeholders and adapt Future Occupational Profiles to better fit emerging roles	Stakeholders, Sponsor Leads, Participants	Before Formal Publication	Robust and validated actions.

1.6 Introducing the Visualisation Tool

The Workforce Foresighting Hub's Visualisation Tool is a powerful, innovative system, which will enable the reader to explore and analyse foresighting data to determine the capabilities required for future roles. Links throughout this report make it easy to identify existing standards which meet the needs of these future roles and pinpoint where new standards are necessary to develop a skilled workforce equipped to adopt new technologies.

The data is generated by the foresighting cycles, integrating the expertise of technologists/domain specialists, employers and educators. The data informs the development of future curriculums and course content as determined by the action plan. Using AI tools validated by human oversight, and by linking to external data sources, the tool identifies differences at the level of occupation/role as well as detailed changes required to help update/refresh knowledge, skills and behaviours thus delivering insights for learners, providers, creators and assurers of skills.

Detailed instructions on how to use the Visualisation Tool can be found in the appendix.

Workforce Foresighting Insight Visualisation Tool

2.0 Aligning the Challenge and Solutions with national priorities

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Section	Title
2.1	Positioning and context of challenges
2.2	Potential and prioritised Solutions to Challenge
2.3	Workforce foresighting for chosen prioritised technology solution
2.4	Current and predicted scale of technology deployment in UK
2.5	Key Stakeholders in industry and government

2.1 Positioning and context of national challenge

The digital and creative industries are pivotal for driving economic growth and employment in the UK. Subsequent governments and industry stakeholders have identified the creative industries as a driver of economic growth and employment[3,4]. The creative industries contributed £109bn to the UK economy in 2021 – the equivalent of 5.6% of the UK economy in that year, despite the fact that the largest sub-sector was highlighted as IT, software and computer services (2.3% of the UK economy)[5], signalling the increasing confluence of creative and technology. This confluence, known as CreaTech, brings together creative skills and emerging technologies to create new ways of engaging audiences and to inspire business growth and investment. The value of the UK CreaTech ecosystem has increased by 161% since 2017[6], and is set to continue this growth with the government's 2030 ambition for the UK to be world leaders in areas including: digital media production, live performance production, sustainable fashion, the application of technology to content creation, distribution, consumption and discovery, and even the responsible use of AI across the sector especially in new models for advertising and content creation.

To meet these ambitious targets, there have been multiple interventions and collaborations at the local and national level to advance the convergence of new technologies in the creative industries, which include but are by no means limited to:

- Establishment of a national network of laboratories focused on convergent technologies maintain the UK's world-leading position in gaming, TV, film, performance, and digital entertainment sectors[7].

- Implementing new AI tools to enhance content creation workflows.

- Development of regional British Film Institute (BFI) Skills Clusters to support localised workforce development[8].

- Ensuring the responsible use of AI across the creative industries.

Attention has more recently turned to emerging shortages at the intersection of film and digital skillsets, particularly related to VP methodologies. In 2023, a report by Bennett et al[9] identified "an urgent need to rapidly develop new skills and grow new talent and capacity in organisations that show potential and appetite to use Virtual Production (VP), in order to meet rising demand." Using mixed-method approaches, the report (part of the StoryFutures programme activity) highlighted that any training developed would be significantly more valuable when gained while "working within a VP ecosystem" (ibid) rather than in isolation.

[3]Department for Science, Innovation and Technology and Department for Business, Energy & Industrial Strategy (2021). UK Innovation Strategy: leading the future by creating it. HMSO: London. Retrieved from https://www.gov.uk/government/publications/uk-innovation-strategy-leading-the-future-by-creating-it

[4] https://www.gov.uk/government/news/culture-secretary-declares-culture-media-and-sport-sectors-crucial-to-national-growth-mission

[5] Scott (2022). Arts and creative industries: the case for a strategy. Retrieved from https://lordslibrary.parliament.uk/arts-andcreative-industries-the-case-for-a-strategy/#:~:text=The%20creative%20industries%20sector%20contributed,the%20UK%20economy%20in%202021.

[6] TechNation. (2021). (rep.). THE CREATECH REPORT 2021. Mapping the intersection of technology and creativity. Creative Industries Council.

[7] https://www.ukri.org/councils/ahrc/remit-programmes-and-priorities/convergent-screen-technologies-and-performance-in-realtime-costar/

[8] https://www.bfi.org.uk/get-funding-support/bfi-national-lottery-skills-clusters-fund

[9] Bennett, J., Heath, C., Kilkelly, F., & Richardson, P. (2023). (rep.). Virtual Production Skills Report 2023. Storyfutures. StoryFutures National Centre for Immersive Storytelling. https://www.storyfutures.com/uploads/docs/StoryFutures_VP_Skills_Report_2023.pdf

Developing Solutions

In collaboration with industry stakeholders, the Digital Catapult convened discussions to evaluate future skills availability for this emerging space of Advanced Media Production within CreaTech to continue to develop our understanding in this space and to convene action across key sectors. The objectives were to:

- Establish challenges focusing on advanced media production workflows.

- Suggest potential technologies and solutions.

- Prioritise challenges and enabling technologies to inform future foresighting cycles.

2.2 Potential and prioritised technology solutions to the challenge

The following table lists ranges of technology solutions related to challenges in the CreaTech sector:

Technology Solutions	Description
AI Tools	Generative AI for content creation.
Digital Media Production	Enhanced tools for faster, agile content creation.
Advanced Live Performance	Integration of digital and physical performance tools.

Stakeholder interviews and discussions prioritised the following technologies for foresighting:
- AI Tools: Generative AI for rapid content creation.

- Digital Media Production: Enhanced, agile tools for faster workflows.

- Advanced Live Performance: Digital-physical integration tools.

2.3 Workforce Foresighting for Chosen Prioritised Technology Solutions

Based on the selected technologies, this report now considers the skills needed for AI tools in content creation and digital media production workflows. This includes the design, implementation, and management of AI-driven content creation systems and enhanced media production tools.

The focus on AI tools and digital media production aims to:

- Identify current skills gaps.

- Forecast future skills requirements.

- Develop training programs to bridge these gaps.

These technologies are critical for sectors such as:

- Digital Media

- Creative Industries

- IT and Communications

- Education

2.4   Current and predicted scale of technology deployment in UK

The UK's commitment to becoming a global leader in CreaTech is reflected in the rapid deployment and scaling of digital and creative technologies. Key highlights include:

- Significant growth in the value of the UK CreaTech ecosystem.

- Expansion of digital media production capabilities.

- Development of regional skills clusters to support localised workforce growth.

The deployment of AI tools and advanced media production technologies is expected to revolutionise content creation and distribution, driving substantial economic growth and job creation.

2.5   Key Stakeholders in industry and government

Participating stakeholders collectively ensure that the output from the foresighting cycle on AI tools for image asset creation and augmenting existing assets in visual production within the screen sector to optimise the production workflow address the future needs. This included conversations and insights gleaned from:

- Innovate UK

- Digital Catapult

- Policy stakeholders (national, regional and local)

- BFI Skills Clusters

- Employers and technologists: Various CreaTech SMEs, Digital consultancies, and startups across regions in the UK

- Educators: Various universities, colleges and training providers across key regions involved in digital and creative

2.6 Sponsors and Conveners

- **Sponsors:** Digital Catapult
- **Conveners:** Digital Catapult
- **Lead Employer:** Target3D
- **Lead Educator:** Final Pixel Academy

3.0 Results – Findings, Data and Insight

3.0 Results – Findings, Data and Insight

Section	Title
3.1	Findings, methodology and presentation
3.2	Insight into organisational changes
3.3	Occupational change insight
3.4	Future Occupational Profiles compared with current provision
3.5	Summary and use of the findings

3.1   Findings, methodology and presentation

Summary information is provided with a narrative based on the underlying data which is also provided using bespoke visualisations to enable greater insight and access to detail. The report is aligned to the needs of those responsible for workforce planning – employers, educators, and skills providers.

Organisational changes

Exploration of organisational changes provides insights into how organisations will need to adapt their current capabilities in order to implement the solutions that respond to the challenge addressed by the foresighting project.

Typically, organisational changes will also require the adoption of new capabilities and a change in the distribution of these capabilities across value chain partners. The change in capabilities within an organisation as well as their value chain partners will determine the changes knowledge and skill changes required by the role groups within the workforce of each workflow partner.

Occupational changes

A set of 'Future Occupational Profiles' (FOPs) is produced by the foresight process that demonstrates how current occupations may need to change in the future. FOPs are generated using a combination of attributes from the underlying capability classification and from data collected in the workshops. The FOP generation algorithm works to group capabilities into logical sets reflecting role levels, function, proficiency and capability similarity. As part of the foresight process the generated FOPs are reviewed, revised and distilled by the Employer group. The agreed set of FOPs are then compared with selected current education provision; the default reference is the set of Institute for Apprenticeships and Technical Education (IfATE) apprenticeship standards; to assess which current training and education provision could be used in the future. Two bespoke metrics - match and surplus - are used to evaluate the alignment of current provision with the set of FOPs proposed. Summaries are presented of the key findings related to each workflow partner.

Findings are aimed at both Employers, and Education and Training Providers, and identify matches and gaps in future training needs compared with current provision to guide further detailed investigation.

Highlighted changes to future provision

The report identifies suggested changes to education and training provision – principally apprenticeship standards that will deliver the knowledge, skills and behaviours required by future occupations. In some cases, this will include the development of short courses and continued professional development (CPD) to upskill the current workforce to meet future needs. Additionally, foresighting outputs can be used to develop programmes, qualifications, and apprenticeship standards for new entrants to the workforce joining via apprenticeship, taught qualification, or other training programme.

The insight and data in this part of the report are primarily aimed at educators training providers, apprenticeship standards bodies and awarding organisations. Combined with insight arising from the workflow capability changes, the provision insight offers an effective way for employers to identify training opportunities that align to their future needs.

Method

This process uses a series of structured workshops and surveys to capture and summarise input from relevant sector experts – covering technology, workforce development and education. At a number of points in the workshop and analysis sequence the foresighting process utilises large language models (LLMs)and artificial intelligence (AI) tools to parse and assist in the analysis of the content generated by workshop participants. For example, the AI model can compare capability statements with existing apprenticeship standards more thoroughly and rapidly than human comparison. All AI derived outputs are reviewed and validated by the participant groups through the workshops and the integral quality assurance reviews of the foresight process.

3.2 Insight into organisational changes

Organisational insight indicates how diverse types of organisations in the value chain will need to make functional changes to align their future capabilities to those required to respond to the challenge being addressed. Providing useful insight for these organisations and in turn, providing a data rich and well-founded basis to understand how future occupations and their skillsets may need to adapt or change to meet the challenge. This is developed in section 3.3 of this report.

Organisation functions

The Workforce Foresighting process uses an information architecture built on five functional areas which are common to any business:

Design	The function of an organisation that focuses on activities relating to product, service or solution design.
Implement	The function of an organisation that focuses on activities relating to producing / making / providing its products or services.
Logistics	The function of an organisation that focuses on activities relating to procurement, delivery, materials, or services necessary for operations – service / manufacturing, etc.
Support	The function of an organisation that focuses on activities relating to users, in-service support, repair / maintenance, recycling, end of life disposal.
Enterprise	Core functions of an organisation - e.g., strategic planning, leadership and management, human resources, digital backbone and data systems, integration of relevant statutory / regulatory requirements and compliance.

The functional structure is developed to levels of detail that enable the foresight process to reference external data sets including ONET (US) Occupational Information Network [10], ESCO – European Skills, Competences, Qualifications and Occupations[11], IfATE (UK) Institute for Apprenticeships and Technical Education[12] .

The five root functions comprise around 40 domains which are broken down to around 140 functional areas. The architecture is used to position ~ 25,000 capability statements which are the building blocks used in the workforce foresight process. Each capability statement has several attributes - some are static and reflect the position of the capability statement in the architecture, whilst others are dynamic and are assigned values through a cycle and set of workshops.

The data architecture is implemented in a bespoke 'data-cube' which underpins the foresight process, workshops, and enables extensive use of LLM and AI tools. Additionally, a key feature of the data-cube is that the data from each foresight topic cycle is added into the data set and can then be used, where relevant, in future cycles. This ensures that the capabilities of the system are dynamic and up to date.

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[10] ONET - Occupational Information Network - https://www.onetcenter.org/
[11] ESCO - European Skills, Competences, Qualifications and Occupations - https://esco.ec.europa.eu/en
[12] IfATE – Institute for Apprenticeships and Technical Education - https://www.instituteforapprenticeships.org/

Identifying the Future Workflow Capabilities

The following charts and graphs summarise the changes in the set of capabilities that will be required by the supply chain (workflow involved in production) in the future. The pie-charts reflect the distribution of capabilities across the five functions. The future state data is captured in three technologist focused workshops, and the current state data is generated using information collected on current apprenticeship standards used across the existing workflow. This latter information is not as detailed as that produced by the workshops but is indicative and used to provide a point of comparison.

These initial pie charts illustrate the changing proportions of the five functions between the current and future.

