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Toward Achieving National Capability

Ensuring a Circular and Sustainable UK Fashion and Textile Industry

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Toward Achieving National Capability: Ensuring a Circular and Sustainable UK Fashion and Textile Industry

Bunyan, C., Rainton, S., Connor-Crabb, A., Harris, J. and Russell, S.J.

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This report is the fourth in a series of four reports based on joint research by the Business of Fashion, Textiles and Technology (BFTT), University of the Arts London and the Future Fashion Factory (FFF), University of Leeds.

BFTT and FFF are part of the Creative Industries Clusters Programme (CICP), an £80 million initiative associated with the Industrial Strategy Challenge Fund, delivered by the Arts and Humanities Research Council (AHRC) on behalf of UK Research and Innovation (UKRI).

The Business of Fashion, Textiles and Technology
The Business of Fashion, Textiles and Technology (BFTT) is a £6 million creative research and development (R&D) partnership led by the University of the Arts London (UAL). BFTT operates at the intersection of design, STEM, cultural anthropology and business practices to support circular and sustainable collaborative research and development, led by industry. A transdisciplinary partnership, BFTT has provided R&D in collaboration with Loughborough University, University College London, Queen Mary University of London, the University of Leeds, the University of Cambridge, and the Victoria and Albert Museum. Key industry partners include leading fashion, wider apparel, and textile brands, online retailers, emergent design companies, sectoral business trade organisations, including the UK Fashion & Textile Association, the British Fashion Council, regional partnership from LEPs, the Greater London Authority (GLA), the London Legacy Development Corporation (LLDC), and the British Council. BFTT is part of UAL's Fashion, Textiles and Technology Institute (FTTI) based at the UAL East Bank campus at the Queen Elizabeth Olympic Park (QEOP). UAL FTTI convenes interdisciplinary expertise to deliver sustainable research and innovation and curriculum development across the global apparel and textile value chain, and adjacent sectors.

Find out more about the Business of Fashion, Textiles and Technology at **https://bftt.org.uk/** and UAL FTTI at **https://www.arts.ac.uk/ual-fashion-textiles-and-technology-institute.**

The Future Fashion Factory
The Future Fashion Factory (FFF) is a £6.1 million industry-led, collaborative R&D programme led by the University of Leeds, which serves a large UK design and manufacturing creative cluster in fashion and textiles. FFF brings together designers, manufacturers and retailers, to co-develop and implement advanced textile and industrial digital technologies (IDTs) to create new processes and products, reduce lead times for product development, increase the UK's global competitiveness and support economically viable sustainable development across the industry. Led by the University of Leeds in partnership with the University of Huddersfield, the Royal College of Art and Manchester Metropolitan University, industry partners include the UK Fashion and Textile Association (UKFT), the Textile Centre of Excellence, and a network of over 500 businesses (SMEs and PLCs). Future Fashion Factory is part of the Leeds Institute of Textiles and Colour (LITAC) in the School of Design, a collaborative, multi-disciplinary

research institute, built on a 150-year history, that addresses global challenges in textiles, fashion and colour through research and innovation, as well as teaching.

Find out more about Future Fashion Factory and LITAC at **https://litac.leeds.ac.uk.**

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Poplar Works studio spaces, East London © Poplar Works

1 Foreword

LITAC Chemistry Lab. Credit: LITAC

Following the creation of the Business of Fashion, Textiles and Technology, and Future Fashion Factory's Creative R&D Programmes, as part of the AHRC's £80 million investment in the Creative Industries Clusters Programme, two new research Institutes were formed: the UAL Fashion, Textiles and Technology Institute (UAL FTTI) and the Leeds Institute of Textiles and Colour (LITAC).

The Institutes are addressing national Research and Knowledge Exchange (RKE) requirements for fashion and textiles (F&T) to support industry in different ways, harnessing internationally recognised R&D capacity and expertise. It is imperative that a collaborative and interdisciplinary vision for the sector is developed that ensures the UK is at the forefront of global sustainable development in F&T, including the creation of viable circular economies.

UAL FTTI and LITAC welcome the opportunity to inform policy, building on the strong foundations of the UK's research excellence in F&T, which spans expertise in design, STEAM (Science, Technology, Engineering, the Arts and Mathematics), heritage and culture. Each Institute provides different, but complimentary research capabilities, facilities and academic-industry networks, together with proven mechanisms for forging collaborative research and development partnerships. Clear understanding of future R&D investment needs has also been established, based on the CICP research and ongoing collaborations with industry aimed at delivering economic growth and mandated environmental targets.

Through the CICP investment, a significant competitive position has been established for the UK in terms of F&T research capacity, to deliver on an agenda of good growth that embeds sustainable and circular innovation and practices.

The place-based nature of the two Institutes, based in East London and Yorkshire respectively, leverages long standing industrial heritage and ecosystems of sustainable F&T design, manufacturing and innovation that will help to safeguard the UK's creative capacity for the future.

Professor Jane Harris, UAL Fashion, Textiles and Technology Institute, and Professor Stephen Russell, Leeds Institute of Textiles and Colour.

2 Glossary

London College of Fashion Footwear Plant. © UAL FTTI

AHRC: Arts and Humanities Research Council

Apparel: All worn clothing, also comprising shoes and accessories

BBSRC: Biotechnology and Biological Sciences Research Council

CICP: Creative Industries Clusters Programme

Circular: A circular textile system aims to keep products and materials in circulation, keeping these at their highest value for as long as possible through processes such as maintenance, reuse, refurbishment, remanufacture and recycling.

CPD: Continuous Professional Development, reflecting a commitment to ongoing lifelong learning.

Cradle-to-cradle: as part of Life Cycle Assessment (LCA), focuses on the entire life cycle of a product, including recycling or reuse of component materials at the end of the product's life.

Cradle-to-gate: focuses on a product from raw material extraction (the "cradle") to the point it leaves the factory (the "gate").

CRDP: Creative Research and Development Partnerships, referring to an individual R&D cluster funded via the CICP.

CreaTech: Creative-led technology industries

Design+STEM: UAL FTTI refers to Design+STEM as a disciplinary descriptor, to reflect the specific interdisciplinary dialogue necessary for innovation in the sector.

East Bank: the UK's newest cultural quarter on the Queen Elizabeth Olympic Park in Stratford, East London

EOL: End of life

EPR: Extended Producer Responsibility

EPSRC: Engineering and Physical Sciences Research Council

EYFS: Early Years Foundation Stage, the UK statutory national curriculum framework for children aged 0-5

F&T: Fashion and Textiles – a holistic term including all elements of design, manufacturing, innovation and related businesses.

Fast fashion: Inexpensive clothing produced rapidly by mass-market retailers.

FE: Further Education – study after secondary education that is not part of Higher Education (HE)

FMCG: Fast-Moving Consumer Goods

HE: Higher Education (education at university, to degree level and beyond)

IUK: Innovate UK

IoTs: Institutes of Technology, Further Education-led consortia funded by UK Government to deliver innovation in the curriculum at ages 16-18.

Key Stages: The UK statutory national curriculum framework, key stages 1-4 apply to students from age 5-6 (Year 1) through to 15-16 (Year 11)

LCA: Life Cycle Assessment

LFW: London Fashion Week

LITAC: Leeds Institute of Textiles and Colour

Microfibre: A fibre or filament of linear density below approximately 1 decitex (a measure of fibre fineness equal to the weight in g of 10,000m)

MOOC: Massive Open Online Courses, typically asynchronous and with no limit on attendance numbers or on entry requirements.

MNCs: Multinational Corporations

MRC: Medical Research Council

MRL: Manufacturing Readiness Level

MRSL: Manufacturing Restricted Substances List

NERC: Natural Environment Research Council

Nonwoven: A fabric made of fibres or filaments that is bonded together in different ways, unlike conventional fabrics produced by weaving or knitting of yarns.

NOS: National Occupational Standards

NP11: a geographically bounded northern UK partnership focused on driving economic prosperity to build a thriving and well-connected North (https://www.np11.org.uk).

NRTs: non-rewearable textiles

PG: postgraduate – a course of study undertaken after completing a first degree/a student engaged in a postgraduate course

PGR: postgraduate research – pathways of study with large self-directed components, typically comprising MRes, MPhil, and PhD qualifications.

QEOP: Queen Elizabeth Olympic Park, the redeveloped site of the London 2012 Olympics in Stratford, Hackney Wick, Leyton and Bow

Reshoring: the process of returning the production and manufacturing of goods to the company's country of origin

RKE: Research and Knowledge Exchange

SME: Small and medium sized enterprises. Normally defined as organisations with fewer than 250 employees and a turnover under €50 million.

SOTA: State of the Art

STEAM: Science, Technology, Engineering, the Arts and Mathematics

Sustainable: responsible management of natural, economic, social and cultural resources to fulfil current needs without compromising the ability of future generation to meet theirs.

TCoE: Textile Centre of Excellence (https://tcoe.co.uk)

Triple Bottom Line: a business concept whereby companies commit to measuring their social and environmental impact in addition to their financial performance.

TRL: Technology Readiness Level

TSB: Technology Strategy Board, the former name of Innovate UK

UAL FTTI: UAL Fashion, Textiles and Technology Institute

UG: Undergraduate – a university student who has not yet completed a first degree

UKRI: UK Research and Innovation

3 Introduction

UAL Fashion, Textiles and Technology Institute Design-STEM (DSTEM) laboratory © Alys Tomlinson

This report is the fourth in a series commissioned by DCMS and AHRC. Collectively the reports consider the future policy conditions necessary for the UK to develop national capability to support new approaches to sustainable development in the F&T industry, including the creation of new circular economies capable of sustaining long-term economic growth.

At a time of substantial change in both the economic and legislative landscape for the F&T industry nationally and internationally, and with the global incentive of the climate crisis, the agility and strength of the UK's industry is being tested. Recent national challenges such as Brexit and the pandemic have also altered the sector[1], but a large consumer base, innovation and a globally facing outlook have provided resilience, as the industry addresses sustainable development and circular economy demands.

