



StoryFutures R&D Seed Funding:

Call for Industry - Academic Collaborations

BRIEF FOR CREATIVE AND DIGITAL COMPANIES



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1. The R&D Seed Funding Opportunity

StoryFutures exists to fuel innovation in storytelling through immersive technologies and help creative companies access university expertise to develop cutting edge ideas. Our work so far has shown that such collaborations have real potential to generate exciting, blue sky ideas combined with pragmatic thinking about audiences, markets and business models to generate ideas that can scale into real-life products and experiences. We would like to enable more such work and grow a base for future collaborations.

We are excited to announce a seed funding call to enable up to 8 new collaborations between companies based in our region and academic experts, supported by seed funding from StoryFutures. Our geographic area of the Gateway Cluster and Greater London (see map on page 4) is home to some of the world's leading creative and digital innovators. Our academic community encompasses Royal Holloway University of London, Brunel University, the University of the Creative Arts and the National Film and Television school whose expertise spans creative, audience, technology and social considerations relevant to new forms of storytelling.

The aim of our seed funding programme is to support Small and Medium Enterprises (SMEs) in developing new experiences, products and services that can build towards future funding, finance and commercial product development. This call will fund new, early-stage industry-academic collaborations to enable blue sky thinking that work towards these goals. We welcome expressions of interest from creative and digital SMEs in response to up to three research expertise areas set out in this brief. These cover a range of topics in health, marketing and visitor experience, sustainability and game engines.

SMEs will benefit from academic expertise, seed funding, and IP for ideas, products, services, or technology developed in the project.

Each project will receive £4,000 in cash funding going to the SME, and £4,000 of research support budget for the academic partner. The projects will:

- Focus on early-stage innovation and concept development for creative, risky ideas that have potential to move immersive storytelling forward – whether in story form, technology or how they address audiences or markets – or a combination of these;
- Develop new relationships and partnerships between SMEs and academic researchers to build foundations for future work; and
- Deliver an early stage concept prototype alongside a short report including a plan for further development and sources of funding.

2. Process and eligibility

The opportunity is for creative and/or digital SMEs based in the [Gateway Cluster and Greater London](#), with under 250 employees and less than EUR 50m in turnover. We are looking for SMEs who currently work or are interested in projects involving immersive or other next-generation storytelling technologies. Some of these include: Virtual Reality, Augmented Reality, Immersive Audio, Artificial Intelligence and Haptics.

Our remit is to support growth in the Gateway Cluster and Greater London region. Companies applying from Greater London will be asked to demonstrate a willingness to collaborate and invest in the Cluster region. Examples of such commitments include hiring cluster-based subcontractors/freelancers, delivering workshops for cluster-based organisations, or offering support in other ways. We will discuss with applicants what these commitments might look like in the context of the current public health crisis.



The academic partners are based at Royal Holloway, University of London, Brunel University or University for the Creative Arts (Farnham) with wide-ranging expertise across the arts, humanities, natural and social sciences.

Successful projects will receive £8,000 towards the early-stage R&D work, of which £4,000 is a cash contribution towards the SME's time on the project, and



£4,000 is the research bursary to support the academic partner's participation. Funding for SME **must be spent on staff time and cannot be used for equipment or other purposes**.

3. What is on offer?

SME participants will benefit from:

1. A chance to work on an exciting, blue-skies R&D partnership to develop new ideas;
2. Input from leading academic experts of 10-15 days over the course of the project;
3. £4,000 to support the time of a company to work on the collaboration (and further £4,000 towards the project allocated to the academic collaborator);
4. Workshops with StoryFutures experts in creative storytelling, audiences and business models to inform the R&D project;
5. New IP for new ideas, products, technology and content developed by the SME in the project, with the ability to commercially exploit this IP¹;
6. A new partnership opportunity and a foundation for future collaborations and funding applications.

SME commitment is expected as follows:

1. Contribute 10-15 days of your time to the collaboration, and to be available for online conversations and meetings regularly;
2. Provide in-kind contribution equivalent to a minimum of £2,000 (e.g. additional staff time, IP, facilities or value of equipment acquired or used on the project); and
3. The SME is expected to run an online workshop with students or a masterclass aimed at local SMEs.