- Indicates an overall relative increase in 'Design' and 'Enterprise'
- Indicates an overall relative decrease in 'Implementation', with the 'Enterprise' function taking 24% share.
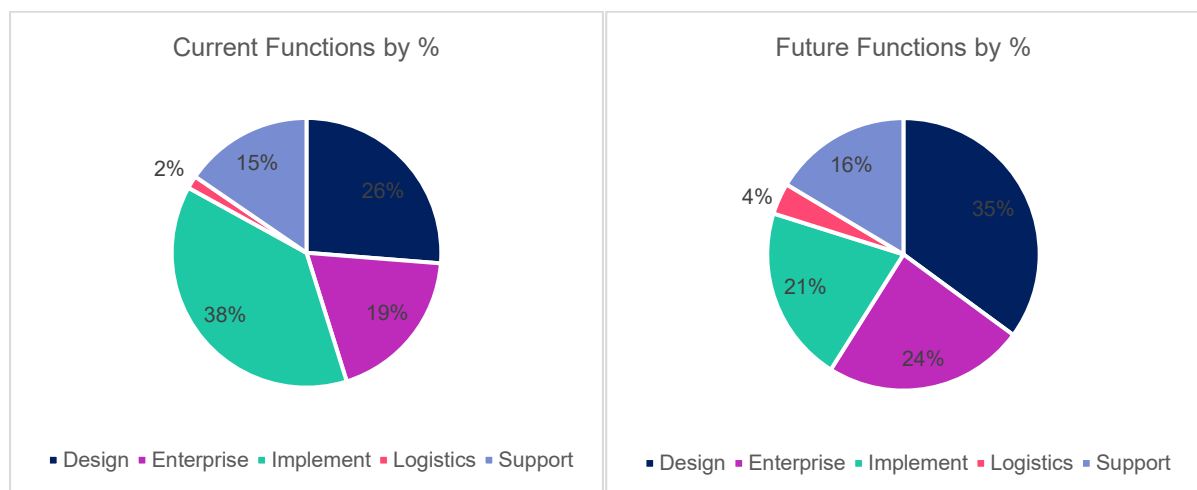

Figure 2: Current and Future Workflow - Capability Functions summary by %

Whilst the information on current and future workflow capabilities is useful to indicate relative changes, the underlying change will be a result of future scale, as well as how functions change relative to each other.

The graphs below[13] show the spread of capabilities assigned at domain level within the five main functions for this cycle. These graphs provide insight into the relative importance of each domain for the screen sector in the future.

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[13] *NB. Due to the nature of the data. the graphs highlighting the domain changes across different cycles will have some variability and empty rows*
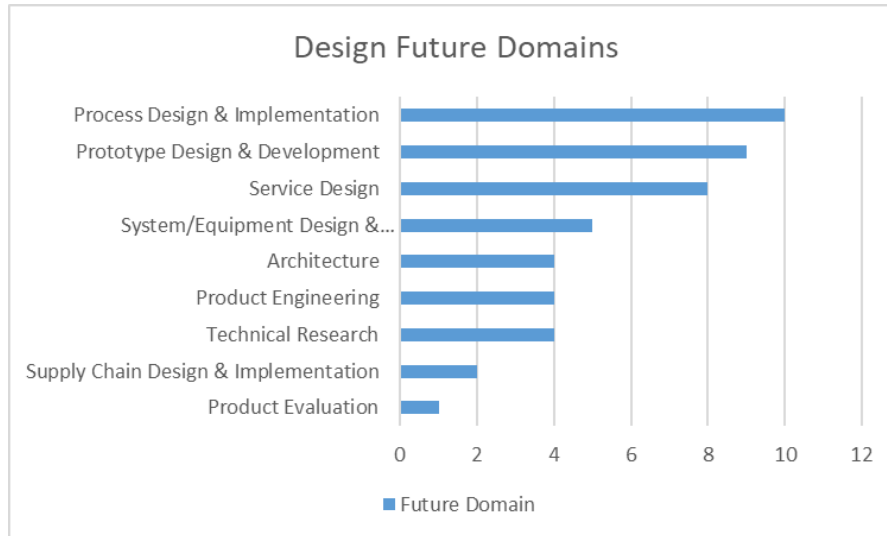
Design Domains

Figure 3: Design Future Domain Spread of Capabilities

The design function has the highest number organisational capabilities with 46 out of a total of 131 capabilities for this cycle, reflecting the cycle focus of AI in image asset creation. At domain-level, the highest number of capabilities exist within the process design and implementation domain. These include capabilities to model processes or develop processes. The second highest is in prototype design and development with a high requirement for the design of systems and applications, rather than physical prototypes.
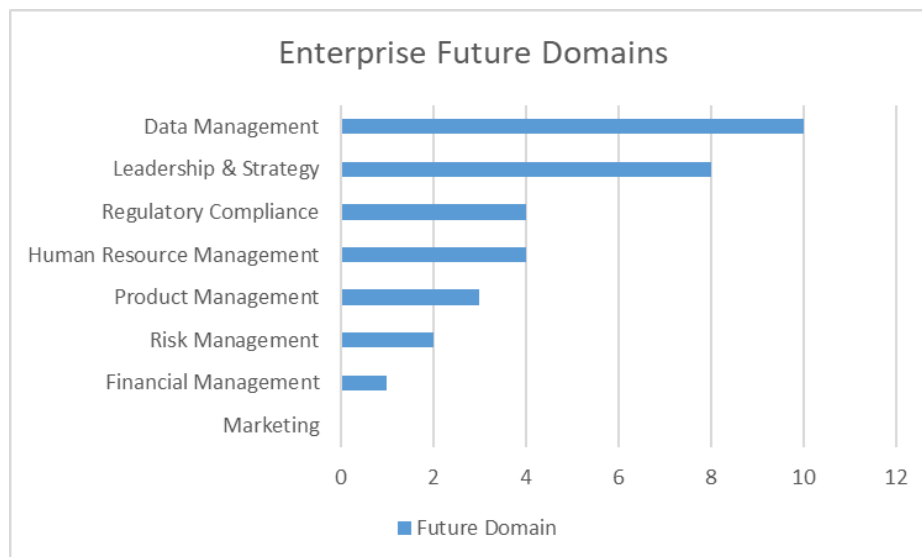
Enterprise Domains:

Figure 4: Enterprise Future Domain Spread of Capabilities

Second highest ranking is the enterprise function with 31 capabilities out of 131. Most capabilities sit in the Data Management domain; focusing on areas such as performing data analysis; data storage design and evaluating data quality. Capabilities in the domain of leadership and strategy include identifying new business partnerships for this emerging technology; identifying business threats and opportunities; and evaluating environment impact. Regulatory compliance capabilities also feature in this function including coordinating compliance activities and monitoring compliance and regulation changes.
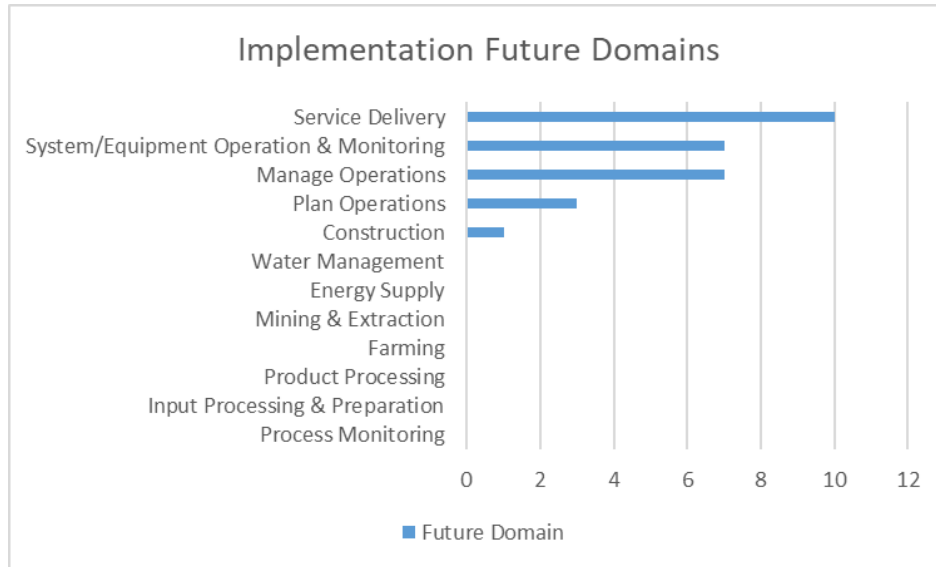
Implementation Domains

Figure 5: Implementation Future Domains Spread of Capabilities

Of the 131 cycle capabilities for the cycle, 28 sit in the 'implement' function with most operating in the service delivery domain in areas such as creating and processing digital media; analysing and verification of information; planning and scheduling of services; and communicating and translating information. Closely behind are system and equipment monitoring and manage operations.
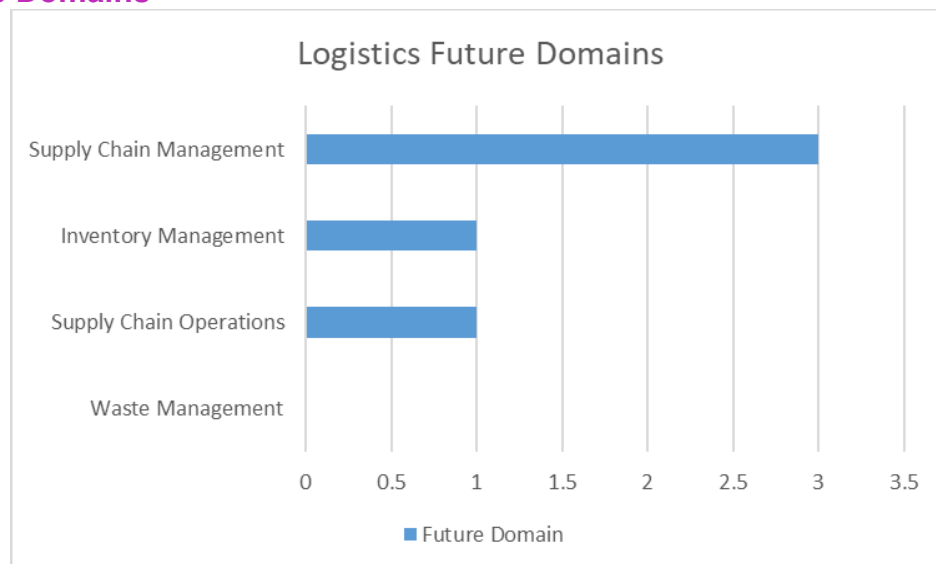
Logistics Domains

Figure 6: Logistics Future Domains- Future Spread of Capabilities

Only 5 capabilities out of 131 sit in the logistics function, reflecting the cycle focus on AI in image asset creation. Of those five capabilities, they operate in the functional areas of identifying and working with suppliers; monitoring inventories; coordinating logistics; and providing transport services.
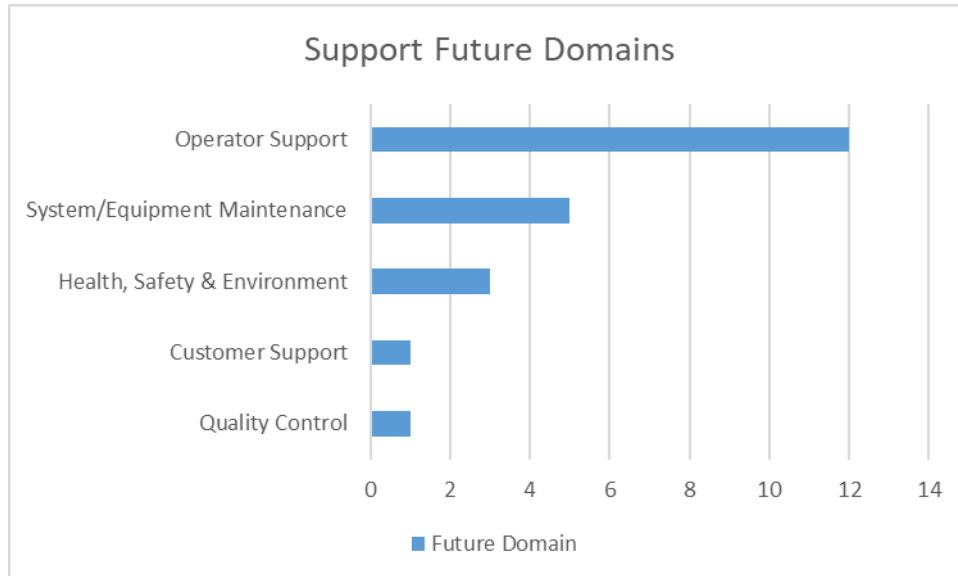
Support Domains

Figure 7: Support Future Domains - Future Spread of Capabilities

The 'support' function has 21 capabilities of the 131 for the cycle, with the Operator Support domain being the highest. This included capabilities in areas such as designing and configuring support systems and operating support systems

Visualisation Instructions[14]

Visualisation Data Link	What is it and what can it be used for?
Organisational Capabilities	*Generally, the data presented here can provide an indication of how well served the sector is.* *This page provides a high-level summary of each capability statement generated in the cycle.* *The capability statement describes the depth and nature of each capability within an Organisation against a defined reference.* *The page also provides a way of reviewing the capabilities through the lens of the Capability Classification Framework (Design/Implement/Logistics/Support/Enterprise). This information can be used to provide insight about the types of capabilities and their distribution across the classification framework.* *This can be used to identify which capabilities may be supported by existing provision, and where there may be gaps that require new development to support.*

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[14] Detailed instructions can be found in the appendix.

3.3 Occupational change insight

Insight into occupational change uses the understanding of how capabilities will change across business functions (section 3.2) to inform proposals for how occupations and their associated skills sets for each value chain partner may need be revised to reflect change for each role level within that partner.

Please note that this report is based on the functionality of the Visualisation report from July 2024 – However, due to the Foresighting Hub continued development of the system / processes and tools the visualisation tool, there may be additional tabs / information that have been developed following the findings report publication.

Following the publication of the report new standards may have come about which will not feature in this data set. If you have any questions, please contact the Workforce Foresighting Hub.

Workflow partner organisation types

The workforce foresighting process recognises that different partners in a workflow will require appropriate capabilities, and these are determined and agreed in the initial workshops.