Using qualitative and quantitative methods[2], this report considers the current position and necessary policy conditions for the UK to strengthen its capabilities for enabling sustainable development of the F&T industry, including the development of viable circular economies.

1 Hemingray, C. et al (2023) Impact of Brexit and COVID-19 on the UK Fashion and Textiles Technology Ecosystem. London and Leeds: University of the Arts London and University of Leeds.
2 Creswell, J. & Plano Clark, V. (2007). Designing and Conducting Mixed Methods Research. Thousand Oaks, CA: Sage.

4 Methodology

LITAC Nonwoven textiles laboratory. © LITAC

A mixed methods study was conducted in which academic and grey literature were reviewed, including policy documents and working papers, alongside primary data collection via focus groups, semi-structured interviews and a quantitative survey undertaken between January and May 2024. Participants were recruited through professional networks and web-based secondary data on HEI provisions for Art & Design were also examined.

Focus Groups – The authors held two focus groups with participants from UK F&T SMEs (n=45). The discussion groups focused on the challenges and opportunities for policy to enable sustainability and circularity in fashion and textiles, as experienced by industry experts.

Interview study A – Semi-structured interviews with n=20 academic and industry experts from across the global F&T value chain were conducted. The interviews allowed the researchers to explore key topics that emerged from the focus groups in more depth.

Interview study B – Semi-structured interviews with n=20 participants from the TCoE were conducted to delve deeper into the themes from the survey, elucidating insights on perceptions of sustainability, current practices, as well as barriers and opportunities in the sector. The qualitative data were coded and analysed thematically to determine the key priorities and conclusions[3]. Subsequently the datasets were triangulated against the literature to ensure an accurate reflection of current knowledge.

Quantitative survey – A quantitative survey (n=46) with 20 multiple-choice questions was distributed online to industry members of the UK's Textile Centre of Excellence (TCoE). The respondents were predominantly from member companies (mostly SMEs) within the UK's textile manufacturing supply chains, located mostly in Yorkshire and the North of England. The first half of the survey focussed on themes related to sustainability, and the second half asked questions about the adoption of digital technologies. The data underwent descriptive analysis.

Web analysis – UK HEI Fashion & Textiles courses - Secondary data from the websites of the top 50 UK Universities for Art & Design according to the Complete University Guide (CUG 2024, CUG 2024)[4,5] were analysed with the aim of determining the extent to which taught UG and PG programme and module descriptors within fashion and textile teaching programmes refer to sustainability, and to investigate the relevance of National Occupations Standards (NOS) in Higher Education. NOS are an important indicator for industry, providing a level of comfort that graduate understanding is aligned with industry need, embedding of NOS phrasing can be seen as a proxy for sectoral connectivity and relevance of course content.

The scope of the study is limited to the UK, at national level, although where appropriate and evident in the data, it considers examples of best practice and opportunities for development at devolved and regional levels.

3 Braun, V. & Clarke, V. (2020) "One size fits all? What counts as quality practice in (reflexive) thematic analysis?", Qualitative Research in Psychology, 18(3), pp. 328-352.
4 CUG (2024). "Art and Design Rankings 2025." Retrieved 15-Oct-2024, 2024, from https://www.thecompleteuniversityguide.co.uk/league-tables/rankings/art-and-design
5 CUG (2024). "Results for Undergraduate Fashion Courses." Retrieved 27-Jul-2024, 2024, from https://www.thecompleteuniversityguide.co.uk/courses/search/undergraduate/fashion?qualification=undergraduate

5 Findings

Clothworkers' Court, University of Leeds © LITAC

5.1 Education and Skills

This report takes a long view of education, from early years interventions, through school, apprenticeship options, FE and HE, and then on to upskilling of existing staff through CPD. Availability and access to opportunities through carefully designed interventions, co-developed with industry to ensure that they are fit for purpose will provide the necessary skills pipeline.

Early Years through to School Provision

Currently underserved in the literature but highlighted in the focus groups and interviews with industry was the timing of the introduction of material skills into curriculum pipelines. **School age was considered as perhaps too late to best optimise the fostering of an experiential value system that supports children in knowing the purpose, and worth of materials. Materials in this context refers to the origin, chemical composition and properties of polymers, fibres, yarns, fabrics and auxiliaries that are converted into finished textile products.** The Early Years Foundation Stage (EYFS), for children aged 0-5 years, offers a simple point of intervention, and the potential to reimagine learning for this age group and deliver basic material skills engagement, as part of the wider developmental experience at this stage in the learning process.

The current focus on 'expressive art and design', the Government's EYFS provision for creative practices, which encourage expression of identity through the arts, makes no explicit provision for textile materials, or material and making skills[6] in early years learning. **Policy aimed at increasing resources and shifting priorities for EYFS providers has the potential to support cultures of making and value creation, positive attitudes to waste (as resource), scarcity (as value), and nurturing global citizenship.** Whilst F&T is recognised within the UK's Modern Industrial Strategy, this report notes that the cognitive and multisensory engagement with materials and making related activities, is akin to learning other types of language, which if undertaken in the early years, especially prior to age three[7], optimises longer term engagement and adoption. The opportunity to intervene and innovate in learning contexts is time-limited: participants suggested that the wealth of knowledge in Higher Education might be well-deployed in Early Years settings, not just schools, FE and HE settings.

"[Our business] has benefited so much from UAL's expertise. There is no reason why under-5s would not benefit in the same way, and for frankly more pressing reasons."
– Focus group participant (Textile Design Studio)

6 EYFS available here: https://help-for-early-years-providers.education.gov.uk/areas-of-learning/expressive-arts-and-design/communicating-through-arts [Accessed 28 August 2024]
7 EU Commission (2023) Focus On: Is younger always better when it comes to learning a foreign language? Available at: https://eurydice.eacea.ec.europa.eu/news/focus-younger-always-better-when-it-comes-learning-foreign-language [Accessed 18 December 2024]

Outside the direct requirements of the UK's F&T industry for future workforce members, the broader social implications, in terms of the impact on fine motor skills, mental health, and understanding of the value of material resources could be traced to changes in the school curriculum[8,9]. This study suggests that a reduced understanding around the value of making and materials at an early age may also contribute directly to challenges of over-consumption and consumer action in terms of repair, reuse and remanufacture across the F&T supply chain.

"Textiles education is a vital part of the school curriculum, especially as we enter a world where reuse, rethinking and sustainability are key, considering the use of materials and dyes. It must be protected and promoted." – **Wayne Hemingway, Textiles Skills Centre report**

Both UKFT (2025) and the Textiles Skills Centre (2024) highlight the need to refresh how the UK thinks about textile education, a view underlined by this research. The UK needs to bring together existing EYFS and school-age evidence with an understanding of both industry and societal requirements. This is a necessary first step to facilitate a clear vision and defined skill sets which can provide a baseline from which learners can move forward into either apprenticeships, or FE and HE.

FE and HE Provision

In 2021, the investment of £300m into a National Network of 28 Institutes of Technology (IoT) supported by the Department for Education (DfE) set out to remove barriers around access to Higher Technical Education (HTE) presenting opportunities to industry and potential students (see Figure 2). Relevant examples include an IoT led by Queen Mary University of London and Newham College, aiming to strengthen the skills pipeline toward materials engineering[10]. Renewed investment in this scheme, or a similar initiative championing mechanisms to encourage FE to HE transition for students in sustainable and circular fashion, textile and apparel making and material skills nationally, would be a welcomed intervention at FE level.

143 of the UK's 502 FE and HE institutions are currently delivering 542 courses focused on fashion and textile-related subjects[11], with geographic centres of provision in West Yorkshire; the Northwest and Greater Manchester; the East Midlands; Scotland; East London and the Thames Estuary.

8 Textiles Skills Centre, March 2024. Unravelling the fabric of textiles education – where next? https://www.dropbox.com/scl/fi/hlspver1kzm-71ris4cspz/TSC-Unravelling-the-fabric-of-textiles-education.pdf?rlkey=eocbrrldsn2qo6evm491nn7np&e=1&dl=0
9 Woodhall, Zero Waste Leeds blog (2021). https://www.zerowasteleeds.org.uk/tips/is-textiles-in-schools-dying-out/
10 QMUL (2021) Queen Mary and Newham College to Launch New Institute of Technology. Available at: https://www.qmul.ac.uk/media/news/2021/pr/queen-mary-and-newham-college-to-launch-new-institute-of-technology.html
11 Hotcoursesabroad (2024) UK Fashion & Textile Design Courses. Available at: https://www.hotcoursesabroad.com/study/training-degrees/uk/fashion-courses/loc/210/cgory/f4-3/sin/ct/programs.html [Accessed 18 December 2024]

The Guardian ranks 111 UG fashion and textile design courses in its 2024 League Tables[12]. These figures do not include fashion and textile business, social science or STEM related courses, and therefore do not reflect the full range of F&T disciplines available in the UK. This study has mapped these more comprehensively, as per Figure 1. UAL alone has approximately 5,000 practice-based students in F&T-related disciplines at UG and PG levels, 50 courses, one research and knowledge exchange (RKE) institute, and one research centre in this disciplinary area.

Several national geographic zones of potential have previously been identified[13] in circular and sustainable F&T research, including Wales, Northern Ireland, Manchester, with fuller coverage of Scotland and the East of England. West Yorkshire has also been identified as having significant F&T capability, both in terms of established industry expertise and academic excellence[14]. Educational provision and research in textiles have a one-hundred-and-fifty-year history in Leeds, starting with the Yorkshire College of Science in 1874, which later became a founding discipline of the University of Leeds. The UK fashion and textile industry was associated with 710,000 jobs in 2021 (UKFT & OE, 2023). In the Thames Estuary region, over 13,000 fashion and textile businesses, equated to 43,000 jobs across the value chain[15]. In West Yorkshire, SIC code data covering the NP11 geographic area, identified 4,000 fashion, textile and colour businesses (16% of NP11 total), accounting for ca. 25% of employment and R&D investment. Across the whole of the NP11 area, F&T businesses employed more than 500,000 people, with almost £110bn in UK revenue, and invested almost £900m in R&D. Almost one third of all textile related patents (granted since 2017) are held by businesses within the NP11 area[16].