1. One exception to this is where the academic expert advises on audience research methodology and data collection/analysis in which case the academic institution will keep IP to the audience data/methodology with the right for the SME to exploit this IP.



4. R&D Topic Areas

Below we set out the potential collaboration areas and topics in which the academics taking part in this call are able to offer expertise. These topics are based on priority areas for StoryFutures and/or the immersive sector more broadly. We welcome SMEs to express interest in up to 3 of these areas. We will shortlist SMEs for different areas based on potential match of interest and expertise.

Shortlisted SMEs will meet the academic experts they're interested in working with at the Sandpit Event on 27th January to discuss initial ideas, and will then submit an application describing the idea they'd like to pursue.

We would like to support projects that respond to expertise areas set out below and enable the SMEs to develop innovative ideas with commercial growth potential.

Projects can take many forms and may involve early stage prototyping, grey boxing, audience testing, exploratory experiments, or research and market analysis work. Ideas may focus on telling stories or engaging audiences in new ways, or have a more technology or market-specific aspect. They may focus on specific communities, age groups and/or settings, or have a broad application.

Technologies may involve virtual, augmented, mixed reality, immersive audio, artificial intelligence, haptic and biofeedback technologies.

A. Health and Wellbeing

A.1. Disability experience: immersive tools to support change

Academic Partners: [Dr Anica Zeyen](#), Department of Management, and [Professor Tamar Pincus](#), Department of Psychology at Royal Holloway, University of London

In the UK, 17% of the population are disabled. Yet, despite their prevalence, disabled people are often overlooked, and most people know little about the lived experience of disabled people even though their own behaviour might have a big impact on it. With this project, we wish to achieve two things: 1) telling the hidden stories of disability and 2) supporting non-disabled people in understanding their behaviour, its origins and impact on the disability experience, and understanding how they can adjust their behaviour.

In particular, we want to emphasize the socio-emotional (often) daily stressors that disabled people and those living with chronic pain and health conditions experience, including being stared at or being ignored, experiencing verbal or physical abuse, being patronised, have shop assistants talk to strangers and



asking them what the disabled person wants, having people discount your accounts of your experience of disability. We are looking to work on ideas for novel awareness-raising, educational or training tools or formats that can support dialogue and changes in how people with disabilities are treated.

You will collaborate with Dr Anica Zeyen and Professor Tamar Pincus – experts on lived experiences of disability. Dr Zeyen is an expert in entrepreneurship and disability specializing in capturing in-depth narratives of disability through audio and visual methods. She is registered blind and is an advocate for disability rights and public speaker on disability awareness and experience. Professor Pincus is a leading expert in chronic pain and its impact on wellbeing. She is particularly interested in supporting patients with disabling pain to convey their experience to others.

A.2. Wellbeing for Young People in Care

Academic Partner: [Dr Joel Harvey](#), Department of Law and Criminology at Royal Holloway, University of London

Young people entering or leaving care can experience traumatic transitions, but they also show great resilience in adapting to those changes. Immersive technologies could offer a way for one generation of young people to tell how they have shaped their stories positively, so that the next generation can learn ways to manage their wellbeing during similar transitions. Other users would be staff and caregivers, who could immerse themselves in young people's stories.

Dr Harvey is currently working with The National House Project (NHP). This project works with 'looked after children' who are leaving care: it gives them accommodation, training and psychological support to live and work independently. The project is based on understanding their life stories and developing a sense of psychological autonomy and self-determination – that is, enabling them to plot their future stories. The NHP could offer a base for collaboration and learning as part of this project, and could be a partner for future funding applications to support further development.

Dr Harvey is a clinical and forensic psychologist, having worked with young people who have had to navigate their way through a number of complex systems: the criminal justice system, such as prisons and youth offending teams; healthcare, such as secure hospitals and community mental health services; and social services, including residential care. At the heart of his practice and research he foregrounds the importance of understanding young peoples' stories at times of transition.



