

NFTS

**NATIONAL
FILM AND
TELEVISION
SCHOOL**

National Film and Television School

**Application to the BTV Local Enterprise Partnership Business
Skills Capital Programme**

Business Case: National Centre for Immersive Storytelling

1 About the National Film and Television School

The National Film and Television School (NFTS) is the UK's top film, television and games school and an acknowledged global leader in the provision of postgraduate, high-level, creative and technical skills for the screen industries. For nearly half a century, the NFTS has developed some of Britain and the world's top creative talent – for which we were honoured to receive both the 2018 BAFTA for Outstanding Contribution to British Cinema and the Queen's Anniversary Prize for Higher and Further Education.

NFTS alumni have won 11 Oscars and 138 BAFTAs and been nominated dozens of times for each. Our graduates include Oscar-winning cinematographer Roger Deakins (*Blade Runner 2049*), Oscar winning animator Nick Park (*Wallace & Gromit*), acclaimed directors Lynne Ramsay (*You Were Never Really Here*, *We Need to Talk About Kevin*) and David Yates (the *Harry Potter* series, *Fantastic Beasts and Where to Find Them*) and renowned documentary makers Kim Longinotto (*Pink Saris*, *Gaea Girls*) and Nick Broomfield (*Whitney: Can I Be Me*, *Kurt and Courtney*).

The NFTS runs more than 30 MA, Diploma and Certificate courses – as well as numerous short courses – across a range of film, television and games disciplines. We have more behind the camera courses than any other film school, including core craft areas such as directing and cinematography as well as specialist areas such as script supervision and production accounting.

The School and its graduates make a significant financial contribution to the film and television economy, as demonstrated by their contribution to:

- Inward investment – NFTS graduates worked on 85% of inward investment films with budgets of £50 million plus between 2003 and 2017.
- Birthplace of talent and business – NFTS alumni are leaders of the film, television and now games industry. They don't just get jobs, they create jobs and millions in export revenues for the UK. NFTS alumni include Nick Park, of Wallace and Gromit fame, who runs Aardman Animations Limited and whose films have made \$1 billion worldwide and average \$147 million per film,¹ and Mark Baker of Peppa Pig fame, which has a brand value of \$2 billion².

2 About the National Centre for Immersive Storytelling

This summer, the NFTS was chosen to run a new industry centre of excellence in immersive storytelling, funded in part by the Government's Industrial Strategy Challenge Fund. The NFTS is the lead partner on the project, working with Royal Holloway, University of London and a host of immersive and screen industry partners.

Immersive technology has the potential to open up endless creative possibilities, but until now one core ingredient has been missing: storytelling. The National Centre for Immersive Storytelling will bring together some of the UK's best creative talent at its top storytelling

¹ <http://www.boxofficemojo.com/franchises/chart/?id=aardman.htm>

² <https://www.theguardian.com/media/2016/may/24/peppa-pig-on-track-to-be-2bn-brand-after-making-splash-in-uk-and-asia>

institution to learn, experiment with and explore the creative possibilities of immersion – and most importantly to make things. As well as labs, workshops and courses, the centre will support dozens of real productions.

The centre is based at the NFTS site in Beaconsfield and is a genuine HEI-Industry collaboration that breaks down barriers between trainers and producers to create a shared approach to developing the storytelling techniques and languages that will shape the future of immersive narrative. It is built on a foundation of research and training knowledge that places storytelling at its heart. We focus on providing established world-leading storytellers, and core screen sector crafts people with an understanding of creative technology and promoting cross-sector learning to unlock the creative and commercial potential of immersive production.

Partnering with leading creative talent we will lead a charge of UK creative talent into immersive that embeds diversity into the development of a talent pipeline across writing, directing, producing, performance, cinematography, editing, animation and visual effects. World leading creative talent have committed their support, including Sir Lenny Henry (*Danny and the Human Zoo*), Alex Garland (*Ex Machina*), Abi Morgan (*The Split*), Sarah Gavron (*Suffragette*), Asif Kapadia (*Amy*) and Simon Beaufoy (*Slumdog Millionaire*).