Both UKFT (2025) and the Textiles Skills Centre (2024) highlight the need to refresh how the UK thinks about textile education, a view underlined by this research. The UK needs to bring together existing EYFS and school-age evidence with an understanding of both industry and societal requirements. This is a necessary first step to facilitate a clear vision and defined skill sets which can provide a baseline from which learners can move forward into either apprenticeships, or FE and HE.

Expanding and connecting circular and sustainable F&T innovation capability across the UK in an equitable way is imperative, and provides an opportunity to co-develop course content, futureproofing skills provision for the sector. Geographical spread is important, as is leveraging learning from existing fundamental research and applied R&D, to inform gaps in skills provision.

12 https://www.theguardian.com/education/ng-interactive/2024/sep/07/best-uk-universities-for-fashion-textiles-league-table [Accessed 01 March 2025]
13 Harris, J., Vecchi, A., and Begum, L. (2021) Identifying opportunities for investment, research and development, business growth, job creation and tackling skills gaps. London: UAL
14 Perspective Economics (2021) Fashion, Textiles + Colour – Research & Innovation Capacity, Capabilities and Potential. University of Leeds.
15 TEPC (2024) Thames Estuary Production Corridor: Road Map for Growth: Fashion Design and Manufacturing. London: GLA.
16 ibid.

Figure 1. HEIs offering F&T degree-level education (pink), and Centres of Excellence in F&T Research (blue) (leads and collaborators in UKRI Network+ in Circular Fashion and Textiles).

Figure 2. FE institutions offering F&T education (orange) and the Institutes of Technology, a network of expertise delivering technical education in FE College-led collaborations across the UK (grey).

Along with being location-agnostic, such efforts should encourage collaborations with existing areas of strength in F&T, in terms of expertise and infrastructure, e.g. established creative clusters, to avoid duplication of initiatives[17]. Levelling up agendas should not ignore embedded knowledge and experience from the critical mass of established activity, including those located both within London and the wider UK regions with well-established F&T infrastructure. **The urgency of the climate change challenge is such that the UK needs to leverage all its existing capacity, and in this regard, the curricula of many F&T FE and HE offerings also need to be reviewed to ensure there is an appropriate balance of STEM inputs, in line with industry skills needs.**

The UK has already begun to support development of relevant research skills, via UKRI interventions from across the funding portfolio; AHRC, BBSRC, EPSRC, NERC and IUK all have roles to play. F&T is an area which could benefit significantly from a cross-Council approach to future investments. This knowledge and expertise need to continue and be further embedded, leveraging learning from successful interventions to extend and underpin future efforts. Multiple channels of investment, including higher-level apprenticeships and new PhD scholarships, as eligible training elements within research funding provision, are required to deliver the vision for a UK-wide ecosystem to advance national capability. Meanwhile recruitment of UK ('home') UG and PG students is becoming increasingly challenging, including recruitment for research at PGR level, further exacerbating skills challenges for the UK's F&T industry and highlighting the need for urgent change.

Apprenticeships and CPD

Rethinking traditional approaches to F&T education from early years right through to CPD is a critical intervention which will improve the skills pipeline, as well as awareness of the STEM-related aspects of the F&T industry in design, manufacturing and the development of viable circular economies. The traditionally arts-based approach to F&T education at all levels risks creating a further disconnect between contemporary industry needs and student skills. **One of the resulting challenges across the educational landscape is a mismatch between the technical needs of industry (mainly Design and STEM skills needed to deliver sustainable innovation) and the mainly arts-based provision of many of the UK's Schools, FE and HE institutions.** As a result, and to avoid employability issues for those pursuing such courses, traditional F&T education needs to evolve to reflect the broad spectrum of modern F&T industrial operations, which in the main is no longer based on traditional design and craft activities. There is an urgent need therefore to make more visible the diversity of career options available across the F&T supply chain, highlighting opportunities at all stages of education[18].

17 UK Government (June 2025), Creative Industries Sector Plan - GOV.UK
18 UKFT (2025) Keynote presentation, UKFT CEO, at the International Textile and Colour Conference (ITCC2025), University of Leeds, June 2024

Significant F&T apprenticeship provision already exists within the UK, within regional specialist providers[19], and supported by a strong sector body approach which facilities access to a wide range of opportunities[20]. New apprenticeship schemes and academies were suggested in interviews with TCoE members, to address the need for growing knowledge and capacity in digital technologies such as AI, automation and sustainability. The research confirmed that many F&T manufacturing businesses use apprenticeship formats as part of their staff CPD programmes, in addition to using them as a recruitment and training mechanism for school leavers.

Continued education for staff through a range of CPD activities could also offer a way for the sector to expand their skills and knowledge in emergent areas. **Notably, most participants felt that sustainability would provide opportunities for product differentiation and growth, and almost a third of participants were considering implementing circular business models, which makes this avenue for upskilling of existing staff particularly relevant.** At the same time, half of the participants were not fully aware of their products' environmental impact, or relevant industry standards, which again highlighted the need for education at professional level to enable companies to translate intention into action.

To address the need within existing businesses to upskill their workforce the Professional Academy for Creative Enterprise (PACE)[21] based within the School of Design, University of Leeds, provides a range of professional development courses, offered both online and in person, to address skills gaps in industry. PACE has leveraged FFF cluster learning, research findings and industry network connections to inform provision of new CPD courses targeted to the needs of industry, nationally and internationally. Since it was established in 2024, PACE has developed 15 courses, including 12 on campus F&T courses, and delivered training to 2,200 learners globally. UAL has a long history of delivering Short Courses, a form of CPD, and, directly linked to the R&D arising from BFTT, UAL FTTI is currently developing collaborative Design+STEM specialist MRes provision across a range of partners[22]. Other examples of UK-based specialist CPD activity include the Manchester-based Textile Institute's global CPD offer[23], Fashion, Textiles and Knitwear Design/CLO3D at Nottingham Trent University[24], Contour Fashion at De Montfort University[25], Technical Textiles at Heriot-Watt University[26], and the recent launch of the Sustainable Practices in the Textile and Fashion Industry[27] by the University of Huddersfield.

19 https://tcoe.co.uk/apprenticeships/fashion-textile-apprenticeships/
20 https://ukfftfutures.org/fashion-&-textiles/find-an-apprenticeship/
21 PACE [19]
22 https://www.arts.ac.uk/study-at-ual/short-courses
23 https://www.textileinstitute.org/professional-development/accreditation-and-approval/accredited-courses/
24 https://www.ntu.ac.uk/course/short-courses/art-and-design/digital-pattern-cutting
25 https://www.dmu.ac.uk/study/courses/postgraduate-courses/contour-fashion-innovation-ma-degree/contour-fashion-innovation-ma-degree.aspx
26 https://www.hw.ac.uk/study/postgraduate/fashion-textiles-design
27 CPD course launch, May 2025. https://www.hud.ac.uk/news/2025/april/sustainable-practices-textiles-fashion-cpd-ukft/

Circular and Sustainable Skills Development - Variety of Approach

In the study's focus groups, industry participants acknowledged the long-established good work of FE and HE institutions in addressing skills shortages through curriculum interventions at ages 16-21; but the whole picture is more complex.

One-off outreach initiatives were also acknowledged, such as University of Leeds' Be Curious[28] events, whereby the public are invited to engage in university research. Initiatives like Be Curious act to showcase opportunities for transdisciplinary careers in F&T to school-age children. Meanwhile Poplar Works, delivered in partnership between UAL, Greater London Authority (GLA), Trampery and Poplar HARCA[29] demonstrates a commitment to skills development, sustainable business support, and widening participation specific to the East London F&T cluster. The University of Leeds has operated a 'year in industry' programme for many years[30], and to meet UK industry's need for graduates with excellent understanding of F&T science and engineering across the supply chain, a new BSc Textile Innovation and Sustainability has been launched, with UK industry placements being an integral part of the provision[31]. Feedback from students participating in this scheme shows that the placement opportunities provided help to widen their understanding of employment options and focus their career goals. Likewise, since their inception, UAL's fashion and textile-related programmes have incorporated modules co-delivering projects with industry or sponsored by industry – often revealing graduate career pathways or inspiring entrepreneurship: UAL is the UK's number one University for producing start-ups[32].

A first of its kind initiative noted for its significant reach, is the collaboration between global brand Kering and UAL's Centre for Sustainable Fashion, which launched a MOOC aimed at professionals working in sustainable fashion[33], which has enrolled almost 90,000 students from 191 countries to date. In Yorkshire, the University of Leeds has worked in partnership with Inditex since 2021 to develop the Sustainable Fashion School (SFS)[34], with the aim to infuse sustainability throughout Inditex's supply chain and equip teams to tackle the fashion industry's sustainability challenges more effectively. F&T remains a core strand of activity with the Professional Academy for Creative Enterprise (PACE) which formally launched in October 2024[35].