In this cycle, the following workflow partners were identified and then used during participant workshops and data analysis to determine the organisational needs:

1. Media companies
2. Production companies
3. Technology suppliers (hardware and software)
4. Research and Technology Organisations (RTOs) and Higher education institutions (HEI)
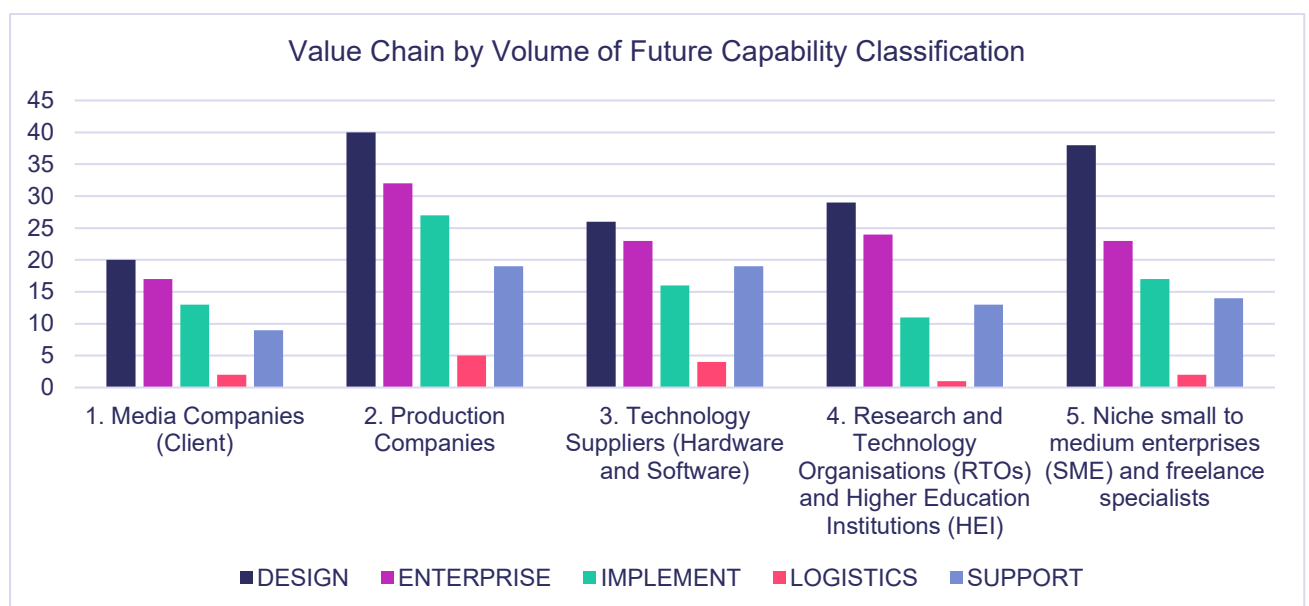5. Niche small to medium enterprises (SME) and **freelance specialists**

Figure 8: Value Chain by Volume of Future Capability Classification

The graph illustrates the distribution of capabilities by function across the Value Chain Partners. These capability sets are used to form the set of Future Occupational Profiles within each role level.

Visualisation Instructions

Detailed instructions can be found in the appendix.

Visualisation Data Link	What is it and what can it be used for?
Value Chain Capabilities	This page provides an overview of the identified capabilities at a Workflow / Workflow Partner level. By selecting/deselecting each Workflow / Workflow Partner you can review the capabilities identified as required in that area of the Workflow / Workflow. This can be used to generate organisational capability profiles for each area of the workflow /workflow to help prioritise and focus the acquisition of new capabilities that will be required in the future. It can also be used to generate combined organisational profiles, where an organisation may be involved in more than one area of the workflow.

Role Levels

The foresighting process uses the concept of Role Levels to represent future occupations. Utilising this approach acknowledges that the workforce is not homogeneous, there will be varying levels of proficiency required across a workforce and qualifications and training may be aligned/require different types of vocational or academic qualifications. Additionally, the role level approach seeks to avoid presuming that the future workforce will be operating at a different level to the current state.

Role Levels determined through workshops:

1. Production Assistants
2. Technical Leads and Specialists
3. Departmental Head

Proficiencies

Each of these role levels will require proficiency that reflects their role and the needs of each Workflow Partner. The foresight process uses a three-point scale to capture and differentiate the proficiencies required. This information is used both in the generation of the Future Occupational Profiles, and to assist the definition of training needs identified. Within the workforce foresight process proficiency is defined as:

Awareness (A) - Has a foundational knowledge of tools, technology, techniques relevant to sector, industry, or organisation. Sufficient comprehension to know where to seek further information/details as necessary for a particular issue.

Practitioner (P) - Has the ability to apply and use independently a tool, system, or process. Understands the implications, consequences, and impact for their role/function. A Practitioner knows what key actions are required and in what context.

Expert (E) - Has detailed knowledge of process, system, tool, or technology. Can support others and identify improvements required for a process, system, or tool. An Expert can implement improvements personally or direct and guide others.

During the workshops participants applied their insight to assign proficiency for each role group to each capability. Individual responses were aggregated by the system to arrive at a consensus.

A summary of the distribution of required proficiency for the role levels in this cycle are:

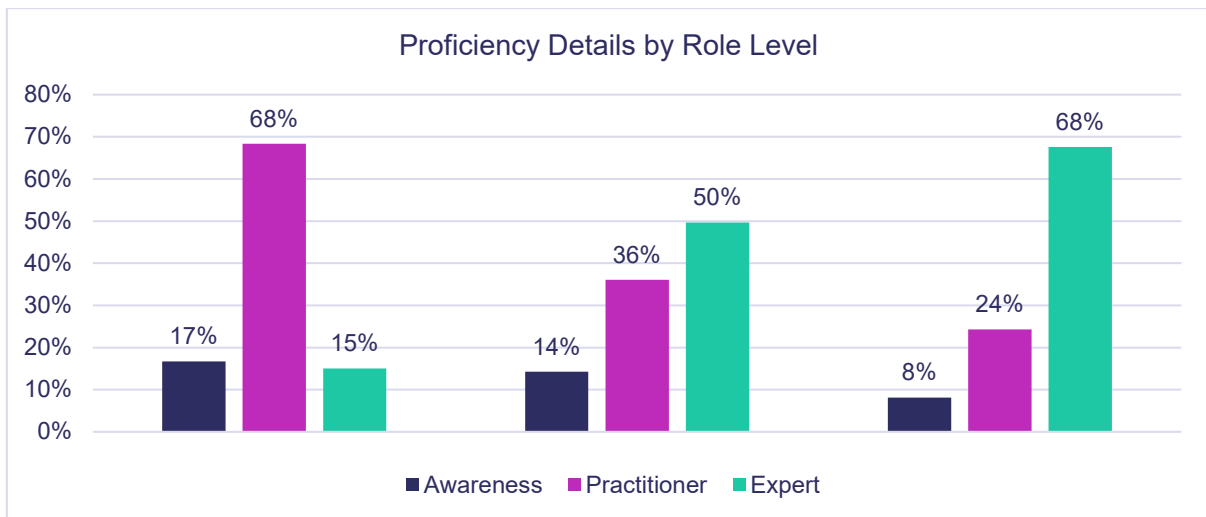|	1. Production Assistant	2. Technical Leads and Specialists	3. Departmental Heads
Awareness	17%	14%	8%
Practitioner	68%	36%	24%
Expert	15%	50%	68%

Figure 9: Proficiency details by Role Level

Future Occupational Profiles

The FOPs are a construct created and used during workforce foresighting workshops and analysis to capture future skills needs in a form that may be compared with current occupation definitions – typically apprenticeship standards.

The familiar nature and structure of 'FOP's assists with their evaluation and validation by employers and educators and enables the analytical comparison that results in useful indications of matches, surplus and gaps of future skills needs compared with current state. This then allows recommendations for action to be made based on future need and current fit to those needs.

FOPs are used to describe and suggest occupations, or roles, that may be required in the future and provide a framework to indicate capabilities and related duties. They can be used to review the impact on current roles and the adaptation that may be required in the future.

Educators can review current apprenticeship standards against the requirements of the FOPs and interpret which need to be changed to fill the gaps between the current and future state.

Employers can consider existing apprenticeship standards and make a judgement on adapting an existing apprenticeship standard to upskill their workforce to meet the requirements of a particular FOP.

Educators may react to these specified skill requirements from Industry by editing, adapting, or creating new content.

FOPs and indicative skills need

Combining proficiency with the identified FOPs, the following graphs indicate the priority needs across the supply value chain for each Role Group to deliver future capabilities.

Production Assistants Role Level FOPs:

The 'Production Assistants' role level has been defined as occupations and roles requiring Level 2,3 or 4 qualifications or apprenticeships.
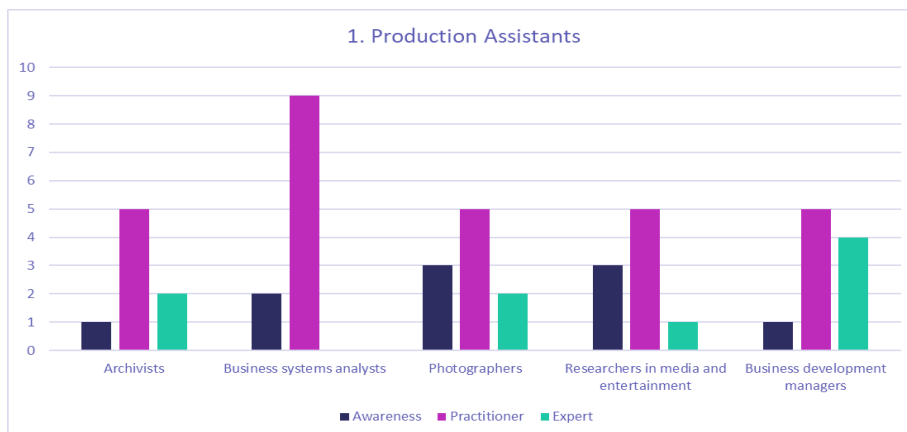

Figure 10: Priority FOPs – Production Assistants Role Levels

Technical Leads and Specialists Role Level FOPs:

The 'Technical Leads and Specialists' role level has defined as occupations and roles requiring Level 3/4/5/6/7 qualifications or apprenticeships.
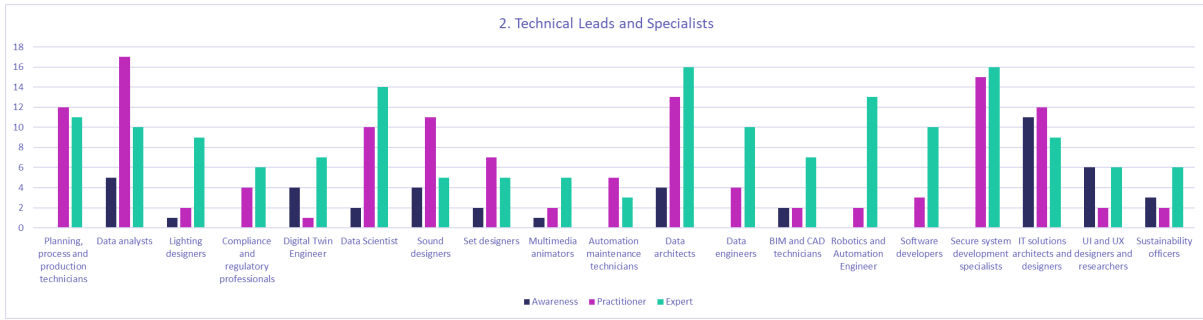
Figure 11: Priority FOPs – Technical Leads and Specialists Role Level

Departmental Heads Role Level FOPs:

The 'Departmental Heads' role level has defined as occupations and roles requiring Level 5/6/7 qualifications or apprenticeships.
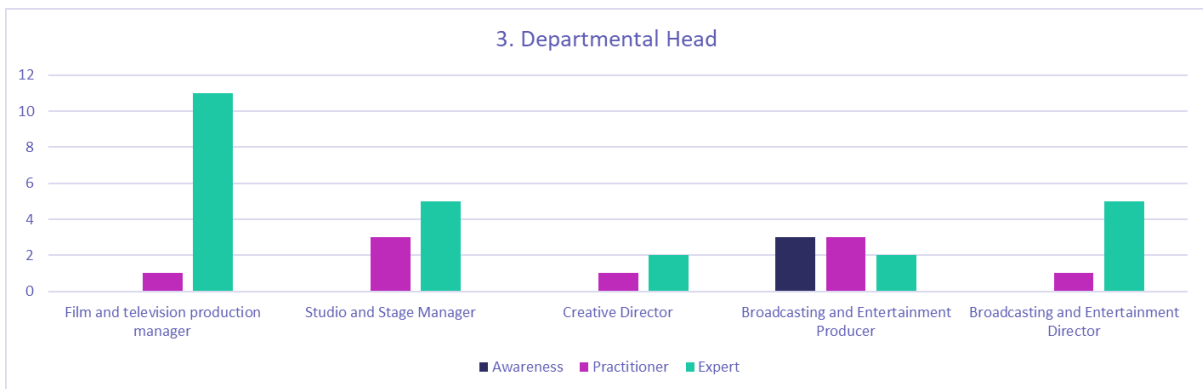

Figure 12: Priority FOPs – Departmental Head Role Level

Visualisation Instructions
Detailed instructions can be found in the appendix.

Visualisation Data Link	What is it and what can it be used for?
FOP Matrix	This page provides a detailed breakdown of future occupational profiles that could be required in the future workforce. These were generated using a combination of attributes collected through the workshops and an algorithm. These suggested profiles were then reviewed and ratified by small groups of employers who were able to add/remove capabilities and uprate/downrate proficiency levels required. You can view all the FOPs in a role level by selecting one (or more) of these from the drop down. This will then allow you to select the FOPs aligned to that role level. The populated table allows you review and compare different FOPs within or across role levels. You can view the capabilities in each FOP and the assigned proficiency levels. You can also toggle 'Hide Empty Capabilities' on/off to reduce the view down to only those capabilities included in the role level you are reviewing.

3.4 Future Occupational Profiles compared with current provision

The Workforce Foresighting process has developed two metrics to quantify the alignment between a FOP and a current standard or qualification:

Fit – expressed as a %, it is a measure of the proportion of a FOP that is covered by an existing standard or qualification.

Surplus – expressed as a %, it is a measure of the not relevant material in an existing standard that is not required for a FOP.