Our approach will deliver training in action, providing opportunities for creatives to learn through taking part in immersive productions that tackle key creative and technical challenges. We then match this with audience insight underpinned by cutting edge electronic engineering, neuro- and cognitive psychology as well as long-sighted ethnography to provide a catalyst for growth of creative industries. Our R&D base de-risks immersive production through 4 work streams that ensure over 30% of available funding is spent on collaborative industry projects with immediate impact:

1. **Embedded Placements:** promoting talent development and commercial vitality by enabling cross sector innovation through placements of screen sector talent on immersive productions for work-based learning;
2. **Collaborative Co-Productions:** Co-producing immersive experiences that tackle sector wide creative and technological barriers to growth, upskilling core screen sector workers via access to hands-on learning on live productions that build a cross-sector talent pool;
3. **Experimental Labs:** R&D-based productions that expose core screen sector talent partners to immersive and push technological and creative boundaries;
4. **Developmental Training:** Training a next generation of immersive storytellers and trainers that cascades knowledge to HEIs and industry across the country.

The centre's first experimental lab took place on 5-6 December 2018, focusing on the potential for immersive technologies in documentary storytelling, with number of prominent filmmakers and industry figures participating, including *Amy* and *Senna* director Asif Kapadia, *Last Tree* writer-director Shola Amoo and Channel 4 documentary commissioning editor Fozia Khan.

3 Bid summary

The National Centre for Immersive Storytelling creates the opportunity to build on Buckinghamshire and Thames Valley's thriving creative industries sector and help the region and the country to become a world leader in immersive storytelling.

The School is seeking match funding of £288,073 from the BTVLEP in order to allow us to improve the facilities and equipment at what is Britain's first ever national hub for training, experimentation and production in immersive technologies like Virtual Reality, Augmented Reality and Mixed Reality. With the BTVLEP's support, the installation of a Dolby Atmos immersive sound system in the School's cinema will mean that the work of the centre can be showcased in state-of-the-art facilities, while also creating a hub for immersive productions produced locally to be screened. We believe that we will become the only higher education institution in the UK to have a Dolby Atmos-equipped cinema. Without support from the BTVLEP it will not be possible to install the sound system. The support will also provide essential hardware to support immersive projects at the School.

The NFTS and its partners successfully bid for £5m over three years from the AHRC/Industrial Strategy Challenge Fund to establish the National Centre for Immersive Storytelling. The match funding from the BTVLEP would supplement the capital expenditure element.

In total the capital expenditure requirements equate to £502,107. AHRC/Industrial Strategy Challenge Fund capital funding amounts to £214,034, with this bid covering the remaining £288,073. Therefore, this bid represents match funding of 5.8% of the total funding and 57% of the capital expenditure costs.

4 Strategic case

The Government, through the Industrial Strategy Challenge Fund, is keen to champion immersive technologies and their potential within the creative sector because it sees a clear opportunity for the UK to maintain and enhance its position as a world-leader in both the arts and technology.

As stated in Sir Peter Bazalgette's Independent Review of the Creative Industries in September 2017: "The creative and technical skills developed in these sectors [film, TV and games] have applications far beyond the screen industries as we currently know them. We can harness them to master immersive technologies, to translate learning into other significant areas of the economy including healthcare, defence and construction. At the same time, businesses in these industries are highly mobile and there is fierce international competition for their work. Government and industry need to come together to support a long-term package of proposals rooted in innovation, investment and skills to ensure that the UK remains the most innovative, exciting and accessible place to develop new material for screen."³

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/649980/Independent_Review_of_the_Creative_Industries.pdf

This argument informed the Government's subsequent Industrial Strategy Creative Industries Sector Deal published in March 2018, which announced that it would: "Open up Research and Development (R&D) funding to catalyse innovation. The Industrial Strategy Challenge Fund and industry will invest an estimated £58m to harness the power of immersive technologies and double the UK's share of the global creative immersive content market by 2025."⁴

The National Centre for Immersive Storytelling only exists because of its importance to the Government's Industrial Strategy. Through the Arts and Humanities Research Council's Creative Industries Clusters Programme and the Audience of the Future initiative, funded through the Industrial Strategy Challenge Fund, the Government committed to supporting an 'Industry Centre of Excellence' (ICE) in immersive. The National Film and Television School and Royal Holloway, University of London successfully bid for the ICE with the support of a range of industry partners. That has allowed us to begin the process of establishing the National Centre for Immersive Storytelling and covers a range of associated costs, including staffing, bursaries, production, outreach, marketing and capital expenditure.