28 https://www.leeds.ac.uk/becurious
29 https://poplarworks.co.uk/
30 Year in Industry | School of Design | University of Leeds [accessed 14 July 2025]
31 https://courses.leeds.ac.uk/j761/textile-innovation-and-sustainability-bsc [accessed 09 October 2024]
32 https://www.hesa.ac.uk/data-and-analysis/business-community/ip-and-startups
33 LCF x Kering MOOC. Available at: https://www.kering.com/en/news/kering-and-london-college-of-fashion-launch-the-world-s-first-open-access-digital-course-in-sustainable-luxury-fashion/
34 PACE news feed, Inditex Partnership: Empowering Sustainability through Education, 26 September 2024. https://www.pacenterprise.co.uk/news-insights/inditex-partnership-empowering-sustainability-through-education/ [Accessed 25 July 2025]35
35 https://www.pacenterprise.co.uk/ [accessed 21 February 2025]

Museums and archives were also highlighted as a potential key to the transmission of circular and sustainable textile and material skills, providing the opportunity to explore objects and materials that inform future generations[36]. With ongoing cuts to creative education in schools, cultural heritage organisations can provide complementary learning opportunities and may also represent the sole location that a school-age child can encounter physical material experiences. An example of HE interaction with F&T collections is the siting of the Yorkshire Fashion Archive[37] within the School of Design at Leeds and the availability of co-located exhibition space which hosts exhibitions such as Wearing Sustainability: Untold stories of historical, contemporary and digital fashion.[38] The long standing relationship between Leeds and Marks & Spencer also provides a valuable skills resource with the M&S Archive,[39] co-located on the university campus, being open to the public since 2009; facilities include digital archive, online exhibitions and physical displays, school workshops and bespoke group opportunities. UK investment in this type of provision includes the V&A's new Storehouse at the QEOP in East London, which will provide open access to millions of material objects from the archives for the first time.

The focus groups highlighted the erosion of heritage skill-bases which traditionally marked the industrial culture of the regions of the UK – from lacemaking in Nottingham[40], the linen industry in Belfast[41], to the textile recycling industry of West Yorkshire[42]. Recent global instability has stimulated discussion around shorter supply chains and highlighted the need to consider re-shoring/near-shoring of activity. This in turn has provided incentive to reinvigorate UK skills, enabling these industries to form an important part of developing more sustainable and circular practices in UK F&T and contributing to security of domestic supply. As an integrated approach this demonstrates commitment toward the development of high-quality textiles, sustainable sourcing, waste minimisation, recovery, and where definitions are expanded to also include the social and cultural dimensions of sustainability. These established methods provide scope for research and development into creating novel, more sustainable high value materials supported by emergent technologies which have the potential to scale production in financially viable ways. The degree apprenticeship model was cited as an opportunity that is currently underexploited in the UK in these industries.

36 Erskine Analysis (2025) CreaTech: How the fusion of emerging technologies and the Creative Industries can transform the UK's approach to skills, innovation and business. Available at: https://royalanniversarytrust.org.uk/wp-content/uploads/2025/02/CreaTech-Report.pdf
37 Yorkshire Fashion Archive | School of Design | University of Leeds https://cunningtonandsanderson.com/pages/wearing-sustainabili-ty-untold-stories-from-historical-contemporary-digital-fashion
38 Space@Design Wearing Sustainability – CUNNINGTON & SANDERSON, https://cunningtonandsanderson.com/pages/wearing-sustainability-untold-stories-from-historical-contemporary-digital-fashion [accessed 30 Oct 2025]
39 M&S Archive https://archive.marksandspencer.co [accessed 25 July 2025]
40 Lacemaking is under threat of extinction in the UK. See https://on.ft.com/4hRpnzH [Accessed 01 March 2025]
41 William Clark & Sons, a beneficiary of BFTT SME R&D Funding, went into liquidation in 2025. See https://www.belfasttelegraph.co.uk/sunday-life/news/historic-ni-linen-firm-enters-liquidation-after-owner-fails-to-find-buyer/a1247455827.html [Accessed 12 February 2025]
42 Pioneering shoddy manufacturing company iinouiio, supported by BFTT SME R&D Funding, was majority acquired by CAMIRA in 2022, securing its future. See https://ukft.org/camira-iinouiio/ [Accessed 01 March 2025]

CreaTech industries are a growth sector[43], and increasingly require interdisciplinary education and opportunities that convene arts, science, and social science skills and capabilities, instead of the current siloed education offer. Many existing F&T teaching programmes in the UK do not adequately integrate multidisciplinary content, including coverage of basic textile technology that is fundamental to industry needs. It is also important to equip graduates with the necessary skills for sustainable decision-making in industrial settings. In direct response to industry needs (following a survey by UKFT), a new BSc programme in Textile Innovation and Sustainability was launched by the University of Leeds to fill this unmet need at UG level.

Whilst the HE sector is leveraging learning from existing research and business engagement activity to better inform F&T skills provision there is still work to do if the UK is to support an informed transition towards Net Zero. Investment in on-going skills-focused research and development opportunities would be welcomed, as would the requirement to embed skills, including doctoral training and knowledge exchange mechanisms, in future funding opportunities.

Given the nation's strengths in F&T teaching and research infrastructure, coupled with industry relationships developed by the CICPs from 2018, and UKRI's recent related circular and sustainable F&T investments, research clearly shows the UK provides a potential powerhouse of capability.

43 Erskine Analysis (2025) CreaTech: How the fusion of emerging technologies and the Creative Industries can transform the UK's approach to skills, innovation and business. Available at: https://royalanniversarytrust.org.uk/wp-content/uploads/2025/02/CreaTech-Report.pdf, [Accessed 01 March 2025]

5.2 Consumer Behaviour

The last two decades have seen a transformation in the relationship between consumers and their garments and apparel. One segment of the UK's consumer base now claims to be, and indeed demonstrates, behaviours that are compliant with sustainable and circular practices, such as clothing donation, resale and reuse, while many others remain primarily driven by factors unrelated to sustainable development and circularity, primarily pricing. With significant variability between demographics in terms of how value is created and sustained, the profiles of UK consumer behaviour are complex.

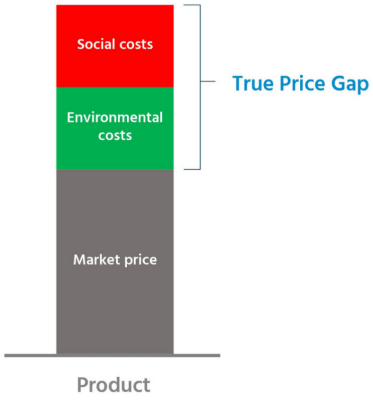

Figure 3. The true price of a product

Industry Response

Responding to this challenge, various UK F&T companies (mainly SMEs) target the socially and environmentally conscious consumer, such as Blackburn-based Community Clothing[44], founded by Patrick Grant following his acquisition of historic textile manufacturer Cookson & Clegg. Community Clothing is a social enterprise that manufactures seasonless clothing in the UK, made predominantly from natural fibres. Community Clothing embraces transparent communication with their customers highlighting the true cost[45] (Fig.3) of producing a garment[46] and acting as champions for local sourcing and UK manufacturing.

Looking across the BFTT network, another initiative focused on supporting consumers to transition to alternative more natural materials comes in the form of Ananas Anam's[47] PiñaYarn, derived from pineapple fibre waste, which was developed as an alternative yarn to produce woven and knitted materials for car interiors and home furnishings. fashion, and wider apparel, used recently by designer Stella McCartney [48].

44 https://communityclothing.co.uk/pages/our-story
45 True Price (2024), https://trueprice.org/about-us/ [Accessed 02 May 2025]
46 Patrick Grant on Community Clothing and Future Fashion Factory [Accessed 14 March 2023]
47 https://www.ananas-anam.com/pinayarn/
48 https://www.stellamccartney.com/gb/en/sustainability/pinayarn-plant-based-recyclable-biodegradable-textile.html?srsltid=AfmBOooMpIX57OjNKHaPmu441aBYqJvLwZ4xY8dOwPW04krN1SrX-byv

There are many other examples of collaborative partnerships between UK businesses leading to the creation of circular economies, based on reuse, refurbishment or recycling economic models[48]. Drawing from the FFF network these include the Leeds-based The Boot Repair Company[50], established in 2011 combining skills from two existing businesses, the company now provides a circular care and repair service for household names such as Birkenstock, Dr. Martens and Vivobarefoot[51]. Meanwhile, BFTT supported Save Your Wardrobe[52] in developing a digital platform foregrounding consumer access to repair services as core to the circular economy. Other UK firms are focused on tailoring their business models and innovation practices, for example, participants highlighted the John Lewis Partnership's initiative to direct single-use plastic bag charges towards supporting a sustainable innovation fund - the Circular Future Fund[53]. This industry driven innovation-focused investment mechanism provides resource to target challenges identified by the sector and has, for example, led to the development of a novel technology which uses no further auxiliary chemicals, eliminates water waste, and creates large energy savings, whilst matching the performance of commercial dyes.[54] The John Lewis product development team also includes hybrid expertise spanning environmental science and consumer behaviour. This is in addition to traditional design expertise, developed to navigate the highly complex issues of production and consumption.

In relation to UK environmental targets, **the future success and ultimate scale of circular developments is also reliant on changes to consumer behaviour and perception, which are in turn shaped by appropriate financial incentives/disincentives (i.e. Extended Producer Responsibility (EPR)[55], as well as marketing messages and more broadly, by societal values and cultural norms.** Using EPR legislation to introduce the concept of eco modulation, specifically by making environment impact of products visible in a way that impacts on price at the point of sale, into the market has clear potential to impact consumer decision-making however further research to inform a UK EPR scheme is required[56].