An ideal existing qualification or standard would have a high fit and low surplus – this implies good coverage of the FOP but with little material that is not relevant to the FOP. Conversely a poor candidate would have a low fit and high surplus. Using these two metrics it is possible to quantitively evaluate, rank, and compare a range of existing provisions against a set of FOPs describing future needs.

By looking at how current apprenticeship standards fit the FOPs, the most suitable and efficient route for change can be determined, e.g. a fit factor of less than 33% probably indicates that the current standard is unlikely to a good candidate for change, however a fit factor of 66% suggests that less adaptation will be necessary to meet future needs.

This interpretation is represented by a simple nine-box model to position the suitability of a given current occupational standard to a future occupational profile:

Factor scores

Fit Factor	Fit score	Surplus Factor	Surplus score
0 - 32%	1	81-100%	1
33-65%	2	51-80%	2
66-100%	3	0 - 50%	3

(Multiplying the Fit score by the Surplus score gives a Suitability Grid score of 1-9 as below)
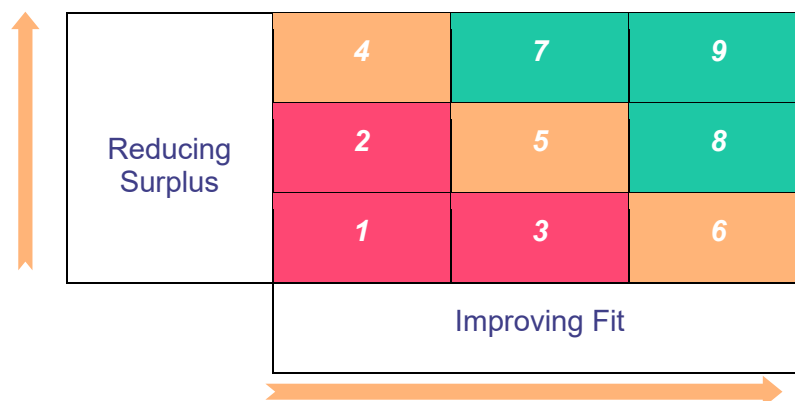
Suitability Grid

Figure 13: Fit Factor scores and Suitability Grid

34

For this foresighting cycle, it was found that a higher threshold on surplus factor is more useful in filtering out the less relevant IfATE standards, whilst a slightly lower threshold on fit factor is useful to ensure relevant standards might be included.

Using this score and indicated 'RAG status' the following interpretations can be made:

High Suitability – 7,8,9 – for standards that have good coverage of FOPs.
Represents good candidates from current apprenticeship standards used as the basis of development to meet FOP requirements and inform elements of short course and CPD provision.

Some Suitability– 4,5,6 – for standards that have only partial coverage of FOPs.
These are likely to require extended work to meet FOP requirements, further review of the data may be necessary. They are likely to contain some useful information to inform elements of short course and CPD provision.

Low Suitability – 1,2,3 – for standards that have poor coverage of FOPs.
These are unlikely to be adaptable to meet future needs but may contain some useful information to inform elements of short course and CPD provision, which can be assessed using the data visualisation tools.

FOP findings compared with current standards

Using the approach described above and applying the 'RAG' scores to each FOP indicating the suitability of current apprenticeship standards selected from the IfATE set, the following table begins to identify areas of action and concern for the provision of future skills for each Workflow Partner to respond to the challenge.

Workflow Partner – 1. Media Companies (Clients)

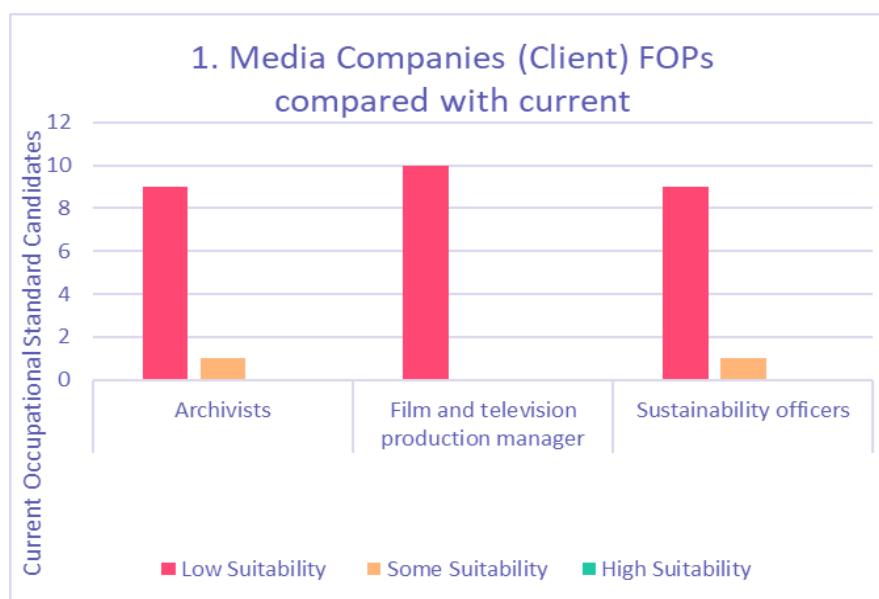| Role Levels	Selected Future Occupational Profiles	Current Suitability Summary
1 Production Assistants	Archivists	
2 Technical Leads and Specialists	Sustainability officers	
3 Departmental Head	Film and television production manager	

Detailed breakdown:

Figure 13: 1. Media Companies - Count of current provision (IfATE Standards) and suitability to FOPs

Workflow Partner – 2. Production Companies

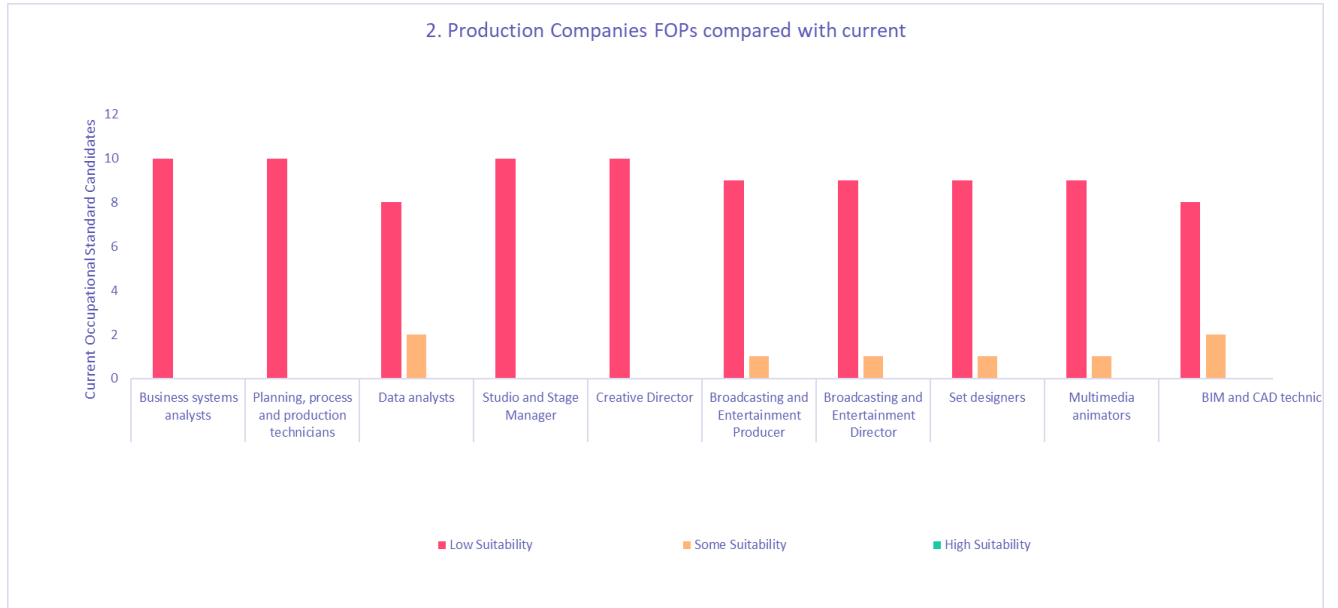| Role Level	Selected Future Occupational Profiles	Current Suitability Summary
1 Production Assistants	Business systems analysts	
2 Technical Leads and Specialists	Planning, process and production technicians	
2 Technical Leads and Specialists	Data analysts	
2 Technical Leads and Specialists	Set designers	
2 Technical Leads and Specialists	Multimedia animators	
2 Technical Leads and Specialists	BIM and CAD technicians	
3 Departmental Head	Studio and Stage Manager	
3 Departmental Head	Creative Director	
3 Departmental Head	Broadcasting and Entertainment Producer	
3 Departmental Head	Broadcasting and Entertainment Director	

Detailed breakdown:

Figure 14: 2. Production Companies - Count of current provision (IfATE Standards) and suitability to FOPs

Workflow Partner – 3. Technology Suppliers (Hardware and Software)

Role Level	Selected Future Occupational Profiles	Current Suitability Summary
2 Technical Leads and Specialists	Compliance and regulatory professionals	
2 Technical Leads and Specialists	Automation maintenance technicians	
2 Technical Leads and Specialists	Robotics and Automation Engineer	
2 Technical Leads and Specialists	Software developers	
2 Technical Leads and Specialists	Secure system development specialists	
2 Technical Leads and Specialists	IT solutions architects and designers	

Detailed breakdown:

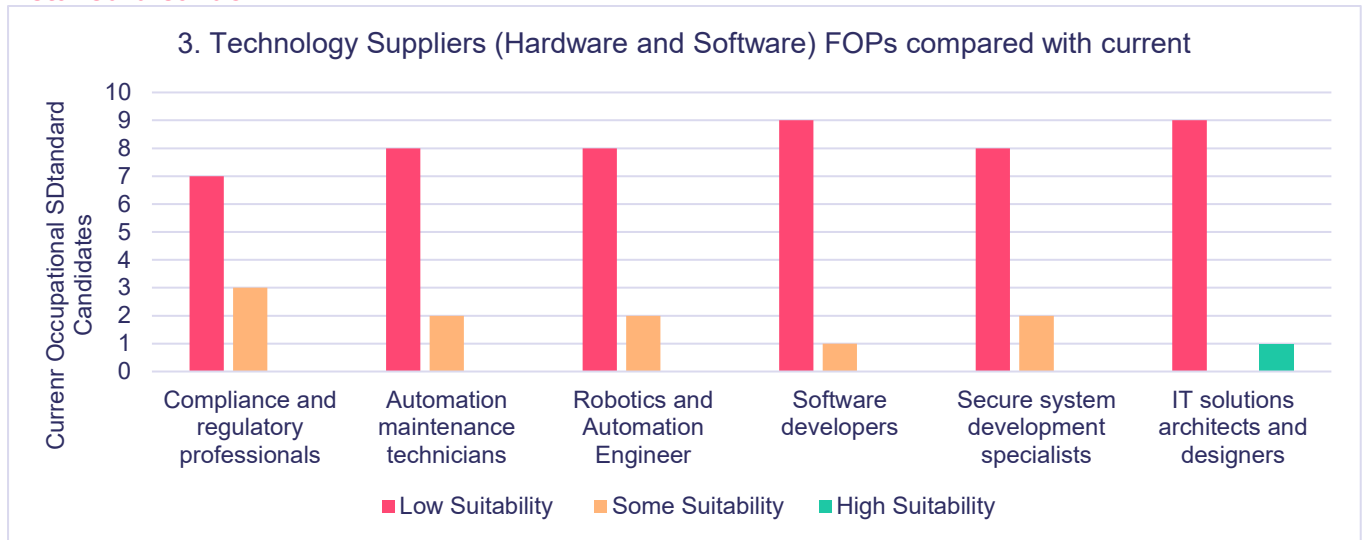**3. Technology Suppliers (Hardware and Software) FOPs compared with current**

Figure 15: 3. Technology Suppliers (Hardware and Software) - Count of current provision (IfATE Standards) and suitability to FOPs

Workflow Partner – 4. Research and Technology Organisations (RTOs) and Higher Education Institutions (HEI)

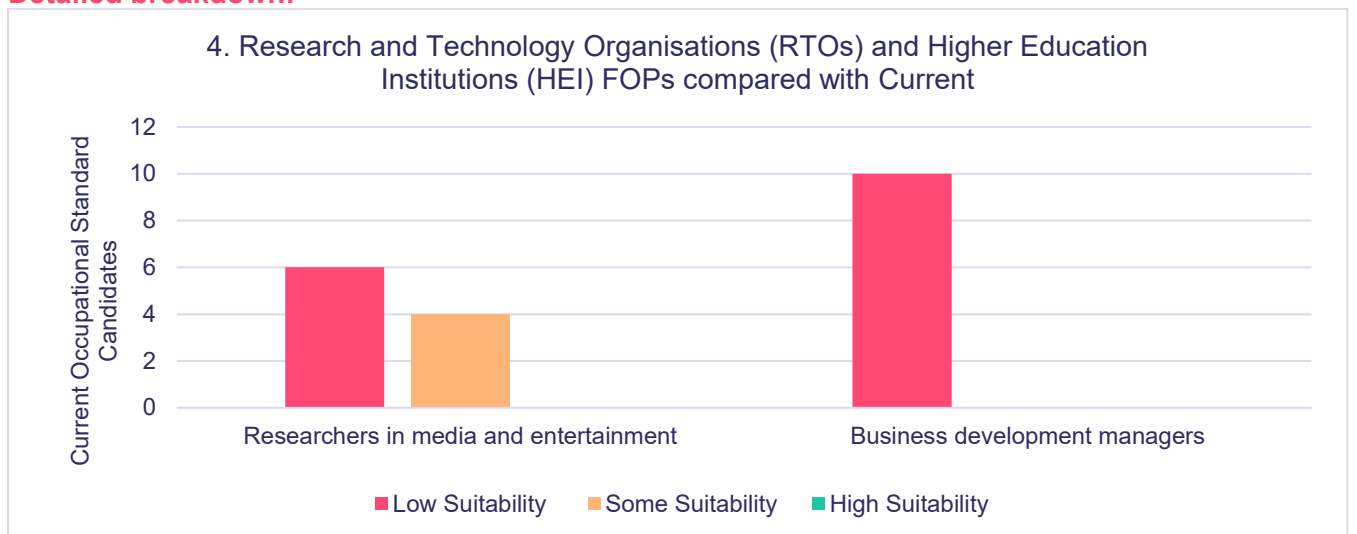| Role Level	Selected Future Occupational Profiles	Current Suitability Summary
1 Production Assistants	Researchers in media and entertainment	
1 Production Assistants	Business development managers	