The draft Buckinghamshire Local Industrial Strategy recognises the role of the National Film and Television School as an internationally significant asset for the county's creative and digital sector, alongside Pinewood Studios and the large number of creative sector companies that exist in the south Buckinghamshire area. It identifies 'Creative and Digital Centred Around Pinewood and the National Film and Television School' as one of its five 'opportunities for growth' areas and cites in its rationale for doing so the exceptional growth forecast for the virtual reality and video game sectors in the next five years – with UK consumer spending on video games set to reach £5 billion by 2021 – and the PwC forecast that the UK VR entertainment and media market will be worth £801m by 2021, making it the fastest growing in the EMEA region.

By supporting the NFTS' National Centre for Immersive Storytelling, the BTVLEP is backing a world-leading institution and a significant local asset in a drive to capitalise on an exciting and rapidly expanding sector – and one that already has the support of the Government as a key component of its Industrial Strategy.

Economic case

The economic case for the centre is not that it will generate a direct income for the School, but rather that the School will act as a hub for screen sector talent and creative companies to benefit from the commercial opportunities that immersive technologies bring. In this way it will support students, professionals and companies, de-risk production, generate job growth and enable greater productivity.

The centre will upskill more than 180 core screen talent spanning writers, directors, producers, animators, sound designers, marketers, distributors and performers from games, film, TV, theatre and advertising. We will provide new commercial opportunities and support for over 50 companies, creating more than 30 commercial facing immersive productions and generating or saving 80+ jobs. In so doing, it will have access to high end talent, which will

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/695097/creative-industries-sector-deal-print.pdf

attract investors to the immersive market. It will enable greater productivity by fostering cross-sector dialogue to generate the languages and story forms for immersive and provide means to test these with audiences, linking this with business R&D support to take new products to market.

Our partners include some of the largest commercial organisations working in immersive totalling over 5,000 employees nationwide, including the largest driver of the UK VR consumer market - Sony IE. We are uniquely able therefore to help drive the immersive economy's commercial growth and develop the relevant talent for the UK to become a world leader. Creative storytelling skills allied to an understanding of technology is seen by our partners as a crucial ingredient to ensuring this success, which aligns with Nesta-Arts Council's 2018 'horizon scan'⁵ that creative skills are the bedrock of future economic growth and new jobs. However, these are also skills in short supply, especially in immersive where production budgets remain comparatively small. By providing salaried placements, co-production funds and experimental lab opportunities for technologists and talent to work collaboratively, our training in action programme will de-risk immersive production to catalyse sector growth at the same time as developing talent.

The centre will de-risk immersive production and develop future commercial forms and formats by working with its network of industry partners to:

- Make an immediate step-change in core screen sector's engagement with immersive narrative forms, developing a local and national base of creative and commercial competencies that establish the UK and the region as a world-leader in the nascent sector;
- Translate, adapt and innovate creative and narrative languages for immersive by brokering dialogue between core screen sector talent and creative and technology experts in immersive;
- Embed diversity into our training approach to ensure the full breadth of UK talent - on and off screen - is represented in immersive;
- Identify, review and monitor skills gaps in the immersive sector and construct collaborative industry-HEI curricula that respond to these, placing creative and technological competencies in dialogue;
- Develop a next generation of talent who are fluent in immersive storytelling techniques who will have access to an alumni network of talent and companies that will enable their creative careers in the sector to flourish;
- Establish a strong legacy for the centre, with a diverse and experienced base of trainers skilled in the cross disciplinary art of immersive storytelling who are able to develop a talent pipeline long after the funding period has ended.

We have a unique ability to cascade the insights and training content derived from the centre across the UK, whilst also deriving value for money via economies of scale and geography. London and the South East account for 43% of employment in the UK's creative sector⁶. Close proximity to London is crucial to the centre's ability to access core screen sector talent and accelerate change. But we also have UK-wide reach via our own regional bases and partnerships, such as our new Hub in Glasgow (NFTS Scotland) and our partnership with Aardman Animation in Bristol.

⁵ https://media.nesta.org.uk/documents/experimental_culture_report_2018.pdf

⁶ https://media.nesta.org.uk/documents/experimental_culture_report_2018.pdf

Our partners are world-leaders in how story and new technologies combine to produce compelling and novel immersive experiences, including immersive theatre (Punchdrunk), virtual reality (Rewind VR), gaming (Sony Interactive Entertainment), film (BFI), television (Sky VR), visual effects (Double Negative, Dimensions), advertising (McCann) and performance capture (Imaginarium). We bring them together with state of the art Original Equipment Manufacturers (Microsoft, HTC Vive, Plexus) and sector experts (Digital Catapult) to place story and technology in tandem to explore, research, train and develop cross sector storytelling talent and business models.