"Nobody should be able to buy a t-shirt or a bikini for £1; it's warped consumer perceptions of what it costs to produce a garment, so that when a sustainable alternative is on the market, consumers are not necessarily prepared to pay that premium." – **Childrenswear brand**

49 FFF Responsive R&D projects https://litac.leeds.ac.uk/funded-projects; BFTT SME R&D Projects https://www.bftt.org.uk/sme-rd-programme/ accessed 02 May 2025]
50 https://bootrepaircompany.co.uk/pages/about-us [Accessed 25 July 2025]
51 FFF Responsive R&D project, Vivobarefoot & The Boot Repair Company collaboration https://litac.leeds.ac.uk/digital-design-and-circular-systems-for-custom-sustainable-footwear/ [Accessed 25 July 2025] 51
52 https://www.bftt.org.uk/funded_project/save-your-wardrobe/
53 https://www.johnlewispartnership.media/pressrelease/jlp/details/17801
54 Polyester Infinity project https://www.leeds.ac.uk/news-science/news/article/5083/revolutionary-dyeing-process-wins-circular-future-fund-prize [Accessed 25 July 2025]
55 European announcement on pending EPR legislation https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3635 [Accessed 08 August 2024]
56 Back to Baselines / WEFT Ltd & UoL, EPR research outcome. Policy briefing. https://www.weft.org.uk/_files/ugd/e7fc89_d8bbceb44554406a95d8a438b5d70569.pdf [Accessed 25 July 2025]

Fashion consumption patterns have already been significantly altered by the shift away from the traditional two season model (Autumn/Winter and Spring/Summer)[57]. Instead, fast-moving micro trends are elicited and spread virally on social media for short intervals. **The circular economy model is incompatible with current clothing consumption patterns dependent on such high wardrobe turnover, which participants in this study noted as a driver both for high levels of product returns and the perception of a devaluation of materials more generally.**

Retail and Returns

F&T is an industry of significant disparity. The power of advertising means that high-end or so-called luxury brands can have a mark-up of between five and ten times the cost of manufacture[58], regardless of the quality of the actual product. Fast fashion brands, on the other hand, can sell garments at a markdown of up to 15%[59]. Consumers can make or break these businesses: the global luxury fashion sector, dependent on the Chinese market, saw losses in Summer 2024, where Kering's share price fell by 8% in Q3 that year[60]. The downturn in the luxury fashion market is marked by falling sales at major brands like LVMH and Kering, a significant quarterly drop in luxury stock indices, and a decrease in demand from younger generations, who seek value and sustainability. This suggests an increased emphasis on product over brand value. The primary policy opportunities in retail are in the areas of returns and consumer psychology.

Return rates linked to the purchase of clothing are comparatively high in the UK, reflecting in part an F&T operating model in which overproduction and inefficient matching of supply and demand is common. Ultimately, this is environmentally harmful, accruing increased transportation, packaging, energy use and greenhouse gas emissions, and ultimately the disposal of unwanted products. Depending on the retailer, up to half of all clothing bought online is returned[61]. Measures to reduce returns are motivated primarily by economic incentives, rather than environmental considerations, something which future schemes and developing legislative instruments need to be mindful of. The cost to retailers of returned goods is significant and the cost of manufacturing products that were not demanded by consumers in the first place, is arguably an even greater economic and resource management issue. Returned clothing that does not enter the forward value chain via resale is at odds with the principles of the circular economy, where the aim is to extend the length of time that clothing and apparel products are in use.

57 Whitehead Lohr, S. (2014) '5 Truths the Fast Fashion Industry Doesn't Want You to Know'. Available at: https://www.huffpost.com/entry/5-truths-the-fast-fashion_b_5690575 [Accessed 01 September 2024]49 https://bootrepaircompany.co.uk/pages/about-us [Accessed 25 July 2025]

58 Community Clothing (2024) Spot the Difference: Or Why You're Paying Too Much For Your Clothes. Available at: https://communityclothing.co.uk/pages/spot-the-difference-sweaters?srsltid=AfmBOoqCNU4XJsoSI9W8RB4PSBVGLcgIMF2txkIpznDAIDC4tCK7chmC [Accessed 09 January 2025]

59 Denning, S. (2015) How Agile and Zara Are Transforming The US Fashion Industry. Forbes Online. Available at: https://www.forbes.com/sites/stevedenning/2015/03/13/how-agile-and-zara-are-transforming-the-us-fashion-industry/#:~:text=Companies%20employing%20'fast%20fashion'%20tend%20to%20have,stockouts%20are%20very%20costly%20for%20fashion%20companies [Accessed 20 January 2025]

60 Gapper, J. (2024) 'The luxury industry is falling from its elevated heights', Financial Times, 06 July 2024. Available at: https://www.ft.com/content/b2649668-5320-4ede-9cc3-03af2ffee1db [Accessed 28 August 2024]

61 Finamore, E. (2023) "The Scandalous Reality of Fashion Retail's Returns". Drapers. Available at: https://www.drapersonline.com/companies/multiples-and-etailers/drapers-investigates-fashions-hidden-returns [Accessed 02 January 2025]

"Tackling returns should be the next big focus for policymakers interested in reforming retail value chains."
– Operations and Logistics Expert

In 2021, almost £7 billion of internet purchases were returned in the UK, with returns across all sectors forecast to tip £27bn in 2024[62]. Specific to fashion, in 2022 UK shoppers returned over £4.1bn of online clothing purchases[63], with a growing phenomenon whereby consumers order several items to make a choice and send some or all back: the proportion of consumers ordering specifically with the intention of returning rose to 46% in 2022, up from 33% (2021)[64].

To date, 79% of fashion retailers, including H&M, Boohoo, New Look and Uniqlo have introduced charges for online returns to mitigate the business impact of this challenge[65]. Some retailers have opted to maintain free in-store returns, reflective of the lower cost to a business of this form of return. Swapping, or exchange, is also being trialled as an alternative to returns and a means of extending the lifespan of existing clothing stock. Coinciding with London Fashion Week (LFW) in September 2024, fast fashion retailer Primark, in collaboration with Verte, launched swap shops, whereby consumers could exchange adult clothing for tokens on the Verte app[66].

End of Life Collection, Reuse and Recycling

Despite an emergent EU policy landscape beginning to inform global F&T markets, there remains a gap between intent and action in UK consumer engagement with sustainable textile end-of-life behaviours. Looking at non-rewearable textiles (NRT), WRAP reports[67] that less than 1% are captured for fibre-to-fibre recycling with the intent to create new product globally. Within the UK 52% of NRTs generated are being disposed of by landfill or incineration; of the 750,000 tonnes generated just 200,000 tonnes are being captured by current post-consumer collection and sorting schemes.

Participants noted the urgent need for investment in national collection, reuse and recycling infrastructure to match consumer and Government appetite for sorting and valorisation of textile waste, as well as the need to reconfigure waste in consumer minds as a material resource. In addition to well established open-loop, mechanical recycling facilities in the UK for post-consumer textiles (mostly in the Yorkshire region), which supply a variety of other manufacturing industries, other textile sorting and recycling initiatives continue to develop.

62 Zigzag (2024) Annual Returns Benchmark: The Cost of Serial Returners in 2024. London: Zigzag and Retail Economics.
63 Zigzag (2023) ZigZag Global Retail Returns Study 2022. London: Zigzag.
64 Ibid.
65 SendCloud (2024). Available at: https://www.sendcloud.co.uk/on-the-rise-4-in-5-fashion-retailers-now-implementing-return-fee/ [Accessed 04 May 2024]
66 Primark. Available at: https://corporate.primark.com/en-gb/a/news/primark-cares/primark-teams-up-with-verte-to-launch-first-swap-shops-in-store [Accessed 03 September 2024]
67 WRAP, Transitioning to a UK Circular Textiles Ecosystem (2025). IUK-funded outcome from ACT UK.

Circle-8 Textile Ecosystems[68] is developing two interdependent manufacturing facilities: a UK-based Advanced Textiles Sorting and Pre-Processing (ATSP) facility for NRTs of all types, as well as (potentially) the UK's first large-scale polymer recycling plant for waste polyester, and poly/cotton blend textiles. The UKFT-led ACT UK[69] sorting and recycling demonstrator project, within which Circle-8 is a key partner, has been welcomed by the UK's F&T sector, and is an example of strategic placement of funding targeted at addressing evidenced need. A co-investment model, to develop strategic capacity for the UK, would be welcome alongside further research in a systems-based approach to drive national change[70].

Consumer Psychology

Changes in consumer values are cited in both the literature[71] and by focus group participants as a stumbling block to profitable operation within circular and sustainable contexts. Shifts towards sustainable and circular practices require in depth understanding of consumer bases, a sector where purchasing behaviours and value systems vary substantially across age and gender[72]. Highlighted consistently by industry experts and SMEs the lack of large datasets on consumer purchasing, return, and value formation hampers the sector's ability to respond effectively. Implementation of research findings which would help to inform consumer choice, such as communication of garment durability study data[73], is also made problematic by this gap in knowledge. **Commissioning studies, including the potential to undertake longitudinal work, would offer substantial value across the sector in terms of improving insight into the consumer value-behaviour gap. This level of data-gathering and knowledge generation is an essential component, required to underpin effective change mechanisms and development of national F&T capability, which will enable the sector to transition to a circular and more sustainable system.**

"Consumers may say that they want a t-shirt made of recycled bottles, but when they touch it and the hand-feel is wrong, they won't buy it." – **Former designer from national fashion retailer**

Further to understanding the current consumer base, more work is needed to improve communication of material value, and in particular communicate the true cost and value of items within the F&T sector.

68 https://www.circle8ecosystems.co.uk/
69 Automatic-sorting for Circular Textiles Demonstrator: Making circular fashion and textiles a reality [Accessed 22 August 2024)
70 ACT UK – Transitioning to a UK Circular Textiles Ecosystem Report, 21 May 2025. https://www.wrap.ngo/resources/report/act-uk-transitioning-uk-circular-textiles-ecosystem-report [Accessed 25 July 2025]
71 Thangavei, P., Pathak, P., and Chandra, B. (2019) "Consumer Decision-making Style of Gen Z: A Generational Cohort Analysis", Global Business Review, 23(3)
72 Shoaib, M. (2024) 'Why consumers don't shop their values — and how to change that'. Vogue Business. Available at: https://www.voguebusiness.com/story/sustainability/why-consumers-dont-shop-their-values-and-how-to-change-that [Accessed 02 September 2024]
73 https://www.hubbub.org.uk/worn-out-new-research-on-clothing-durability-raises-big-questions [Accessed 30 Oct 2025]

There is a concern among participants that Chinese and other overseas fast fashion drop-shipping companies have distorted consumer perception of the costs involved in designing and manufacturing apparel. **Circular and sustainable fashion and textile marketing, advertising, and media businesses were less represented in R&D terms within the CICP and were highlighted as key areas for future investment in any national capability. A more closely woven interplay of these disciplines with the strong research base in material science and manufacturing could be strategically facilitated via future funding policy.** For example, when considering effective implementation of any UK EPR scheme a combined approach to communication will be key, involving not just all parts of the F&T supply chain, but also the development of public engagement mechanisms leveraging innovative marketing, adverting and media capabilities.