B. Storytelling, Marketing and Visitor Experience

B.1. Eye Tracking in Head Mounted Devices

Academic Partner: [Dr Szonya Durant](#), Department of Psychology at Royal Holloway, University of London

Many new head mounted devices have eye tracking built-in, increasingly at prices that make them accessible to a wider audience. The greater accessibility to eye tracking is ripe for exploiting in terms of research, as it has potential to be applicable in the areas of marketing, guiding users/visitors, or in immersive storytelling.

Dr Durant can support R&D projects that benefit from her expertise in guiding user attention in VR headsets, in two potential areas:

1. Blur effects and manipulating depth of field to guide attention and measuring its effects suggests can be a very effective, yet subtle way of guiding attention. In immersive storytelling this can help guide the viewer along the narrative, gently encouraging them to look towards the action that we may wish them to perceive. By tracking the eyes, we have an additional way of evaluating how successful we have been in guiding attention.
2. Gaze-based interaction within immersive technologies can help interaction by analysing gaze position to infer what the viewer is trying to do. This could add a new dimension to social interaction within immersive experiences as characters within the environment can react to being looked at.

Dr Durant is a psychology and neuroscience researcher, and an expert in human visual perception. Her work includes applying machine learning to eye tracking metrics to help predict user characteristics. Her latest project is on interface design, developing gaze contingent methods (presenting content where the viewer is looking, as measured via eye tracking) of guiding attention and displaying information.

B.2. Narratives of movement and displacement

Academic Partner: [Dr Simone Gigliotti](#), Department of History at Royal Holloway, University of London

Throughout history, societies have used modern methods of transport - such as trains and ships - to implement dehumanizing regional and global practices of deportation, displacement and forced migration. Complicated histories of immigration become integrated into society's shared memory without an awareness of their physical places and specific origins. Coastal areas, harbours,



and transport hubs (such as train stations and ports) in particular become rich sites of narratives around displacement and transition. These movements and their consequences are often complex, interconnected and can be challenging to reflect using traditional storytelling methods.

Immersive storytelling tools offer an opportunity to engage with complex stories of this kind and present the information in a way that is easier to grasp and explore. Dr Gigliotti is interested in project ideas that can help uncover the metadata behind these displacements, and to explore how aspects of geography, visuals and stories could be explored using the potential of immersive storytelling in narrating and tracking histories on the move.

Dr Gigliotti is an interdisciplinary historian of the Holocaust, with expertise in refugees in twentieth and twenty-first century Europe, and the representation of first-person experiences of flight and home-seeking in testimony, cartography and digital curation, and visual culture (such as Jewish refugees, and German, and Polish refugees in global refugee locations). She has links with many heritage institutions such as The Wiener Holocaust Library, The Imperial War Museum and The Holocaust Exhibition and Learning Centre.

B.3 Engaging with local stories and sites

Academic Partner: [Rakesh Mohun](#), Digital Media at Brunel University London

Interactive and immersive technologies offer novel ways to tell stories and engage communities and audiences with local sites, personalities or events. Rakesh Mohun is interested in working with a creative or digital company to explore how AR, VR and emerging technologies can be creatively used to enhance storytelling and audience engagement with local stories and personalities.

One potential area for exploration is engagement with local artists' work: using immersive technology to help local residents and wider audiences discover and understand the life and work of local artists through the help of AR, VR or other emerging technologies. This is particularly relevant in the context of the COVID-19 pandemic that has made it difficult to engage with local arts and heritage. The project can focus on extending the reach and rekindling interest in the local artistic communities. We have a collaboration with Hogarth's House that could serve as a pilot for idea development and prototyping.

We are open to other ideas for types of places, and stories for communities and visitors to engage with.

In this project you will collaborate with Mr Mohun, a lecturer and digital studio manager at Brunel University. Mr Mohun also works with the audio-visual industry as a director of photography, motion graphics artist, video editor, cameraman and photographer. Mr Mohun has previously worked with Peter Anderson Studios, for companies such BBC, Amazon Prime and ITV.