Key beneficiaries include:

Core Screen Sector Talent: Min. 180 beneficiaries provided skills and experience of immersive production from across sectors and disciplines, selected to ensure we reach our diversity targets in each discipline and a 25% commitment to regional beneficiaries via bursary support;

Creative Companies: Min. 50 companies working in immersive benefitting from cross sector innovation and talent development via placement scheme; provision of co-production funds that helps unlock further investment and access to new talent for on-site training; Min 10 companies working in immersive as a result of ICE activities. Min 25% regional reach of beneficiaries.

The National Centre for Immersive Storytelling is the only centre of excellence of its kind in the UK. Inspiring a new generation of creative talent to explore the possibilities that immersive technologies offer to storytellers is core to its ethos, and therefore allowing young people from the local area to access its facilities will be an important aspect of its success. To achieve this, we will invite local secondary schools to take part in workshops at the centre, to gain hands-on experience of immersive technologies and immersive storytelling.

It will also be a direct benefit to students enrolled at the School. The NFTS offers 17 MAs and 14 full or part-time Diploma courses in a wide range of film, television and games disciplines, with FTE student numbers forecast to rise to nearly 500 in 18/19. Our ambition is to give the vast majority of our students the ability to access the centre's facilities, either as part of their curriculum or through participation in experimental labs and productions. In particular, we will focus on students in the core creative and business disciplines: writing, directing, producing, cinematography, editing, animation, visual effects, sound design, production design as well as distribution and marketing. These students will be the next generation of industry influencers and will fully embrace new immersive technologies and pioneer new techniques.

The centre will launch or embed immersive into 49 courses within the partnership, drawing on annual sector skills reviews with our trade body partners. We will train over 450 students, including min. 200 CPD students who can make an immediate impact on the immersive and traditional screen industries. It will build a diverse and high-profile alumni base of nearly 800 beneficiaries whose skills both the centre and industry can draw on in the years ahead for production and training purposes. We will ensure all our workstreams meet our diversity pledge of 50% female and 15-20% BAME to provide a diverse workforce.

Please note, we are not including a Net Present Value figure in this business case. This is because our economic case is built on the impact the centre will have on the wider local and national economy by upskilling workers and students, de-risking production and supporting talent and companies, as opposed to directly generating revenue for the School.

Commercial and Financial case

Our 160 seat cinema in the Oswald Morris building is fit for purpose and well regarded as a surround sound cinema. To truly immerse the audience, we need sound that moves all around, rather than being constrained by a few individual speakers. The sounds need to be precisely placed and move in three-dimensional space including the sensation of height and objects moving overhead. The market leader in the space is Dolby with their Atmos system, which allows moving audio that flows all around the listener. In order to make the cinema suitable for Dolby Atmos the wall shapes and finishes need to be analysed for acoustic performance, re-designed, re-worked, and checked before being certified by Dolby as a compliant facility. In the process supports and bracketry must be installed for the 74 speakers that are required. This must be fitted in or behind the acoustic panelling which will need to be adapted. The air-conditioning will need to be upgraded to cool the powerful amplifiers and processors that drive the 74 speakers.

We identified Dolby Atmos after exploring a number of available formats on the market, including Auro 3D and DTS-X. All formats present interesting technical features, however Dolby's strong footprint and adoption on the market by both content creators and distributors (cinemas) gives it a clear advantage. Key partners of the NFTS in the global market such as Pinewood Studios and Warner Brothers have confirmed the immersive format they release the most is Dolby Atmos (with Pinewood Studios, for example, exclusively running Dolby Atmos into the field of immersive formats for the theatrical market).

We believe the costs set out below represent good value for money. The NFTS operates a clear Procurement Policy⁷. When making bulk hardware purchases we always compare suppliers and seek best value prices. For example, in sourcing the Dell workstations described below, we sourced at least three competitive quotes and went through four rounds of quoting with Dell before arriving at the agreed price.

We are in discussion with Munroe Acoustics as our preferred provider for the design and installation of the Dolby Atmos system. Munroe has recently supplied Dolby Atmos for Abbey Road Studios and Shepperton Studios (Pinewood). The quality of the projects is judged to be excellent by staff we have spoken with as well as by our assessment during the visits. We have already received assurances that Munroe will be able to deliver within our budget. We are also in talks with an alternative provider, Meyersound, who have supplied to Warner Brothers.

As set out in the 'Risk and Mitigation' section later in this document, the project financing makes provision for an increase in the cost of purchase as there is a contingency included in the budget underwritten by the NFTS.