5.3 Legislation

The legislative landscape in the UK is poised to change as the UK develops its own policies to align, and so enable trade, with those have come into force across Europe. This includes substantial environmental regulation and will bring changes to both the industry, and the consumer. In 2021, the F&T industry contributed £1 in every £34 of the UK's total gross value added, and £1 in every £30 of HMRC's total tax receipts[74]; there is great incentive to ensure the productivity and viability of the sector.

Legislative Instruments in Europe

The EU's F&T industry is moving from self-regulation and non-legally binding pacts to meaningful environmental legislation, including measures aimed at accelerating transition to circular economies. The European Green Deal[75] provided a background against which new instruments could be developed and trialled[76]. Of note to the focus group participants was the introduction of Extended Producer Responsibility (EPR) regulation in the EU[77] aimed at the F&T industry, which shifts the responsibility for EoL textiles disposed of by consumers back to the producer[78]. Equally, the lack of an eco-modulated UK-specific F&T-specific EPR scheme is holding back development in terms of providing financial incentives to reduce the environmental impacts of fashion and provide revenues to invest in the UK's waste management infrastructure. This sector viewpoint has been further reinforced by current work being conducted by the NERC-funded F&T Network Plus programme in Circular Fashion & Textiles (part of the UKRI £15M investment, supported by NERC, AHRC and IUK). Several competitively funded projects are underway in the Back to Baselines (B2B) sub-network that are focus on understanding how legislative drivers, e.g. eco-modulated EPR fees, would be viewed by UK consumers including what level of EPR fee would be acceptable at the point of sale. Early indications show that consumers are likely to accept a per product fee in the range of £0.50-£1.00 and that colour-coded labelling, similar to the traffic-light system used for food products, would be helpful in terms of communicating impact; however further research is needed to inform any legislative instrument[79].

In relation to textile waste accruals in the UK, participants were keen to emphasise that dedicated, ongoing, and sufficient funding is needed to cover the net cost associated with waste textile collection, sorting and management.

74 Oxford Economics (2023) The Fashion & Textile Industry's Footprint in the UK. London: UKFT.
75 European Green Deal https://www.consilium.europa.eu/en/policies/european-green-deal/
76 Stone, C., et al. (2020) Natural or synthetic – how global trends in textile usage threaten freshwater environments, Science of the Total Environment, 718, 134689.
77 EU EPR official press release (2023). https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3635
78 Ellen MacArthur Foundation (2023)'We need Extended Producer Responsibility (EPR) policy for textiles'. Available at: https://www.ellenmacarthurfoundation.org/epr-policy-for-textiles [Accessed 28 August 2024]
79 WEFT Policy Briefing, June 2025. Visible EPR Charges on Clothing: Consumer Responses and Policy Implications.

This is not just in terms of items with attractive resale value (for reuse), or items with existing markets, e.g. uniforms, but encompassing all aspects of textile waste streams. Improvements in the collection and sorting infrastructure will need to involve local authorities, in terms of planning and public service provision, as well as the private sector. Any future UK implementation of EPR for textiles should therefore ensure a mechanism for investment of EPR funds in the UK's waste textile collection, sorting, reuse and recycling infrastructure. Additionally, it should ring-fence funds to resource collaborative sector-wide innovation aimed at valorising NRTs and other low-grade textile waste.

France was highlighted as a legislative pioneer, with its implementation of the EU consumer guarantee law specifying a warranty period of two years on any new product, and one year on any second-hand product[80]. The French repair bonus, whereby consumers are paid between €6 and €25 towards the repair of clothing items within the warranty period[81], offers incentives to repair as key to the circular economy. This legislative initiative falls under the banner of le loi AGEC, the Anti-Waste Law for a Circular Economy[82], and is uniquely financed directly from the eco-fees; these are calculated and charged on an annual basis according to a formula[83]. Currently implemented for consumer electronics, the policy will be rolled out to clothing and apparel within the next two years.

Highlighted directly by participants as a policy attracting both praise and concern, the EU-wide direct ban on the destruction of returned and unsold clothing and apparel products came into effect in 2024[84]. While the policy makes some exceptions for micros and SMEs, it is one of the bluntest legislative instruments to come into effect in the sector in recent years. Participants in the study noted the boldness of the policy, with researchers broadly in favour of the approach. However, SMEs wondered about counterpart penalties for consumers disposing of garments irresponsibly, suggesting that further research is needed to understand the role of direct bans in consumer behaviour within the circular economy for F&T.

There were also some legislative anomalies highlighted in the data: for example, a Manchester-based company working with an anti-viral innovation was found to be barred from accessing certain subsidies and promotion opportunities on the basis that their product was deemed insufficiently toxic to be included on the MRSL. Other participants expressed scepticism of B Corp certification, which has been subject to increased scrutiny in national and industry press[85]. Policy which welcomes and rewards innovation with low- and non-toxic substances would be appropriate within this sector as well as adjacent fields.

80 EU Commission (2022) 'Consumer Guarantees'. Available at: https://europa.eu/youreurope/business/dealing-with-customers/consumer-contracts-guarantees/consumer-guarantees/index_en.htm [Accessed 28 August 2024]
81 Willsher, K. (2023) 'Stitch in time: France to help pay for clothes to be mended to cut waste', The Guardian, 12 July 2023
82 ReFashion (2023) 'All about AGEC law'. Available at: https://refashion.fr/pro/en/all-about-agec-law [Accessed 10 July 2024]
83 ReFashion (2023) 'What are Eco-fees?' Available at: https://refashion.fr/pro/en/what-are-eco-fees [Accessed 10 July 2024]
84 European Environment Agency (2024) 'The destruction of returned and unsold textiles in Europe's circular economy'. Available at: https://www.eea.europa.eu/publications/the-destruction-of-returned-and [Accessed 09 August 2024]
85 Raval, A. "The struggle for the soul of the B Corp movement", Financial Times (London, 19 February 2023), https://www.ft.com/content/0b632709-afda-4bdc-a6f3-bb0b02eb5a62 [Accessed 12 January 2025]

Pre-worn and Second Hand

The effect of corporate tax relief on consumer behaviour in fast fashion, the luxury sector, and second-hand/rental sectors is yet to be established, but industry developments are likely to yield data in the coming year with the arrival of new EU Policy. The second-hand sector certainly warrants different legislative treatment.

In April 2024, eBay abolished selling fees on pre-worn clothing[86], and Vinted has set a precedent for the consumer bearing fees, with its 3-8% buyer protection fee mandatory with every purchase[87]. Policy research, focused on exploring tax relief for businesses working within second-hand models, would be welcomed by SMEs operating in the sector. A vibrant second-hand market also requires a reorientation towards quality, such that garment life can be extended into multiple owners, and an accompanying repair function within the circular economy. To this end some platforms already offer verification/certification services (Vestiaire Collective - 'trust services'[88], Vinted - item verification[89]) which act as a proxy for quality, and presumed durability, for at least the luxury component of the preloved retail sector.

The impact on the charity sector, both in terms of charitable income and challenges with onwards disposable of non-rewearable stock, through consumer pre-sorting of donated goods in response to increased e-reselling models should not be forgotten. Nor should research into physical durability of garments, which has the ability to impact on consumer perceptions on the value in buying preloved items, be discounted. The link between luxury goods, price point and durability is not linear,[90] which could ultimately make alternative brands more sought after on re-selling platforms.

86 eBay (2024) 'It's now free to sell pre-worn clothes'. Available at: https://pages.ebay.co.uk/fashion-selling/ [Accessed 04 May 2024]
87 Vinted Price List. Available at: https://www.vinted.co.uk/pricelist [Accessed 07 July 2024]
88 Vestiaire Collective, trust services (2025) https://www.vestiairecollective.com/journal/trust-expert-authentication/
89 Vinted, item verification (2025) https://www.vinted.co.uk/item_verification?msockid=24ffe5c5ec0765ae281af0efed366498
90 Morris et al, 2025. 'Measuring Physical Garment Durability', proceedings of the 6th Product Lifetimes and the Environment Conference (PLATE 2025).

5.4 Funding and Finance

Support for F&T SMEs undertaking R&D and innovation, aligned with sustainable development and the creation of new circular economies has been frequently discussed in the literature, as well as in the primary data for this study. Echoing existing findings from BFTT on the challenges of KTP-type funding, and the work of both BFTT and FFF on collaborative R&D funding with industry, participants felt that some existing UKRI schemes are inaccessible to F&T SMEs, because of the need for specialist support and expertise in the proposal preparation. The barriers faced by SMEs in accessing R&D support have been outlined in a recent report on innovation and funding for UK F&T[91].

The AHRC's pioneering Creative Industries Clusters Programme (CICP, 2018-24) created a transformational new mechanism to improve accessibility to R&D for SMEs, facilitating a raft of new academic-industry R&D collaborations involving, in many cases, companies with no previous experience of UKRI-supported innovation. The specialist funding instruments developed by BFTT and FFF CRDPs through the CICP, established alternative funding mechanisms for industry, that were considered agile, and precisely customised to industry needs. **Collectively, this led to new R&D supporting over 180 businesses across 78 commissioned projects, delivering innovation from mid to high TRLs and MRLs and providing an invaluable evidence base to inform further R&D investment opportunities in sustainable F&T development.**

Notwithstanding praise for university support systems, helping to navigate complex application processes for businesses with limited time and/or expert resource is in general difficult. Accessing public funding for R&D in particular was found to be challenging for SMEs, and even for some MNCs who found their internal operating and reporting processes did not map across to funder requirements causing confusion. The language of funder and business was not well matched. Consistently acknowledged as problematic for F&T companies was limited access to funding for state-of-the-art (SOTA) equipment and facilities to support much-needed innovation in circular and sustainable R&D. The R&D tax credit/relief system[92], now known as the merged scheme R&D expenditure credit (RDEC)[93], was also identified as requiring reform if F&T is to be able to benefit from this instrument, which was originally developed to service STEM-focused organisations. Circular and sustainable innovation in the sector is also reliant on design and social science, which are not adequately recognised and as such render many SMEs ineligible for this source of funding.