C. Sustainability

C.1. Imagining Enclosed Environmental Systems

Academic Partners: [Dr Rachael Squire](#) and [Professor Peter Adey](#), Department of Geography and [Dr Rikke Bjerg Jensen](#), Department of Information Security, Royal Holloway, University of London

This topic seeks to explore the potential of AR and VR storytelling in creating and informing visions of future worlds in the context of sustainability and environment, although the application of these world-building ideas and tools may be broader.

Within the context of the Climate Emergency, solutions are being sought to mitigate against the effects of a restless and even hostile Earth. These take many forms, including the rise of new forms of protected enclosures designed to defend and nurture life, or to imagine life in an enclosed system on Earth or beyond. Examples abound, including the rainforest biome at the Eden Project, the Earth Systems facility at Biosphere 2, NASA's analogue programme which uses deserts, caves, and the undersea environment to replicate the conditions of outer space, or even the emergence of new eco-communities, like ReGen villages who imagine creating self-contained, self-sustaining, and self-reliant communities insulated from the outside world.

Despite their importance and prevalence, there is little discussion about the types of futures these initiatives imagine and bring into being. Who are these enclosures for? What does it mean for the sustainability of our planet to imagine life beyond it? How is nature re-created within these environments and what does this mean for our relationship with the natural world?

We want to explore the role of immersive technologies and storytelling devices to generate conversation and engagement with these questions. How might people navigate the complex social decisions and ethical choices that come with living in an enclosed environment? What does it feel like to inhabit these spaces – particularly those like ReGen villages which are in their concept phase – are their ways we can produce experiences that emulate the ways we might see, hear, touch and feel them? How might we turn such questions into a teaching tool?

The project team are open to exploring the various avenues through which we could engage with these challenges. Rachael Squire, Peter Adey, and Rikke Jensen bring a range of expertise to this process, from thinking through questions around futures and climate change, to exploring the social implications of the technological interventions that underpin many of these enclosures.



C.2. Immersive Environmental Engagements

Academic Partner: [Professor Harriet Hawkins](#), Department of Geography at Royal Holloway, University of London

The challenge of engaging local communities with pressing environmental concerns is acknowledged as one of the biggest barriers to addressing environmental issues we are facing today. Dr. Hawkins is interested in exploring how immersive storytelling could help engage local communities with their environments to help tackle this challenge.

For scientists, policy-makers, and heritage organisations alike, the importance of engaging communities with their environments includes gaining information from communities about how they understand, use and experience their environments; communicating current and future environmental concerns to local communities; and engaging communities with the evolution of environmental solutions.

There are, however, a series of imaginary and sensory barriers to effective community engagement with environmental concerns. For example:

- the problems or solutions might be out of sight (e.g. underground);
- these may be insensible to normal human sensory capacities (e.g. air pollution); or
- these may be impossible to imagine (where change will happen a long way in the future or in distant places but where action is needed here and now).

Working with Professor Hawkins and potentially some of her partners, including science organizations and environmental and heritage groups (e.g. British Geological Survey, UNESCO GeoParks) this R&D project will explore how immersive story-telling tools might help overcome these and other challenges to support community engagement with environmental concerns.

The resulting ideas are likely to be applicable in other areas where engagement is required with issues or considerations that cannot be easily accessed or imagined.

C.3. Sustainability and Indigenous Groups

Academic Partner: [Professor Jay Mistry](#), Department of Geography at Royal Holloway, University of London

The maintenance of a significant share of the planet's biodiversity and carbon depends on the institutions and actions of Indigenous peoples. Indigenous knowledge and unique ways of being and seeing the world underpins their sustainable actions. Yet, Indigenous peoples continue to suffer marginalisation and their knowledge is excluded from decision making processes.



At the same time, young people are rapidly losing their Indigenous knowledge, through for example, formal schooling. Dr Mistry is interested in exploring

- How could Indigenous perspectives, worldviews and stories be made more accessible to different groups?
- How could immersive technologies engage Indigenous youth and influence policy makers on Indigenous rights and knowledge?

This project will be supported by Jay Mistry who has been working with Indigenous groups in Guyana for 20 years. She has been working on conservation and sustainable livelihoods, and in particular how to get greater voice and representation of Indigenous people within decision-making. Her research focuses on the use of participatory video (www.communityownedsolutions.org), and how video can be used as an empowering and mediating tool in the context of marginalisation and unequal power dynamics.