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[https://nfts.co.uk/sites/default/files/u102/Documents/Governance/NFTS Procurement Policy March 2018.pdf](https://nfts.co.uk/sites/default/files/u102/Documents/Governance/NFTS%20Procurement%20Policy%20March%202018.pdf)

Capital Expenditure	£
Computing resources - Dell T7920 workstations x 20	£100,000.00
Computing resources - Dell MD1400 Storage Subsystems x 2	£21,000.00
Computing resources - Oculus Rift headsets x 16	£6,384.00
Computing resources - Oculus Go headsets x 5	£750.00
Computing resources - Sound department VR hardware and software	£21,700.00
Acquisition resources - Z-Cam S1 Cameras x 6	£12,000.00
Acquisition resources - Kandao Obsidian cameras x 2	£12,000.00
Acquisition resources - Entaniya 250 lenses x 3	£6,000.00
Acquisition resources - Panasonic GH5 VR Rig	£5,000.00
Acquisition resources - VR Sound Acquisition kit	£6,000.00
Acquisition resources - Grip Kit various	£3,500.00
Room refurbishment - ICE base furniture	£4,000.00
Room refurbishment - ST Room AV upgrade	£5,000.00
Room refurbishment - 5% contingency	£10,700.00
Dolby Atmos main cinema - JBL9320 speakers x 41	£33,825.00
Dolby Atmos main cinema - JBL4645c speakers x 33	£40,788.00
Dolby Atmos main cinema - Crown Dci 8 600 DA x 6	£56,160.00
Dolby Atmos main cinema - Dolby CP850	£12,000.00
Dolby Atmos main cinema - Air con	£6,000.00
Dolby Atmos main cinema - Accessories	£10,000.00
Dolby Atmos main cinema - Installation	£10,000.00
Dolby Atmos main cinema - Acoustic design	£20,000.00
Immersive capex - Imacs for sound design and composers x 9	£35,100.00
Immersive capex - Alienware PCs x 3	£9,000.00
Immersive capex - Monitors x 6	£200.00
Immersive capex - Extending the Avid Isis	£55,000.00
Total cost	£502,107.00
AHRC/Industrial Strategy Challenge Fund capital funding (to cover the Computing Resources, Acquisition Resources and Room Refurbishment elements detailed above)	£214,034.00
Requested from BTVLEP	£288,073.00

Management case

In terms of feasibility and deliverability, this is a straightforward project involving the procurement and installation of hardware over a short period of time. It is our expectation that the necessary hardware can be procured and installed within a matter of months of the funding being secured, as demonstrated in the key milestones set out below.

The NFTS has a strong track record of successfully and efficiently delivering capital projects. In the last three years alone we have opened two new buildings at a cost of £16.35m at our

Beaconsfield site on budget and on time and refurbished our TV studio with state-of-the-art 4K equipment at a cost of £2.6m, in partnership with the BTVLEP. We also produce more than 100 student film and TV productions every year, to industry standard, over which we exercise strict oversight and financial controls.

This project will be overseen by our highly experienced Director of Operations, Mark Tugwell, and his team of permanent engineering staff.

Milestone	Date
Anticipated start date	Immediate
Procurement of computing resources	Jan-19
Installation of computing resources	Jan-19
Procurement of acquisition resources	Jan-19
Installation of acquisition resources	Feb-19
Dolby Atmos cinema design work	Jan-19
Procurement of Dolby Atmos	Feb-19
Installation of Dolby Atmos (dependent on cinema availability)	Jun-19
Anticipated practical completion date	Jun-19

Risks and mitigation

Risk	Mitigating Action
Equipment costs increase - low likelihood, high impact	The project financing makes provision for an increase in the cost of purchase as there is a contingency included in the budget underwritten by the NFTS.
Equipment purchase and installation timetable slips - medium likelihood, medium impact	The project timetable and key milestone delivery has been devised to take account of potential slippage.
Insufficient demand from creative industries companies and professionals resulting in low participation in the centre's core workstreams - low likelihood, high impact	The project has been devised in collaboration with a range of industry partners and is supported by a number of high profile figures from across the screen industries. With the support of our industry partners and the endorsement of our supporters we expect to meet our participation targets.
Insufficient demand for new courses - low likelihood, high impact	Applications to the NFTS have been increasing year on year. With industry partners tied into provision and helping to market courses we fully expect to be able to achieve the increased numbers.

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 National Film and Television School