Detailed breakdown:

Figure 16: 4. Research and Technology Organisations (RTOs) and Higher Educational Institutions (HEI) - Count of current provision (IfATE Standards) and suitability to FOPs

Workflow Partner – 5. Niche small to medium enterprises (SME) and freelance specialists

Role Level	Selected Future Occupational Profiles	Current Suitability Summary
1 Production Assistants	Photographers	
2 Technical Leads and Specialists	Lighting designers	
2 Technical Leads and Specialists	Digital Twin Engineer	
2 Technical Leads and Specialists	Data Scientist	
2 Technical Leads and Specialists	Sound designers	
2 Technical Leads and Specialists	Data architects	
2 Technical Leads and Specialists	Data engineers	
2 Technical Leads and Specialists	UI and UX designers and researchers	

Detailed breakdown:

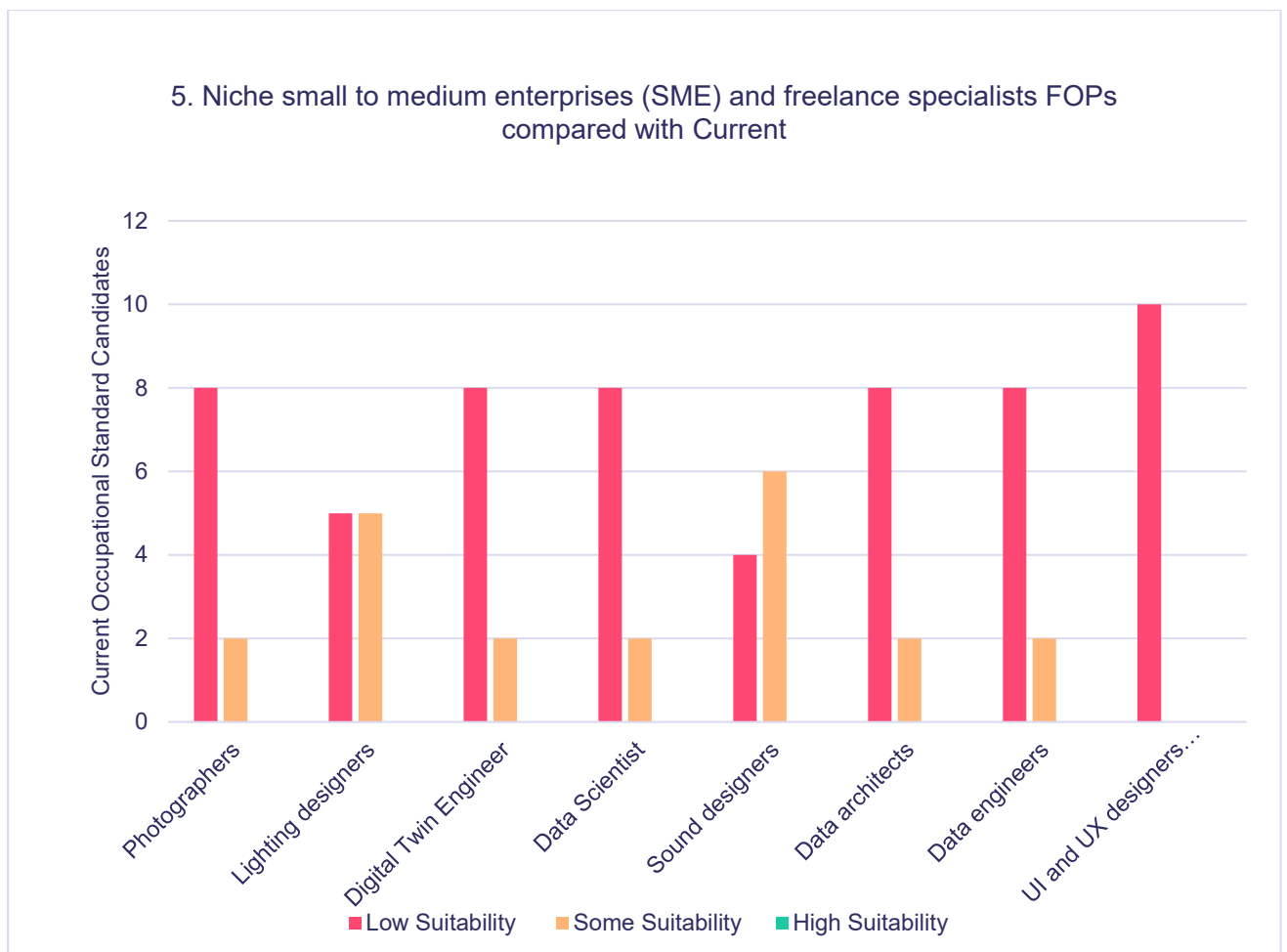5. Niche small to medium enterprises (SME) and freelance specialists FOPs compared with Current

Figure 17: Niche small to medium enterprises (SME) and Freelance Specialists - Count of current provision (IfATE Standards) and suitability to FOPs

3.5 Summary of findings

The below table counts the number of IfATE standards by suitability score for each FOP. For the purpose of this report, we've utilised the suitability grid in figure 12 to highlight the top 10 IfATE standards that support each FOP. The table identifies if they have low, some or high suitability and colour-coded their overall suitability.

Role Family	Primary Value Chain / Workflow Partner	FOP	Low Suitability	Some Suitability	High Suitability	Overall Suitability RAG
1 Production Assistants	1. Media Companies (Client)	Archivists	9	1	0	
1 Production Assistants	2. Production Companies	Business systems analysts	10	0	0	
1 Production Assistants	5. Niche small to medium enterprises (SME) and Freelancers Specialists	Photographers	8	2	0	
1 Production Assistants	4. Research and Technology Organisations (RTOs) and Higher Education Institutions (HEI)	Researchers in media and entertainment	6	4	0	
1 Production Assistants	4. Research and Technology Organisations (RTOs) and Higher Education Institutions (HEI)	Business development managers	10	0	0	
2 Technical Leads and Specialists	2. Production Companies	Planning, process and production technicians	10	0	0	
2 Technical Leads and Specialists	2. Production Companies	Data analysts	8	2	0	
2 Technical Leads and Specialists	5. Niche small to medium enterprises (SME) and Freelancers Specialists	Lighting designers	5	5	0	
2 Technical Leads and Specialists	3. Technology Suppliers (Hardware and Software)	Compliance and regulatory professionals	7	3	0	
2 Technical Leads and Specialists	5. Niche small to medium enterprises (SME) and Freelancers Specialists	Digital Twin Engineer	8	2	0	
2 Technical Leads and Specialists	5. Niche small to medium enterprises (SME) and	Data Scientist	8	2	0	

	Freelancers Specialists					
2 Technical Leads and Specialists	5. Niche small to medium enterprises (SME) and Freelancers Specialists	Sound designers	4	6	0	
2 Technical Leads and Specialists	2. Production Companies	Set designers	9	1	0	
2 Technical Leads and Specialists	2. Production Companies	Multimedia animators	9	1	0	
2 Technical Leads and Specialists	3. Technology Suppliers (Hardware and Software)	Automation maintenance technicians	8	2	0	
2 Technical Leads and Specialists	5. Niche small to medium enterprises (SME) and Freelancers Specialists	Data architects	8	2	0	
2 Technical Leads and Specialists	5. Niche small to medium enterprises (SME) and Freelancers Specialists	Data engineers	8	2	0	
2 Technical Leads and Specialists	2. Production Companies	BIM and CAD technicians	8	2	0	
2 Technical Leads and Specialists	3. Technology Suppliers (Hardware and Software)	Robotics and Automation Engineer	8	2	0	
2 Technical Leads and Specialists	3. Technology Suppliers (Hardware and Software)	Software developers	9	1	0	
2 Technical Leads and Specialists	3. Technology Suppliers (Hardware and Software)	Secure system development specialists	8	2	0	
2 Technical Leads and Specialists	3. Technology Suppliers (Hardware and Software)	IT solutions architects and designers	9	0	1	
2 Technical Leads and Specialists	5. Niche small to medium enterprises (SME) and Freelancers Specialists	UI and UX designers and researchers	10	0	0	
2 Technical Leads and Specialists	1. Media Companies (Client)	Sustainability officers	9	1	0	
3 Departmental Head	1. Media Companies (Client)	Film and television production manager	10	0	0	
3 Departmental Head	2. Production Companies	Studio and Stage Manager	10	0	0	

3 Departmental Head	2. Production Companies	Creative Director	10	0	0	
3 Departmental Head	2. Production Companies	Broadcasting and Entertainment Producer	9	1	0	
3 Departmental Head	2. Production Companies	Broadcasting and Entertainment Director	9	1	0	

Top Fits

By reviewing the FOPs against the suitability grid, we can determine which of the groups of current apprenticeship standards are more applicable than others.

The 'IT solutions architects and designers' FOP has 1 IfATE apprenticeship standard that has a high suitability level of against the standard, whilst the rest of the IfATE apprenticeship standards have low scoring standards.

Many of the FOPs that have IfATE standards identified as 'some suitability' when compared with current IfATE standards and provision are:

1. Researchers in media and entertainment
2. Lighting Designers
3. Sound Engineers

Suitable standards are listed in the table below:

Role level	Future Occupation Profiles	IfATE Apprenticeship Standard	Suitability
1. Production Assistants	Researchers in media and entertainment	Junior visual effects - VFX artist or assistant technical director – ATD Media production co-ordinator Junior vfx artist (generalist) Junior advertising creative	
2. Technical Leads and Specialists	Lighting designers	VFX artist or technical director Creative industries production technician Live event technician Creative venue technician Media production co-ordinator	
2. Technical Leads and Specialists	Sound designers	VFX artist or technical director Media production co-ordinator Junior vfx artist (generalist) Junior animator Junior visual effects - VFX artist or assistant technical director - ATD Creative industries production technician	

The use of the data visualisation tool is recommended to access the next layer of detail and review the specific standards that have been identified as having Good Suitability / Some Suitability or Low Suitability.

As a comparison we can also list the standards that score lowest against the required FOPs, suggesting that there are very little suitable in the IfATE standards to support these Future Role Profiles.

FOPs with the lowest scores are:

- Archivists
- Business systems analysts
- Photographers
- Business development managers
- Planning, process and production technicians
- Data analysts
- Compliance and regulatory professionals
- Digital Twin Engineer
- Film and television production manager
- Studio and Stage Manager
- Creative Director
- Broadcasting and Entertainment Producer
- Broadcasting and Entertainment Director
- Data Scientist
- Set designers
- Multimedia animators
- Automation maintenance technicians
- Data architects
- Data engineers
- BIM and CAD technicians
- Robotics and Automation Engineer
- Software developers
- Secure system development specialists
- IT solutions architects and designers
- UI and UX designers and researchers
- Sustainability officers

Visualisation Data Link	What is it and what can it be used for?
FOP Detail	This page allows you to review a specific Occupational Profile, including the capabilities contained within it and the Knowledge, Skills & Behaviour (KSB) tags associated with the capability. You can select an individual Role Level and linked FOP in the two available dropdowns. The table in the lower section of the page will then be populated with all relevant capabilities. The search control above the table allows you to filter content of any of the columns of data. A key piece of functionality in this table is the presence of the KSB tags associated with the capabilities.
Future KSBs Summary	This page provides a view of the complete set of capabilities within the cycle along with all of the associated KSB tags which are linked to them. It is, essentially, the superset of all details displayed on the FOP detail page. This is used to: - To review the identified Knowledge, Skill and Behaviour tags for a given capability, to support development of future education and learning material. - To review the requirements from a capability level, rather than a role level/occupational profile grouping.
FOP Distribution	This page allows provides a breakdown of the Capabilities within the selected Cycle and how they are distributed across the FOPs with the addition of a distribution chart showing the required proficiency across those FOPs. Clicking the "View FOPs" button alongside each capability will provide a list of the proficiencies (EPA) with the FOPs that fall into them. The exported version of this data will include a full breakdown of the FOP IDs which contain the capability within a specific proficiency. This is used to. - understand the levels/volumes of common/crossover Capabilities, to support prioritisation of Capability Development - identify which Occupational Profiles contain these common/crossover capabilities, and so which may be prioritised for development activity
Capabilities Matched to Current Provision	This page allows you to review and compare individual capabilities against 'Duty' statements in an Apprenticeship / Occupational Standard. You can select individual capabilities to review their specific matches. These matches are shown in the bottom panel, including the Standard, the Level and the Duty Statement this is matched to. You can filter in several ways to focus your review: - By the Capability Classification Framework (left-hand panel). - By capabilities that **are** served by the reference mapping framework – the default is Institute for Apprenticeships and Technical Education (IfATE) provision. - By capabilities that **are not** served by the reference mapping framework, e.g., IfATE provision – these are

	capabilities required in the future that may require new/bespoke training and CPD materials to be developed to upskill/re-skill the workforce. This page can be used to identify where existing provision may exist across the broad spectrum of Apprenticeship standards, and not just within a narrow range of sector-specific Standards. The data also allows you to identify where provision may already exist to support specific capabilities.
Fit & Surplus Factors	This page allows you to review the 'Fit' and 'Surplus' of Prototype Future Occupation Profiles (FOP) against existing training provision e.g. Institute for Apprenticeships and Technical Education (IfATE). It is possible for the 'Fit' and 'Surplus' comparison to total over 100%, as they are two separate calculations based on a two-way comparison.
Fit & Surplus Matrix	This page is a visual representation of the 'Fit and Surplus Factor' insight. You can visually review 'Fit' and 'Surplus' of Prototype Future Occupation Profiles (FOP) against existing training provision e.g. Institute for Apprenticeships and Technical Education (IfATE). This can help you identify which provision may align strongest, or which may require adaptation, to provide the suitable provision fit for each future role. It will help you focus in on which provision to focus your attention for analysis.
FOP Capability Matches	This page allows you to view the matches between Capabilities and Institute for Apprenticeships and Technical Education (IfATE) Duty Statements. Clicking the arrow next to a number in the 'Matches' column will open a popup with more detail for each Capability. Each capability also includes Knowledge, Skill and Behaviour Tags, to support with scaffolding future education provision. You can review individual Prototype Future Occupational Profiles (FOPs) or review all FOPs under a Role Level, to give a more holistic view of Capabilities and Matches Where a future capability has been matched to existing provision (currently, by default, IfATE apprenticeship standards) it is possible to interrogate the data and identify specific statements in standards that align to enable identification of existing training materials and activities that could be used or adapted to meet future requirements. This can be used to review the capability requirements for Role Levels and FOPs, from Job / Occupation level through to Knowledge, Skill and Behaviour level

4.0 Appendices

4.0 Appendices

Section	Title
4.1	Mission – What is workforce foresighting
4.2	List of participants
4.3	Cycle timeline
4.4	Access to output data - link and authorisation
4.5	Glossary - common language
4.6	Visualisation links and illustrations
4.7	Workflow Capabilities

4.1 Mission – What is workforce foresighting?

Addressing future workforce challenges

The global marketplace is changing at a rapid pace and the continued development of innovative technologies is creating opportunities for growth in all sectors.