D. Game Engines & Immersive Creation Tools

D.1. Ray-Tracing and Physics-Based Rendering

Academic Partner: [Armando Garcia](#), Department of Media Arts at Royal Holloway, University of London

Immersive technologies are no longer in their infancy: many VR/AR and MR platforms have created experiences for ‘users’ to immerse in worlds. However, there is a disconnect between how the user bridges the experience of VR with their cognitive knowledge of the real, in part as the experience is often limited by the rendering technology at hand.

The “Uncanny Valley” effect, which is felt when viewing a 3D scene rendered in a games engine on a headset, is sometimes down to the simple nature of light not responding as we expect which can be jarring. Ray tracing technology is a solution that offers much potential to begin to solve this conundrum.

Armando Garcia is interested in working to address the above by utilising advancements in graphical outputs, and in particular the current new strain of the Nvidia graphical architecture. The RX3090 GPU card allows for a much more immersive form of physics-based rendering and can create interactions for the user which simulate light, shadow and liquid in a manner which mimics the ‘real’ as they are rendered on the fly and are processed as per the user’s interaction. This symbiosis can afford a much richer experience and engagement with the experience and can, in a large quantity enhance the immersion.

This collaboration would aim to bridge the technological gap between the visual fidelity of what one would experience with real world physics, and the ability to address this with the recent advancements in ray tracing GPU technology using



the Unreal game engine to fabricate relevant and visceral experiences. Armando Garcia would welcome SME's collaboration in exploring how we create an approach to utilising this technology to create a more enhanced and fluid response to immersive and visually stimulating experiences which aim to mirror a physics based rendering model.

D.2. Immersive tools for non-technical creators

Academic Partner: [Dr Jeremiah Ambrose](#), School of Fine Art, University for the Creative Arts

Immersive technologies can be usefully applied in a wide range of contexts and domains for creative work, information, and education. However, such technologies can require significant technical knowledge and expertise to create new experiences, projects and products in. Dr Ambrose would like to collaborate with a company on ideas around workflows, toolkits and software that can help wider, non-technical base of users get involved in creating new immersive experiences.

How can existing platforms and systems create more inclusive and accessible tools, frameworks and formats? How can we make it easier for non-technical creators to take part in developing new forms of storytelling?

Working with technologies such as portable 3D scanning, standalone VR HMDs, 360 film, or spatial audio, Dr Ambrose would like to collaborate on exploring ways to promote engagement with immersive media and develop frameworks to ensure these spaces can be worked in by non-specialist individuals.

Dr Ambrose is open to ideas proposed by the SMEs around platforms and tools they'd like to work with. One recent example of such work from StoryFutures collaboration is [AR Story Decks](#). Another area might be an open source toolkit called *Word Play* for Unity that easily allows artists, designers, practitioners and researchers to convert common text sources into 3D objects that can be generated, manipulated and played with in a multitude of ways within the physics of a game engine.

Dr Ambrose is an artist, researcher and senior lecturer whose work explores digital arts, media futures and experimental practice. He is particularly interested in interactive 360 environments, but is looking to expand his practice and research into XR aesthetics and intersections between contemporary immersive media technologies.



5. Timeline and How to Express Interest

We will run a simple selection and matching process designed to be light-touch and foster collaborations with future potential, as follows:

Stage 1: We invite eligible SMEs to [express interest](#) by 20 January 2021. We will shortlist 10-16 SMEs and will inform them of the outcome by 25 January;

Stage 2: A sandpit event on 27 January 2021 for shortlisted SMEs to discuss collaborative project ideas with the academic partners; and

Stage 3: SMEs submit short project proposals by 10 February 2021. Academics may hold a meeting with each SME to help them shape the ideas towards the application. Awards will be confirmed before the end of February 2021.

The projects will run during March-May, culminating in an event to share and showcase their outputs in June 2021.

How to express interest:

Please complete our short [expression of interest form](#) by 20 January.