91 Innovation Funding for UK Fashion and Textiles: An overview of R&D mechanisms to support collaborative, industry led-academic research https://doi.org/10.48785/100/323
92 R&D Tax relief can be granted to UK companies chargeable to UK Corporation Tax working on projects seeking an advance in a field of science or technology. https://www.gov.uk/guidance/corporation-tax-research-and-development-rd-relief
93 The merged scheme is a taxable expenditure credit and can be claimed by companies who are trading, chargeable to Corporation Tax, and working on a project meeting the stringent definition of R&D. https://www.gov.uk/guidance research-and-development-rd-tax-relief-the-merged-scheme-and-enhanced-rd-intensive-support

The UK has made headway in supporting circular and sustainable F&T innovation research through funded interdisciplinary grants covering the sustainability assessment of textile products, circular design and circular bioeconomy, as well as the development of lower impact material such as biobased plastics to replace non-degradable plastics. In recent years more limited funding was provided to support the sustainable manufacturing of textiles, textile waste recycling, recovery of valuable components of textile waste streams, and mitigation of microfibre leaching from textile products during their washing and use[94].

Further, sustained collaboration between NERC, EPSRC, BBSRC and AHRC will be critical to achieving full coverage of the basic technologies, innovation, data and evidence needed to scaffold circularity and sustainability developments in UK F&T. A robust cross council approach to appraising inter-disciplinary large-scale applications, and the consistent application of such a mechanism, would be beneficial to these future collaborative approaches.

Recently completed funding mechanisms whereby Universities, or other research organisations, take on grant-making roles have demonstrated significant promise in advancing sustainable and circular F&T practices in the UK. The BFTT (UAL) and FFF (UoL) CRDPs (2018-24), and the UKRI National Interdisciplinary Circular Economy Hub (2021-25)[95], part of the NICER Programme (2021-25), have each offered innovative opportunities for SME collaborative R&D initiatives that have provided the evidence base for further targeted investment in circular and sustainable R&D. Current initiatives which will help to underpin this evidence base include: the UK-wide Circular Fashion Innovation Network[96] and Network Plus in Circular Fashion & Textiles[97], both of which are funded by AHRC, Innovate UK and NERC; and a programme led jointly by UAL FTTI and the British Council, New Landscapes, which supports SMEs in the UK, and ODA-eligible countries to collaborate on innovative R&D in sustainable F&T[98].

Critical to the continued success of schemes where HE organisations are acting in secondary funding roles for UKRI is adequate and sustained resourcing to support these functions. Specifically, this needs to include funding for programme management, administrative/financial staff, and experienced leadership, both academic and professional, ensuring long-term skill retention to deliver interventions efficiently and allow for rapid delivery start dates.

94 Goldsworthy, K. et al (2022) Catalyst report on Circular Fashion and Textiles: The provision of research relating to environmental science for Circular Fashion and Textiles. Swindon: NERC.
95 https://ce-hub.org/circular-economy-funding-research/
96 https://instituteofpositivefashion.com/The-Circular-Fashion-Innovation-Network
97 https://www.ukri.org/opportunity/ukri-circular-fashion-and-textile-programme-networkplus/ [Accessed 30 Oct 2025]
98 Harris, J., Solomon, L., and Ohranovic, N., (2022), New Landscapes: Fashion, Textiles, Technology Catalyst Research & Development. London: University of the Arts London.

Current UKRI Investment in National Capability

R&D Intervention is critical to meet complex environmental imperatives, and to realise the full potential of the wider UK industry.

Historically, 'fashion' as a descriptor of what is a highly complex industry has not been well understood. Over the last 50 years, the industry has become a complex global operation with significant environmental impact in its current form and has not been taken seriously as a research challenge, and a specific R&D opportunity.

The F&T industry is worth £62bn to the UK alone (£1.3T globally). The UK is well positioned, by virtue of existing expertise and infra-structure, to become a global leader in sustainable and circular innovation in this field if fully supported to develop national capability. However, the support for the necessary R&D to achieve this sustainably requires rethinking.

According to a preliminary analysis of UKRI-published data[99], in an eight-year period (2016-24), UKRI funded research totalling approximately £400m in broadly textile related disciplines. Most of this investment came from MRC and EPSRC and spanned medical textiles, textile engineering, and broader materials engineering. A smaller proportion however focused on potential apparel (F&T) applications.

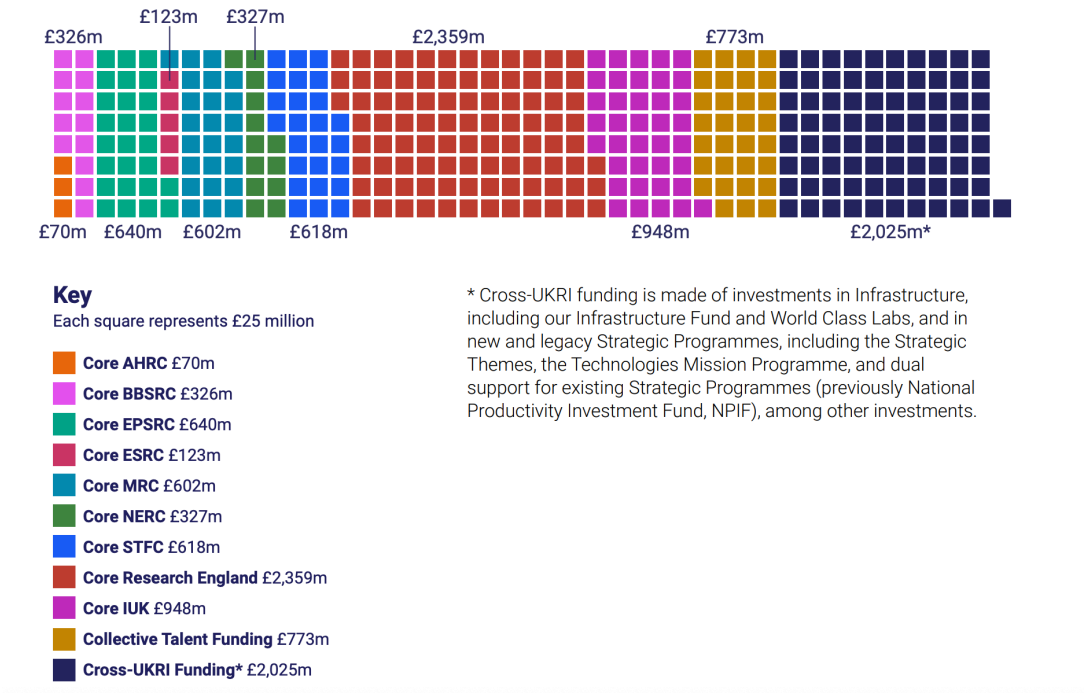

Figure 4. UKRI budgets for 2025/26, showing each Research Council's overall allocation. Source: *2025-26 budget allocations for UK Research and Innovation.* Swindon: UKRI.

99 Data available at https://gtr.ukri.org/, calculation includes all AHRC/ISCF research and collaborative R&D, and excludes KTPs and financial data on doctoral studentships.

To address today's global material challenges – including the environmental impact of materials, waste management, and unsustainable consumption patterns (including overarching business models) – a broader range of disciplinary expertise is required that brings together design-led approaches with STEM related F&T R&D. CreaTech research and related funding in this area is relatively nascent, perhaps reflecting the fact that the environmental impacts of accelerated global production and consumption of textiles and apparel have only recently become more widely apparent with extensive media coverage[100].

Relevant interdisciplinary research to date has primarily been supported by AHRC which is leading investment in this key area, notably with the smallest budget allocation within UKRI (cf. Fig.4). AHRC has funded approximately £28.3m of interdisciplinary fashion and textile research projects from their £733m budget (2016-24), including hosting investments from a previous Industrial Strategy Challenge Fund.

Focusing on AHRC, Table 1 summaries the approximate annual budget allocations, and the proportion of funding awarded to fashion and textile projects. Many of the challenges at play today could arguably have been mitigated by the earlier and more direct involvement of design and humanities expertise in this field. In real terms the interdisciplinary scope of F&T spans cultural studies, history, sociology, design, anthropology, environmental science, materials engineering, green chemistry, agri-tech, business and management. A rethink is therefore proposed with the humanities as a key driver integrated alongside advanced manufacturing disciplines, to establish the necessary support for a more sustainable level of R&D.

UKRI support for F&T related research may appear to be quite healthy. However, support for the combinations of disciplines that can address questions of sustainability and circularity is less prevalent and there appears to be an over-reliance on AHRC for funding provision. Research funding priorities urgently need to address these pressing sector challenges, not least to ensure appropriate skills development for the longer term.

To date, AHRC investments have been complemented by the £30m National Interdisciplinary Circular Economy Research programme, which includes the Textiles Circularity Centre, and the UKRI £15m investment in the Circular Fashion and Textiles Programme. The Circular Fashion and Textiles Programme was funded through a trilateral agreement (NERC/AHRC/ Innovate UK/) and supported both the UKFT-led £3.9m Innovate UK Automatic-sorting for Circularity in Textiles (ACT UK) demonstrator project and the Circular Fashion and Textiles Network Plus initiative.