Whilst we are well placed to take advantage in the UK, the Government and industry have identified that we need a workforce able to adapt to new capabilities that require different and often higher skill sets. The 'Manufacturing the Future Workforce' report, published in 2020, states: "Failure to address the workforce development challenge will mean missing out on opportunities to build the UK's manufacturing base and to take market leading positions."

Developing the workforce and preventing a skills shortfall will provide future-thinking organisations with the capabilities to successfully adopt innovation and enable the UK to build a prosperous economy.

The Skills Value Chain

A Skills Value Chain (SVC) approach promotes connectivity between upstream UK innovation and downstream skills systems, as well as enabling better co-operation within education and training provider eco-systems. It aligns and integrates innovation and skills strategies with a common purpose.

The SVC approach was proposed in the 'Manufacturing the Future Workforce' report, which examined global best practice and convened UK pioneers to explore how the UK can develop skills to exploit innovative technologies.
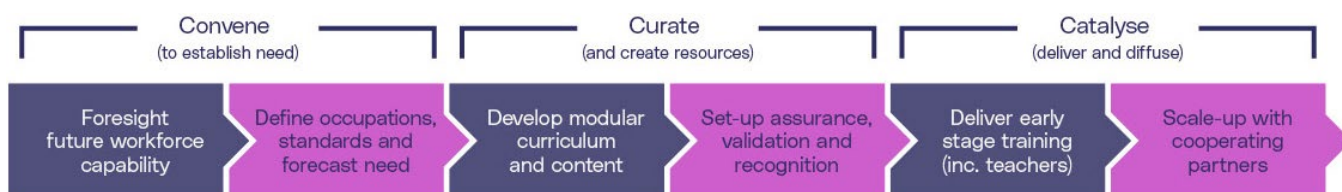
And it starts with workforce foresighting.

Figure 1: The Skills Value Chain

Workforce foresighting

Using the Skills Value Chain approach, the UK can start building the skilled workforce required by tomorrow's industries and employers, and understanding what these future needs will be is where workforce foresighting comes in.

Workforce foresighting is a systemic approach to identifying the organisational capabilities and workforce skills necessary to enable industry to adopt and exploit innovative technologies which respond to global, national and sector challenges.

The Workforce Foresighting Hub, initiated and funded by Innovate UK, and built in collaboration with the Catapult Network, provides the processes and data that inform insight and support the recommendations required for industry, policymakers and educators to respond to continuing change.

Our Vision: To foster the organisational capabilities and workforce skills required to adapt to continuing change and enable adoption of innovative technologies to enable a prosperous UK industry.

Our Mission: To provide the process, insight and recommendations required to identify and address future skills demands to enable the UK to adopt innovation and succeed in the dynamic global marketplace.

Our Goals:

Define future capabilities required across a sector in response to a challenge, or technology innovation and consequently define the skill sets of the workforce of the future.

Understand and explain gaps between technology adoption, organisational capability and workforce profiles that could hamper innovation.

Identify and communicate insights, future requirements and the action required by industry and educators.

Enable and deliver a consistent approach to workforce foresighting.

Outcomes:

The process integrates insight from experts in three categories – domain specialists/technologists, employers, and educators. Using a structured and facilitated series of collaborative information-gathering workshops, combined with data from open-source global data sets, the workforce foresighting process can produce a wealth of detailed quantitative data to inform action.

At the heart of the foresighting process are working groups consisting of the industry sponsor and centre of innovation, with support from the Workforce Foresighting Hub team, who undertake detailed analysis to report and summarise key data insights and recommendations for action. The report details future workflow capabilities, prototype future occupational profiles and identifies changes required to current training provision for the sponsor to take forward and address skills challenges relating to the specific topic.
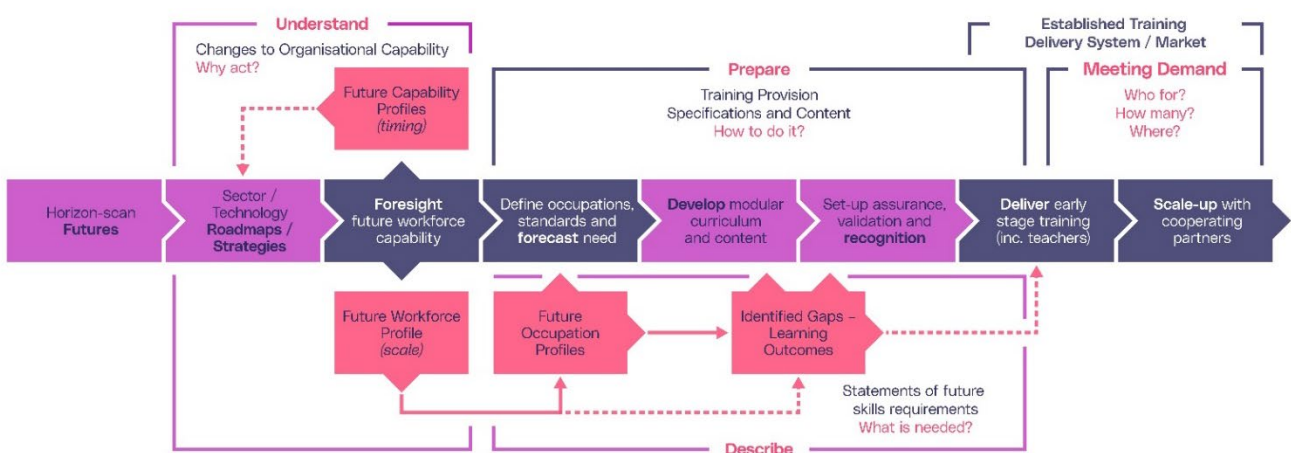

Figure 2: Workforce Foresighting & Skills Value Chain

Approach used - principles and implementation.

The core of workforce foresighting is convening three groups of relevant specialists to conduct structured, Delphi-style, facilitated workshops to capture and discuss the set of organisational capabilities that will be required to respond to and exploit technology innovation.

Organisational capabilities are captured using a bespoke classification that has been developed by the Workforce Foresighting Hub. The classification uses a structured common language to enable cross sector and cross centre collaboration and integration of data. Additionally, the classification enables data from a number of other national and international open-source workforce datasets to be integrated through the same common language. The data is held in a cloud based "data-cube" that is dynamically growing as each workforce foresighting cycle adds to the shared data relating to future workforce capabilities.

Using cutting edge AI and Large Language Model data tools, the data-cube is used to undertake detailed analysis to 'map' future workforce capability requirements against the current education and training provision to identify where existing provision can be used and where new provision, CPD or qualifications are required.

As an agile development project, the Workforce Foresighting Hub team are constantly evolving and improving the detailed workshop process and workshop approach, but always consists of the following stages:

Considering – Clarifying the Challenge to be met (the 'what' and the 'when') and collating solutions (the 'how') as foresighting topic suggestions align with strategic priorities

Identifying – Gain clarity and consensus about the solutions to be put forward – make the case for foresighting

Preparing – The convening of specialists and scheduling of workshops

Carrying out – Run foresighting workshops with experts, collate and analyse data

Communicating – Insights, findings and recommendations gathered from all research in report

Causing action – The driving of action based on the recommendations (promoting progress down the rest of the skills value chain) built on the findings and recommendations of foresighting
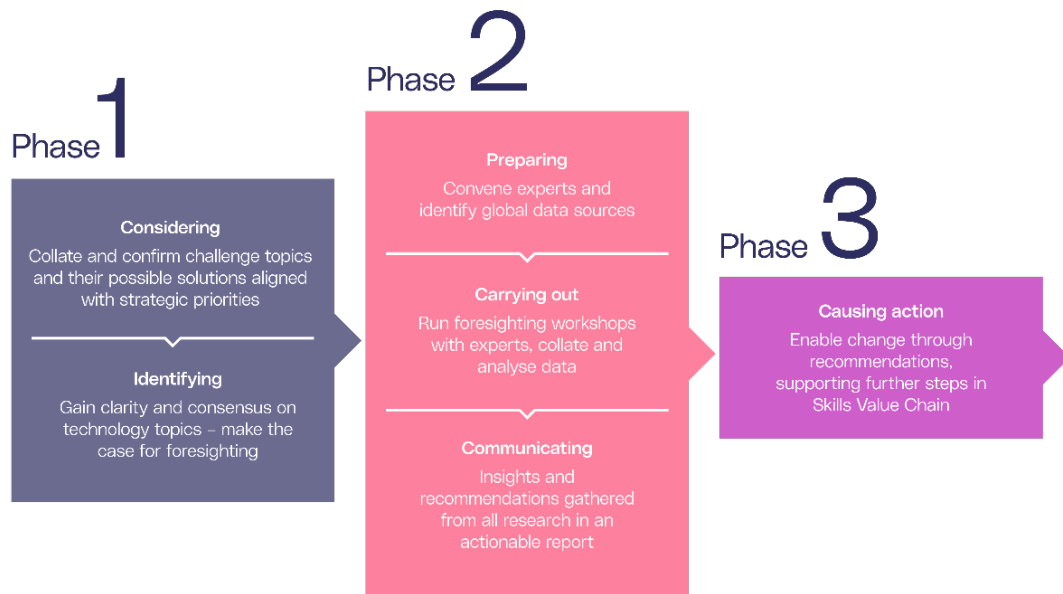
Forecasting and Foresighting

The result of workforce foresighting is understanding why skills requirements will need to change to enable the adoption of innovative technologies, and to define what the required change is likely to be in terms of future occupations and shorter-term skills gaps. Forecasting of demand can then take these future focused findings and work with industry and government stakeholders to estimate the quantity of workers necessary for an industry to fulfil emerging skill demands at a given time and place. The two approaches are linked in that workforce foresighting identifies the requirements and forecasting can then determine the quantity needed, the people needing the skills and therefore prepare programmes to deliver them.

Outcomes - insights and recommendations

Workforce foresighting is a data intensive approach that can provide sponsors, stakeholders and participants with detailed insight about future workforce requirements. A dynamic data set is provided for each cycle to allow all stakeholders and participants to freely access and interrogate the data. Additionally, the Workforce Foresighting Hub team will support the production of a report that provides targeted recommendations that require action to address gaps in training and education provision relevant to the challenge and planned technology solution.

The dynamic data portal provides a range of standard data sets and visualisations. Additionally, users can download data to undertake their own more detailed interrogation of data to guide and inform subsequent actions.

The key aspect is to provide insight about gaps – which capabilities required in the future are not addressed by aspects of current provision – apprenticeship standards, qualifications or other provision. Gaps represent:

Short term CPD – topics required across the workforce to upskill members of current workforce

Medium term – topics to be included as current provision / standards are reviewed and updated

Longer term – new qualifications and standards that may be needed to equip new entrants

The insight produced by a workforce foresighting cycle provides:

Technologists and technical leads with insight of the organisational capability sets required across future workflow partners in response to the identified challenge.

Employers with insight about possible future roles and occupations that may be required across the whole workforce, operators to researchers, to ensure they are equipped and ready.

Educators with details of the gaps to be addressed by short-course training to upskill the existing workforce and also insight about qualifications and provision that will be required to support new entrants in the future.

4.2 List of Participants

Industry Participants	Skills Participants	Technology Participants
Final Pixel Academy	Screen Skills	Nexus Interactive Arts
Waterstons	Media Cymru	Digital Catapult- Immersive Team
Digital Catapult	Storyfutures Programme/ Co-star	Digital Catapult - AI team
Hartree Centre ¦ NE Hub	XR Network	Disguise
Fivefold Studios	Royal Holloway University of London	PROTO Gateshead
MAAD Digital	University of South Wales	Solve Evolve
Pixel Data Ltd	Sunderland Software City	National Innovation Centre for Data, Newcastle University
		Digital Transformation at MTC
		Raiven A.I.

4.3 Cycle timeline

Workforce Foresighting cycle started the Carry Out phase in July 2024. The Carry Out phase concluded in August 2024. The Findings report was prepared following the data validation period and published in September 2024.

4.4 Access to output data - link and authorisation

Data Capture Overview

4.5 Glossary - common language

Term	Definition
Impact Domains	Innovate UK domains used as Strategic Categories to assist setting and monitoring priorities
National Challenge (Industry / Sector / Region)	A recognised technological or socio-political threat or opportunity for which there is consensus that workforce action is necessary
Challenge Response	Specific intervention aimed at the challenge
Capability (Organisation)	The collective abilities, and expertise of an organisation to carry out a function, because provision and preparation have been made by the organisation
Capability Classification	Classification provides a common, structured vocabulary to define capability
Capability Statements	Description of the depth and nature of each capability within an organisation
Capability Syntax	Common language to describe each capability application within organisation type
Competencies (Workforce / Individual)	'Proficiency, aptitude, capacity, skill, technique, experience, expertise, facility, fitness related to capability
Competency definition 'KSBs' (Knowledge, Skills and Behaviours)	Knowledge, Skills, and Behaviours are the elements used to express the required competencies for each Role Group
Competency Domain	Used during foresighting analysis to provide focus on existing and emerging competency needs
Delphi Process	Foresighting takes a Delphi approach which has come to represent consulting expert opinion. (Harking back to the Delphic Oracle of ancient Greece)
Foresight Cycle	Set of workshops, analysis and reporting that implements the Foresight Process for each subject
Foresight Process	A series of activities which are convened to understand future competence needs, the opportunities available and actions required to deliver the right skills at the right time and place
Foresighting Champion	An individual nominated within a new user organisation of foresighting to facilitate and lead the use of foresighting processes and tools with the support of the Project Team
Foresighting Subject	The application of specific technologies in the context of a given challenge and which are candidates for foresighting
Future Competency Set	The KBS output from the Educator workshop for each Role Group
Map and Gap Analysis	A combined expert and automated process that maps the Future Competency Set against a selected reference framework
Organisation Type	Simple description of nature of organisation for which capability is required
Proficiencies	Proficiencies differentiate the degree of competencies required from differing Role Groups to support capabilities
Project Sponsor	Typically, a stakeholder in the challenge being successfully met who requires information to under-write plans to act
Role Group	Role groups are a collective of roles that exist in a typical manufacturing business / industrial sector
Syntax	The way in which a statement is phrased to ensure reliable, repeatable and meaningful interpretation

Technologies	The technology that could be used to address the challenge
Working Scenario	To provide further context in relation to the subjects and used to position participants thinking during the detailed identification of future capabilities
Workshops	Online sessions used to undertake each step in the foresight process
Roadmaps	Sector, Industry, Regional view of emerging opportunities and their market entry
Participants	Technologists, Educators, Employers

4.6 – Visualisation links and Illustrations

Link to Visualisation	View of data
Data Capture Overview	
Organisational Capabilities	

Workflow Capabilities

WF HUB — Workforce Foresighting Insight

[08 DIGICAT] AI tools for image asset creation and augmenting existing assets in visual production within the screen sector.

Data Capture Overview
- Organisational Insight
  - Organisational Capabilities
  - Supply Chain Capabilities
- Workforce Insight
- Future State Vs. Current Provision

Supply Chain Capabilities

Supply Chain / Workflow Partners
- All
1. Media Companies (Client)
2. Production Companies
3. Technology Suppliers (Hardware and Software)
4. Research and Technology Organisations (RTOs) and Higher Education Institutions (HEI)
5. Niche small to medium enterprises (SME) and Freelancers Specialists

131 Capabilities

High-level matching analysis

Total Organisational Capabilities	131
Optimised Matching Threshold	51.0%

Capability served by IfATE
- Select all
- Yes
- No

Search capability | Download CSV

Functional Area	Capability statement
Operate support systems	Contribute to the development and ethical and legal conduct of AI systems and processes, in line with organisational and regulatory requirements.
Perform Data Analysis	Interpret and apply audience analytics to inform content development to meet brand strategies and objectives.
Create Art & Entertainment	Use AI tools to interrogate resources from different cultures or languages to improve content diversity.
Identify New Business Partnerships	Assess partnerships between technology providers and industry organisations to build project consortia.
Advise Others On Operations	Create contextual feedback loops for production schedules to learn from asset and crew tracking.
Monitor Operations	Compress, digitise, duplicate, and store audio and video data.
Test Equipment & Systems	Test Artificial Intelligence (AI) tools for future production capabilities to ensure readiness
Model Processes	Optimise process development using Modelling And Simulation (M&S) and Digitial Twin Technologies
Identify Suppliers	Identify potential suppliers with relevant expertise
Monitor Operations	Compile equipment usage behaviour data to promote safer practices in the future

FOP Matrix

WF HUB — Workforce Foresighting Insight

[08 DIGICAT] AI tools for image asset creation and augmenting existing assets in visual production within the screen sector.

Data Capture Overview
- Organisational Insight
- Workforce Insight
  - FOP Matrix
  - FOP Detail
  - Future KSBs Summary
  - FOP Distribution
- Future State Vs. Current Provision

Future Occupational Profile (FOP) Matrix

Select Role Levels: 1. Production Assistants

Select FOP: Business systems analysts, Archivists, Photographers, Researchers in media and entertainment, Business development managers

Iteration: User Reviewed FOPs

Search capability statements
- Hide empty capabilities
- Hide domain and area columns

ID	FOP Title	Primary Supply Chain / Workflow Partner
101...	Archivists	1. Media Companies (Client)
101...	Business systems analysts	2. Production Companies
101...	Photographers	5. Niche small to medium enterprises (SME) and Freelancers Specialists
101...	Researchers in media and entertainment	4. Research and Technology Organisations (RTOs) and Higher Education In...
101...	Business development managers	4. Research and Technology Organisations (RTOs) and Higher Education In...

5 results

Function	Domain	Area	Capability Statement	Function	10113
DESIGN (46)					
ENTERPRISE (31)					
IMPLEMENT (28)					
LOGISTICS (5)					
SUPPORT (21)					

131 results

E - Expert
P - Practitioner
A - Awareness

Download CSV

FOP Detail

WF HUB — Workforce Foresighting Insight

[08 DIGICAT] AI tools for image asset creation and augmenting existing assets in visual production within the screen sector.

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- Workforce Insight
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  - FOP Detail
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Future Occupational Profile Detail

Select Role Level: 1. Production Assistants

Select FOP: Archivists
- Archivists
- Business systems analysts
- Photographers
- Researchers in media and entertainment
- Business development managers

Primary Supply Chain Partner

Search capability statements

ID	Capability Statement	Function	Functional Domain	Functional Area	Proficiency	Knowledge tags	Skill tags
27320	Compress, digitise, duplicate, and store audio and video data.	IMPLEMENT	System/Equipment Operation & Monitoring	Monitor Operations	Expert	Convert Different Audiovisual For...	Data Management
183803	Collate, process and evaluate data and information for assets and a...	IMPLEMENT	Service Delivery	Analyse & Verify Information	Practitioner	Communicate Analytical Insights ...	Asset Management
200940	Utilize artificial intelligence and machine learning algorithms to auto...	ENTERPRISE	Regulatory Compliance	Monitor Compliance	Practitioner	Create Software Design ...	Artificial Intelligence
201579	*Manage metadata and keywording to ensure proper identification ...	IMPLEMENT	Service Delivery	Create & Process Digital Media	Expert	Define Data Quality Criteria ...	Data Classification
209817	Utilize machine learning algorithms to monitor and optimize operati...	SUPPORT	Operator Support	Operate support systems	Practitioner	Create Data Models ...	Artificial Intelligence
213030	Develop automated routines to correct image-distorting artefacts, ...	DESIGN	Prototype Design & Development	Design Systems & Applications	Awareness	Apply 3D Imaging Techniques ...	3D Modelling ...
213043	Collate and curate visual assets using augmented reality technolog...	DESIGN	Service Design	Create Art & Entertainment	Practitioner	Create Project Specifications ...	3D Modelling CA...
213082	Utilise AI to identify and manage copyright infringements	SUPPORT	Operator Support	Operate support systems	Practitioner	Ensure Compliance With Policies ...	Artificial Intelligence

8 results

Future KSBs Summary

WF HUB — Workforce Foresighting Insight

[08 DIGICAT] AI tools for image asset creation and augmenting existing assets in visual production within the screen sector.

Data Capture Overview
- Organisational Insight
- Workforce Insight
  - FOP Matrix
  - FOP Detail
  - Future KSBs Summary
  - FOP Distribution
- Future State Vs. Current Provision

Future KSBs Summary

ID	Capability Statement	Function	Functional Domain	Functional Area	Knowledge Tags
1690	Adjust positions and controls of cameras, printers, and related equipment to change focus, exposure, ...	DESIGN	System/Equipment Design & Implementation	Configure Equipment	Camera Lighting Printers
6120	Analyse potential environmental impacts of production process changes, and recommend steps to mit...	ENTERPRISE	Leadership & Strategy	Evaluate Environment Impact	Environmental Analysis Envi...
10880	Assemble studio sets and select and arrange cameras, film stock, audio, or lighting equipment to be u...	DESIGN	System/Equipment Design & Implementation	Select Equipment	Camera Film Lighting ...
18980	Choose settings and locations for films and determine how scenes will be shot in these settings.	DESIGN	Process Design & Implementation	Develop Processes	Location Scouting Productio...
25910	Compile and format image data to increase its usefulness.	SUPPORT	Operator Support	Design and configure support systems	Artificial Intelligence Data Pr...
26540	Compile, log, or record testing or operational data for review and further analysis.	IMPLEMENT	System/Equipment Operation & Monitoring	Monitor Operations	Data Collection Testing U...
27320	Compress, digitise, duplicate, and store audio and video data.	IMPLEMENT	System/Equipment Operation & Monitoring	Monitor Operations	Data Management Data Proc...
28520	Conduct energy audits to evaluate energy use and to identify conservation and cost reduction measu...	IMPLEMENT	System/Equipment Operation & Monitoring	Monitor Operations	Conservation Energy Ene...
32670	Confer with management, production, or marketing staff to discuss project specifications or procedur...	ENTERPRISE	Construction	Plan & Manage Construction	Communication Managemen...
34200	Construct and position properties, sets, lighting equipment, and other equipment.	DESIGN	System/Equipment Design & Implementation	Configure Equipment	Lighting Organisational Proj...
34970	Consult with lighting director or production staff to determine lighting requirements.	DESIGN	Process Design & Implementation	Develop Processes	Lighting Production Tech...
36360	Control workflow scheduling or job tracking, using computer database software.	IMPLEMENT	System/Equipment Operation & Monitoring	Direct Operations	Database Scheduling Wo...
37520	Coordinate recycling collection schedules to optimise service and efficiency.	IMPLEMENT	Plan Operations	Plan Operations	Planning Recycling Sched...
37630	Coordinate the activities of writers, directors, managers, and other personnel throughout the producti...	IMPLEMENT	Manage Operations	Direct Operations	Media Production People Ma...
39230	Create and manage documentation, production schedules, prototyping goals, and communication pla...	DESIGN	Technical Research	Research & Develop Technologies	Collaboration Communicatio...
45710	Determine efficient and cost-effective methods of moving goods from one location to another.	DESIGN	Supply Chain Design & Implementation	Analyse Logistics	Accounting Budgetary Cont...
46260	Determine production schedules and staff requirements necessary to ensure timely delivery of servic...	IMPLEMENT	Manage Operations	Direct Operations	Client Side Communication ...
46270	Determine project goals, locations, and equipment needs by studying assignments and consulting wit...	ENTERPRISE	Product Management	Develop Specifications	Advertising Client Side Scri...

131 results

Download capabilities with KSBs

FOP Distribution

WF HUB

Workforce Foresighting Insight
[08 DIGICAT] AI tools for image asset creation and augmenting existing assets in visual production within the screen sector.

Data Capture Overview
Organisational Insight
Workforce Insight
- FOP Matrix
- FOP Detail
- Future KSBs Summary
- FOP Distribution

Future State Vs. Current Provision

Capability distribution across FOPS

Q Search capability statements

Export CSV

Function	Functional Domain	Functional Domain	Capability Statement	Total Capability Count Across FOPs	Capability by Proficiency Count in FOPs
					Expert · Practitioner · Awareness
DESIGN	Process Design & Implementation	Develop Processes	Develop processes to select and sequence media settings and locations for efficient filming	8 / 29	View FOPs
DESIGN	Process Design & Implementation	Develop Processes	Implement digital twins of products and related processes	8 / 29	View FOPs
DESIGN	Process Design & Implementation	Develop Processes	Plan details such as framing, composition, camera movement, sound, and actor movement for each shot or scene.	8 / 29	View FOPs
IMPLEMENT	Service Delivery	Create & Process Written Materials	Assess the requirements set by the client or supervisor brief. Establish which tools and techniques best meet the required creative, narrative and technical demands of the production.	8 / 29	View FOPs
DESIGN	Prototype Design & Development	Design Systems & Applications	Develop Artificial Intelligence (AI) post-production models to enhance media content efficiency	7 / 29	View FOPs
SUPPORT	Operator Support	Operate support systems	Contribute to the development and ethical and legal conduct of AI systems and processes, in line with organisational and regulatory requirements.	7 / 29	View FOPs
ENTERPRISE	Leadership & Strategy	Develop Business Strategy	Develop business strategy using industry-specific software tools for scenario planning and forecasting.	7 / 29	View FOPs
ENTERPRISE	Product Management	Develop Specifications	Discuss production requirements with clients.	7 / 29	View FOPs
ENTERPRISE	Data Management	Perform Data Analysis	Analyse production data to identify patterns and trends for more accurate planning and scheduling	7 / 29	View FOPs

Capabilities Matched to Current Provision

Capabilities Matched to Current Provision

Capability Classification
- DESIGN
- IMPLEMENT
- LOGISTICS
- SUPPORT
- ENTERPRISE

Total Organisational Capabilities: 131
Optimised Matching Threshold: 51.0%

Capability served by IfATE
- Select all
- Yes
- No

Q Search capability statements

Clear selection

Served 83.2% / Not served 16.8%

ID	FOP Capability	Match score ↓
180831	Interpret and apply audience analytics to inform content development to meet brand strategies and objectives.	100.0%
181800	Contribute to the development and ethical and legal conduct of AI systems and processes, in line with organisati...	100.0%
181801	Investigate and devise the most efficient and effective architectures, to enable and maximise the use and impact...	100.0%
181809	Assess risks/limitations and quantify biases associated with applications of AI within given business contexts.	100.0%
181810	Provide technical authority for the business regarding emerging opportunities for AI.	100.0%
181923	Identify internal and external networking opportunities for partnership building and establishing working relations...	100.0%
182727	Create, populate and manage production documentation such as schedules, call sheets and daily reports	100.0%
182734	Manage production workflows throughout the stages of a production in line with requirements	100.0%
183270	Create animated assets for use in computer games, interactive media or immersive reality.	100.0%
183526	Select and use appropriate technology to render VFX assets for pre-rendered or real-time productions	100.0%

131 results

IfATE Duty Statements serving
Interpret and apply audience analytics to inform content development to meet brand strategies and objectives.