100 Britten, F. (2025) "You sold it – now recycle it': the protesters mailing worn-out clothes to the shops they bought them from", The Guardian, 29 April 2025. https://www.theguardian.com/environment/2025/apr/29/you-sold-it-now-recycle-it-the-protesters-mailing-worn-out-clothes-to-the-shops-they-bought-them-from [Accessed 09 June 2025]

Year	Total AHRC Budget (£)	Total AHRC F&T-related investments (approximate) (£)	AHRC budget aligned to F&T-related investments (%)	Number of F&T-related projects supported
2016-17	104m	2.1m	2	9
2017-18	110m	2.9m	2.6	20
2018-19	124m	13.1m	10.6	13
2019-20	98m	1.5m	1.5	28
2020-21	70m	3.3m	4.7	23
2021-22	61m	2m	3.3	29
2022-23	71m	1.5m	2.1	24
2023-24	65m	1.3m	2.6	19
2024-25	70m	0.69m	0.99	17
TOTAL	773m	28.39m	-	182

Table 1. Table showing annual AHRC budgets 2016-24, and the proportion of spend allocated to F&T.

The £6m Network Plus investment convenes interdisciplinary expertise in environmental sciences, humanities, design, material engineering, and green chemistry across three subnetworks supported by a Programme Coordination Team. The UKRI programme has been informed by substantive industry consultation, UK sector bodies, previously commissioned research[101] and outcomes from earlier interventions.

101 Goldsworthy, K. et al (2022) Catalyst Report on Circular Fashion and Textiles. Swindon: NERC.

While the overall trend towards an increase in the proportion of funding dedicated to these disciplinary areas is welcome, the £12m AHRC CICP investment in sustainable fashion and textile R&D (2018-24) made a particularly significant case for a step change, providing evidence for a sustained increase in open and consistent research funding for the field.

The two F&T focused CRDPs supported collaborative interdisciplinary R&D via two complementary rolling investment programmes (total value approx. £8m)[102] involving approx. ten HEIs.

This report recommends commitment to continued interdisciplinary innovation in sustainable and circular F&T R&D via two streams of investment to drive circular and sustainable innovation in an industry currently worth £62bn to the UK.

- **A national rolling open interdisciplinary research funding call similar to a Standard Grant of up to £10m/year.**
- **A national interdisciplinary R&D scheme for SMEs at a minimum of £5m/year, harnessing industry-academic collaborative research models established by the F&T CRDPs.**

102 Rainton, S., Harris, J., Hulme, A. & Russell, S.J. (2025) Innovation Funding for UK Fashion and Textiles: An Overview of R&D Mechanisms to Support Collaborative, Industry-led Academic Research. London and Leeds: UAL and University of Leeds.

6 Recommendations

UAL East Bank © Simon Menges, Allies and Morrison

Education and Skills

- **Prioritise targeted skills interventions that are co-developed by industry and academia working closely with sector bodies.** These should address the need for Design+STEM-based education and aim to significantly improve data-driven technical understanding of materials, design and manufacturing, and environmental science, in relation to circular economy principles. The same process should also inform CPD, to improve recruitment and retention of appropriately skilled staff across F&T supply chains Industrial support, e.g. investment in scholarships and support for workplace training/placement, is needed to provide robust evidence that provision is 'fit for purpose'.
- **Include early integration of textile materials knowledge, skill and values within the Early Years Foundation Stage statutory framework (age 0-5 years) with clear pathways for development of these skills through Key Stage 1-4.**
- **Connect skills provision for F&T throughout the education pipeline**, in schools, FE, HE and workplace CPD/training settings, including revised apprenticeships (at all levels), atelier learning, and leveraging existing good practice, e.g. Institutes of Technology (IoTs).
- **Support innovation and long-term industrial development, funding for collaborative doctoral training centres in F&T, leveraging expertise from academic centres of excellence across the UK.** To address F&T skills gaps these should be multidisciplinary, covering relevant aspects of materials science, textile design and technology, digital technology, environmental science, sustainable/circular business models, and economics (in line with business sustainability and triple bottom line theory).

Consumer Behaviour

- **Support targeted research to determine appropriate regulatory structures that would provide influential financial incentives for responsible 'planet-first' consumer action.** These should target all aspects of F&T product purchasing and disposal, e.g. UK-based extended producer responsibility (EPR) scheme.
- **It is necessary to identify the motivations (and barriers) for sector wide adoption of eco-standards for fashion and textile products.** This includes identifying how eco-standards of a product can be made more transparent and visible through their integration in product labelling, and facilitate leveraging marketing, advertising and media expertise within future investment mechanisms.
- **Ensure the full life cycle of any new product is considered at design stage, using experts in design**, materials science, manufacturing, waste management and consumer behaviour to achieve a systems change in the way F&T products are manufactured, consumed and recycled.

- **Integrate explicitly consumer research elements throughout the product development process**, to co-design solutions which are relevant and accessible.
- **Develop transition mechanisms to support and encourage UK wide adoption of circular design practices,** including collection, sorting and re-processing of textile products. Integrate messaging into the marketing and promotion of F&T products to embed standards and guidance around repair, reuse and recycling that apply to both pre- and post-consumer stages.
- **Encourage and support brands to better understand their consumer bases.** Co-development opportunities should be provided to highlight the use of a range of tools, including behavioural science, and consider the development of novel models of financing for the retailing functions of F&T businesses to support this transition.

Legislation

- **Greater focus is needed to develop the UK's repair and reuse infrastructure as an economy, including a focus on reduction and reuse ahead of recycling.** Ringfenced investment, e.g. from future EPR regulation fees, is recommended to:
  - **Support the development of the UK's F&T waste collection & management infrastructure** to effectively match the supply of waste items to the specific demands of repair, upcycling, reuse and recycling organisations.
  - **Develop integrated education and CPD training in eco-design principles and viable circular economy economic models.**
- **Provide investment to support innovation** in aligned areas of research to improve system efficiencies.
- **Improve cross-sectoral understanding of the composition of a 'sustainable material'**, using a consistent definition to underpin both future funding schemes and developing legislative instruments.
- **Refresh the R&D tax credit system to permit F&T SMEs undertaking design-led R&D**, access to appropriate subsidies.
- **Respond to UK industry demand for an Extended Producer Responsibility (EPR) scheme for the UK**, that financially incentivises sustainable development and facilitate domestic and overseas trade. This is required to provide a level playing field for F&T businesses.
- **Provide accessible routes to compliance when considering the introduction of new legislation**, across supply chains, addressing the challenges faced by micro- and small businesses.

- **Scaffold regulatory change that rewards companies for positive behaviour** and decision-making and removes financial penalties for sustainable business choices such as shifting to renewable materials, or investment in sustainable design and manufacturing practices.
- **Consider the clustered nature of the UK's existing F&T centres of excellence when developing further place-based initiatives.** Schemes which ring-fence tax levies for local and regional sectoral development of circular/sustainable activity would be welcomed. It is important to embed support for schemes that encourage low-volume high-value production, or design/manufacturing-on-demand models.

Funding and Finance

- **Simplify access to funding by leveraging learning from the CICPs** to provide bespoke industry-academia co-development opportunities within the UK F&T industry. Encourage businesses to collaborate across UK supply chains to solve large scale systemic challenges.
- **Consider specific interventions for the customer-facing/retail portion of the supply chain**, where knowledge gaps have been identified.
- **Embed principles around interdisciplinary skills and knowledge exchange activity** within funding schemes, including the opportunity to develop mentoring schemes and second staff within partner organisations to facilitate practice-based learning. Planned programme outcomes should have a mandated skills element.
- **Fund appropriately the underpinning of professional services** where HEIs and/or sector bodies are positioned as hosts or brokers for funding schemes, acknowledging the importance of the brokerage role.
- **Balance revenue and/or capital interventions across F&T-specific challenge areas**. This is important when considering follow-on funding, to scale innovations and preferential intervention rates for SMEs, and/or a mixture of grant and equity funding options should be available.
- **Encourage further collaboration across UKRI Research Councils,** as exists within the trilateral agreement for the UKRI Circular Fashion & Textile Programme. This will address the requirement for a multidisciplinary approach to addressing the F&T industry's complex challenges.

7 Conclusion

LITAC Wet Processing Lab © LITAC

The UK is a serious player on the world stage in terms of sustainability-focused research and industry-academic expertise in F&T design, technology, retail and circular economy developments. Significant organisational capability and capacity is present across the UK and recommendations have been made that are consistent with enabling this to develop, providing positive impact for sectoral transition to circular and sustainable business models.

Existing UK research excellence can be leveraged through domestic innovation mechanisms, but also within global collaborative opportunities; UK centres of excellence already have significant worldwide connectivity. F&T is a significant global industry and UK domestic policy cannot exist in a vacuum. Recommendations have been made that will enable UK industry to trade on a level playing field and leverage learning from global experiences, for example French EPR legislative mechanisms.

The UK is globally renowned for fashion, textiles and related business education, with a critical mass of education providers at every level (See Figure 1 and 2) that compete with other centres of global excellence, such as those in the USA, Europe and Asia. Recommendations have been set out which will strengthen this position, including a vision for early integration of materials learning which will in turn influence consumer understanding of sectoral challenges.

A key asset for the sector is that the UK has numerous globally trusted industry brands and long-standing expertise in this field. As a sector, UK F&T is prepared to make the significant shift toward accelerating sustainable development as evidenced by the high level of industry-academic collaboration within the CICP programme. There is a drive to ensure longer term benefit for people, and planet, while recognising the significant opportunity for businesses this change will bring.

The research makes apparent that the UK needs to use legislative instruments to incentivise and speed up change processes. Key, in terms of industry need, are recommendations around a UK EPR scheme and the management of textile waste streams.

In brief, each of the factors highlighted within the report; skills, consumer behaviour, funding, legislation; underpin the UK's national capability, providing a case for investment in circular and sustainable R&D alongside key skills development which will equip the sector with the capacity and capability required into the future. The need for a coordinated inter-disciplinary approach to innovation is mirror by the need for cross-Research Council investment which will enable the F&T sector to realise the UK's full potential.

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BFTT R&D Showcase © UAL FTTI

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Creative Industries Clusters Programme

UKRI Arts and Humanities Research Council