Match score ↓	IfATE Apprenticeship Standard	Level	Duty statement	Job role capability ID
100.0%	Journalist	5	Interpret and apply audience analytics to inform content development to meet brand strategies and objectives.	180,831
67.4%	Content creator	3	Interpret the strategy and objectives of the brand and align these to the content.	188,870

Fit & Surplus Factors

Fit & Surplus Factors

Select Role Level
1. Production Assistants
- 1. Production Assistants ✓
- 2. Technical Leads and Specialists
- 3. Departmental Head

Select FOP
- Archivists
- Business systems analysts
- Photographers
- Researchers in media and entertainment
- Business development managers

8 capabilities in FOP

IfATE Apprenticeship Standard	ID	Level	# Duty Statements	# Matching Duty Statements	Fit factor	Surplus factor
Photographic assistant	ST0506	3	10	3	37.5%	70.0%
Asset finance practitioner	ST0880	3	12	2	25.0%	83.3%
Public sector compliance investigator and officer	ST0708	3	14	2	25.0%	85.7%
Asset manager	ST0861	4	16	5	12.5%	68.8%
Photographer	ST1388	4	9	2	12.5%	77.8%
Post production technical operator	ST0696	4	10	1	12.5%	90.0%
Lead engineering maintenance technician	ST0999	4	10	1	12.5%	90.0%
Data technician	ST0795	3	10	1	12.5%	90.0%
Transport planning technician	ST0336	3	10	1	12.5%	90.0%

10 results

Fit & Surplus Matrix

Fit & Surplus Matrix

Select Role Level
1. Production Assistants

Select FOP
- Archivists
- Business systems analysts
- Photographers
- Researchers in media and entertainment
- Business development managers

10 capabilities in FOP

Not a Candidate for Adoption or Adaptation
Fair Candidate for Adoption or Adaptation
Poor Candidate for Adoption or Adaptation
Good Candidate for Adoption or Adaptation

Surplus / Fit

WF HUB

FOP Capability Matches

P-FOP Capability Matches ⓘ Info

Workforce Foresighting Insight

[08 DIGICAT] AI tools for image asset creation and augmenting existing assets in visual production within the screen sector.

Data Capture Overview

Organisational Insight

Workforce Insight

Future State Vs. Current Provision
- Capabilities Matched to Current Provision
- Fit & Surplus Factors
- Fit & Surplus Matrix
- FOP Capability Matches
- FOP vs Provision
- FOP Priorities

Select Role Levels: 1. Production Assistants × 2. Technical Leads and Specialists × 3. Departmental Head ×

Select FOP: Archivists × Business systems analysts × Photographers ×

Capability Classification
- ▸ DESIGN
- ▸ IMPLEMENT
- ▸ SUPPORT
- ▸ ENTERPRISE

Matched to
- ● All
- ○ Matched
- ○ Not Matched

30 Total Capabilities

Search capability statements

Type	Capability Statement	Matches
Use	Compress, digitise, duplicate, and store audio and video data.	3
Maintain	*Manage metadata and keywording to ensure proper identification and retrieval of stored images.	5
Maintain	Collate, process and evaluate data and information for assets and asset systems.	15
Use	Utilize machine learning algorithms to monitor and optimize operations	3
Use	Utilize artificial intelligence and machine learning algorithms to automate compliance monitoring and identify potential non-compliance issues	3
Create	Develop automated routines to correct image-distorting artefacts, maintaining image quality.	1
Maintain	Collate, process and evaluate data and information for assets and asset systems.	15

30 results

*Inferred via AI

Download capabilities with KSBs

FOP vs Provision

FOP vs Provision ⓘ Info

ⓘ Info Select a served Duty Statement to see what FOP capabilities matched to it.

Select Role Level: 1. Production Assistants

Select FOP: Archivists

☐ Show only matched
☐ Show only not matched

Capability ID	Capability Statement
27320	Compress, digitise, duplicate, and store audio and video data.
201579	*Manage metadata and keywording to ensure proper identification and retrieval of stored images.
183803	Collate, process and evaluate data and information for assets and asset systems.
213082	Utilise AI to identify and manage copyright infringements
209817	Utilize machine learning algorithms to monitor and optimize operations
200940	Utilize artificial intelligence and machine learning algorithms to automate compliance monitoring and identify potential non-...
213043	Collate and curate visual assets using augmented reality technology to enhance user experience
213030	Develop automated routines to correct image-distorting artefacts, maintaining image quality.

8 results

Select IfATE Apprenticeship Standard: Photographic assistant | Fit 37.5% | Surplus 70.0%

- Photographic assistant | Fit 37.5% | Surplus 70.0% ✓
- Asset finance practitioner | Fit 25.0% | Surplus 83.3%
- Public sector compliance investigator and officer | Fit 25.0% | Surplus 85.7%
- Asset manager | Fit 12.5% | Surplus 68.8%
- Photographer | Fit 12.5% | Surplus 77.8%
- Multi-skilled mechatronics maintenance technician | Fit 12.5% | Surplus 90.0%
- Hospitality manager | Fit 12.5% | Surplus 90.0%
- Data technician | Fit 12.5% | Surplus 90.0%
- Post production technical operator | Fit 12.5% | Surplus 90.0%
- Lead engineering maintenance technician | Fit 12.5% | Surplus 90.0%
- Publishing assistant | Fit 12.5% | Surplus 90.0%

201571	23.8%	*Comply with relevant health and safety regulations in the workplace.
201572	41.7%	*Understand and apply current legislation related to copyright and intellectual property in the photo imaging i...
201573	27.3%	*Maintain positive relationships with clients/customers and address their enquiries, questions, comments, and...
201574	44.5%	*Ensure the security of the imaging system by implementing virus protection and password control measures.
201575	32.2%	*Perform housekeeping activities to keep the work environment clean and organized.
201576	47.8%	*Set up and operate digital imaging equipment and software to capture and process images.
201580	33.5%	*Evaluate client requirements and objectives to determine the most suitable approach for a project.

7 results

FOP Priorities

FOP Priorities

Role Level	FOP Title	FOP Code	Primary Supply Chain	Max. Fit Fac... ↑	Associated Surplus Factor
2. Technical Leads and Specialists	UI and UX designers and researchers	10156	5. Niche small to medium enterprises (SME) and Freelancers Specialists	12.5%	94.1%
1. Production Assistants	Business development managers	10117	4. Research and Technology Organisations (RTOs) and Higher Education Institutions (HEI)	20.0%	70.0%
3. Departmental Head	Studio and Stage Manager	10130	2. Production Companies	25.0%	88.2%
3. Departmental Head	Film and television production manager	10129	1. Media Companies (Client)	26.9%	52.9%
3. Departmental Head	Creative Director	10131	2. Production Companies	28.6%	70.0%
2. Technical Leads and Specialists	Planning, process and production technicians	10123	2. Production Companies	30.4%	10.0%
2. Technical Leads and Specialists	Software developers	10153	3. Technology Suppliers (Hardware and Software)	33.3%	20.0%
1. Production Assistants	Business systems analysts	10114	2. Production Companies	33.3%	90.9%
2. Technical Leads and Specialists	Set designers	10146	2. Production Companies	36.4%	70.6%
1. Production Assistants	Archivists	10113	1. Media Companies (Client)	37.5%	70.0%
3. Departmental Head	Broadcasting and Entertainment Director	10133	2. Production Companies	37.5%	70.6%

5. Niche small to medium enterprises (SME) and

29 results

ⓘ Info

4.7 – Workflow Capabilities

Overview of the identified capabilities at a Workflow / Workflow Partner level and shows how the workflow organisations' workforce structure needs to change to deliver the required capabilities.

Workflow Partner	Example of required change to deliver capabilities (not limited to these changes)
1. Media Companies (Client)	To enhance supplier selection and streamline operations, adopt digital tools in compliance with legal frameworks and evaluate partnerships between technology providers and industry organizations. Employ AI, augmented reality, and digital twins for pre-release product evaluation, prototyping, and user experience enhancement. Collect and analyse equipment usage data to promote safety and integrate AI tools to improve logistical efficiency. Develop advanced tools for high-quality computer-generated content and camera hardware, ensuring production aligns with client parameters. Utilize 3D simulations for asset monitoring and AI post-production models to enhance media efficiency. Evaluate the carbon footprint of AI delivery, facilitate AI integration to improve business processes, and provide technology-specific training resources. Inform and train communities on Generative AI and Prompt Engineering while integrating haptics for enhanced user interaction. Maintain compliance with technological advances and foster innovation through AI agents and information sharing across departments. Test AI tools for production readiness, leverage them for pre-visualization, and enrich content diversity through cultural interrogation. Generate novel ideas and manage copyright infringements with AI, ensuring uniqueness and respect for intellectual property rights.
2. Production Companies	Leveraging Large Language Models (LLMs) for supplier selection significantly enhances efficiency while ensuring regulatory compliance through digital tools aligned with legal frameworks. Building partnerships between tech providers and industry organizations creates robust consortia for successful projects. Quality assurance is improved through digital twins for prototyping and enhanced user experiences using augmented reality. Data on equipment usage promotes safer practices, while AI tools streamline logistics and media production. High-quality production benefits from advanced tools for lighting, shading, rendering, and hardware. Simulations and AI in post-production optimize content and correct artifacts, supported by efficient media sequencing. Assessing AI's carbon footprint and fostering access to AI and machine learning drives business and product innovation. Generative AI in animated media enhances games and interactive experiences, and tech-specific training maximizes hardware efficiency. Educating on Generative AI, incorporating haptics, and staying current on advancements ensures compliance and fosters innovation. Socially responsible AI applications, like aiding local food banks, highlight AI's broader community impact. Efficient departmental communication and AI pre-visualization enrich screen production, while AI's cultural and linguistic insights and ideation enhance creativity and content diversity, addressing copyright management and boosting narrative freshness.
3. Technology Suppliers (Hardware and Software)	To enhance supplier selection, utilizing Large Language Models (LLMs) can efficiently identify and evaluate potential candidates based on specified criteria while ensuring regulatory adherence through digital tools. Collaboration between technology providers and industry organizations builds robust project consortia, and advanced methods like digital twins allow detailed pre-release testing. Innovative technologies, such as augmented reality, improve user experiences, and AI-integrated logistics optimize operations. In media production, AI-generated animated assets enhance content, while AI's role in pre-visualization, contextual feedback, and quality control streamlines the production process. AI facilitates efficient filming, post-production, and the creation of diverse global content by interrogating resources across cultures. Evaluating the carbon footprint of AI delivery, fostering industry collaboration, and democratizing advanced technology access through education ensure informed decision-making and innovation. Integrating haptics, maintaining regulatory compliance, and leveraging AI for copyright management enrich user interaction, protect intellectual property, and foster cross-cultural content understanding, ultimately advancing operational efficiency, creativity, and social responsibility.

4.Research and Technology Organisations (RTO) and Higher Education Institutions (HEI)	Leveraging Large Language Models (LLMs) for supplier selection enhances procurement processes, while adopting digital tools compliant with legal frameworks ensures regulatory adherence. Building robust project consortia involves evaluating partnerships between technology providers and industry organizations. Digital twins enable pre-release evaluation and prototyping, ensuring quality, and augmented reality significantly enhances user experience by curating visual assets. Compiling equipment usage behaviour data promotes safer practices and integrating AI streamlines logistics. High-quality media production is achieved by creating animated assets, designing scenarios for varied responses, and implementing contextual feedback loops to improve efficiency. Advanced tools for lighting, shading, rendering, and high-quality camera hardware are essential, along with adhering to content parameters and platform requirements. 3D simulations and AI post-production models enhance asset monitoring and media content efficiency, while sustainable decision-making benefits from evaluating AI's carbon footprint. AI and machine learning foster business innovation, particularly in generating animated assets for interactive media and optimizing asset production. Haptics enhance immersive entertainment, and staying updated on technology and regulations ensures compliance and innovation. Community support is facilitated by AI-organized craft services donations, and departmental information sharing enhances production management. AI tools aid pre-visualization, cultural content diversity, animated sequence creation under deadlines, and creative inputs. AI also identifies and manages copyright infringements and fosters global understanding by examining similar concepts across cultures and languages.
5. Niche small to medium enterprises (SME) and freelance specialists	Organizations can enhance supplier selection and regulatory compliance by employing Large Language Models (LLMs) and digital tools within legal frameworks. Forming strategic partnerships between technology providers and industry organizations, developing digital twins for pre-release evaluation, and integrating AI tools for logistics and media production can significantly improve quality and efficiency. Augmented reality (AR) can curate visual assets, while advanced camera hardware and AI-boosted post-production improve asset capture and media content. Contextual feedback loops and 3D simulations can optimize production schedules and asset monitoring. AI can generate animated assets, automate design tasks, and enhance training, while its role in evaluating carbon footprints supports sustainable decision-making. Haptic integration in entertainment, AI-driven pre-visualization, diverse content generation, and copyright management foster innovation and compliance. Sharing insights across departments ensures efficient production management, and staying updated with technological advances is essential for future readiness and cross-cultural understanding.