EiRA

Libraries and Archives

Broadening Audience Engagement Through Digital Innovation

An EIRA event in partnership with BT Hothouse

Report by Huw Sayer, Business Writers Limited

EIRA – Enabling Innovation: Research to Application

On the 14th January 2021, EIRA's Digital Creative team hosted an online event that explored how libraries and archives can use digital innovations to increase audience engagement with their services and content. Funded by Research England's Connecting Capabilities Fund, this virtual event was undertaken as part of the EIRA collaboration with BT's Hothouse team. The morning featured talks from 10 experts in their field and attracted over 65 attendees on Zoom from across the East of England and beyond. This report summarises the main ideas and insights shared by participants on the day.

What is a BT Hothouse?

BT Hothouses are normally intense multi-day events focused on helping an individual company tackle a specific business problem. They bring together industry experts and company employees responsible for addressing the challenge. Through workshops and discussions, they aim to accelerate the process of developing a solution from months to days. BT has used the Hothouse process on more than 650 occasions since 2004 for a range of corporate clients, with proven results. Further information can be found at https://www.bt.com/about/innovation/how-bt-innovates.

What is EIRA?

EIRA – Enabling Innovation: Research to Application – is a ground-breaking three-year project that supports innovation across the East of England. It provides businesses and other organisations with access to academic expertise and specialist facilities at seven universities and colleges in the region. This enables them to engage in knowledge exchange activities, including consultancy, collaborative research, and funding applications to develop new products and services in the fields of Artificial Intelligence, Biotechnology and Digital Creative.

The EIRA teams have now worked with many businesses, students and academics and have helped secure more than £2m of funding for innovation projects. Many of those projects have since gone on to secure further sources of funding from Innovate UK.

Further information can be found at https://www.eira.ac.uk/about-us/.

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The EIRA webinar on the 14th of January was held as part of the EIRA Hothouse series of Digital Creative events undertaken in collaboration with BT. While in normal times, these are physical events, under the current circumstances, we streamlined our approach to enable us to go online. Our objective for these events is to explore and map the convergence between technology, creativity and content. Also, to enable the sharing of knowledge and insights that can support digitally enabled innovation in product, service and method. These insights can provide a framework for developing new partnerships and projects with our EIRA partners and beyond.

For this Hothouse, we explored how libraries and archives can use digital technologies to enhance public access and engagement with their content and services. Our speakers included technologists, academics and archivists with first-hand experience of the opportunities and challenges facing the sector. They demonstrated both emerging opportunities and how they are already using digital tools to improve accessibility. The speakers also discussed how new services, such as 5G, have the potential to generate novel approaches for engaging and experiencing content. This report is not a transcript of their presentations, rather it highlights some of the common themes, key insights and points of learning that our speakers highlighted. We hope it will act as a catalyst for further discussions, future workshops and new collaborations.

To explore these ideas further, **please join our LinkedIn group** or follow us on Twitter **@eira_earc**. If you would like to discuss how your organisation could use technology to develop new products and services, please contact the EIRA team. We can introduce you to relevant experts across the EIRA partnership and work with you on developing your ideas, helping you find funding for specific projects. Please see contact details provided at the end of this report and we invite you to get in touch.

Dr Jeremy Davenport

EIRA - Digital Creative Team
University of Essex.

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Session 1 – Opportunities for innovation

The first session featured four speakers from national and regional organisations that are leaders in their field for technological innovation. They are particularly interested in our increasing ability to create not just interactive but immersive digital experiences. That includes using machine learning to unlock the archives by turning unstructured data into useful knowledge and inspiring ideas.

How technology is shaping new experiences – review of talk by Andy Gower, Senior Manager BT R&D

Andy Gower is responsible for leading BT's research into interactive and immersive content. His current focus is on the world of sport, particularly on how to enhance the user experience of mass-audience, live events like football matches, Grand Prix races and boxing matches. In his talk, he illustrated the approach his team takes to integrating new technology with the production and broadcast process.
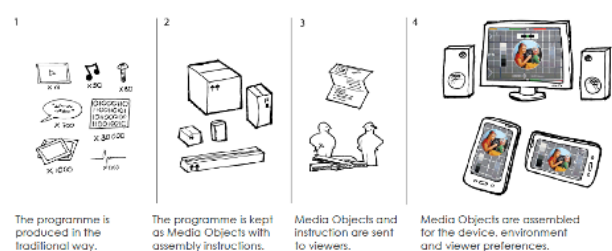
Andy's key message was not to let the technology get in the way of telling an engaging story. Technology is the enabler but what matters is the strength of the idea and the overall audience experience, not the specific technology used. This is why he stressed the need to consider the "complete end-to-end production workflow" when developing any new product or service.

In 2020, BT received £1.5m of UK government funding to develop a new 360-degree immersive video experience for viewers of cultural events, including sports and entertainment. Called **5G Edge-XR** (extended reality) the project combines virtual and augmented reality technology with 5G network speeds and cloud-based processing power (Cloud Edge computing). Together, these will enable viewers to choose their field of view and even project holograms of live events into their homes.

However, for Andy the challenge isn't just in capturing the content in high enough resolution but in making it viewable to audiences. As he explained, they had to look at the complete process, from capturing the content, to delivering it to different wireless networks and then to a variety of customer devices. They also had to think about how the experience would work on those different devices and how to add personalisation – as well as enabling people to share their experiences with others.

Various technological developments have come to market in the last few years that have helped make this project possible. These include 8k cameras to capture high-resolution content and a new process ('tiling') of only delivering the content you are viewing, meaning you can view high-resolution images without killing the processing power of you smart-phone, laptop or tablet. Another new development – Object Based Broadcasting (OBB) – means that the content no longer arrives as a single stream but in blocks, so different viewers can choose to see and hear different content from the same event.

Object Based Broadcasting - *Contextual customised experience*

1. The programme is produced in the traditional way.
2. The programme is kept as Media Objects with assembly instructions.
3. Media Objects and instruction are sent to viewers.
4. Media Objects are assembled for the device, environment and viewer preferences.

Collaboration is critical

It takes a team effort to deliver this sort of personalisation and BT didn't work alone. It has collaborated with a range of industry partners across all the different technologies, including the BBC and Cisco, to bring all the services together in a single app. As Andy said, "you have to have a robust idea and then innovate across the entire production chain to ensure it works at the end."

Andy emphasised that it helped to focus on delivering a small number of key capabilities and features when creating a minimum viable product, rather than trying to do everything all at once. That includes defining the overall architecture to use and identifying the most beneficial aspects of the new technology to test. This will help you build a strong business case by identifying how those features serve a distinct audience.

"Focus on delivering a small number of key capabilities and features when creating a minimum viable product."

Mixed reality is going mainstream

Andy sees 5G and Cloud Edge computing, as game changers when it comes to broadcasting immersive live events. Together they enable high-speed ('low latency') delivery of content, which means viewers won't feel dizzy when enjoying virtual or augmented reality experiences. Thanks to falling prices and the rapidly increasing capabilities of new consumer devices, immersive mixed reality TV will soon be mainstream.

That mainstream experience is likely to shape consumer expectations for other online services. In fact, Cloud Edge computing – by processing data in the cloud and then only streaming the content you need – should make it possible for you to enjoy an enhanced experience even if you don't have the latest device. Essentially, 5G and Cloud Edge computing can help democratise these immersive experiences, which were once the preserve of a privileged few.

Andy's team is working on building eight business cases covering a range of sectors from sport and entertainment to architecture and healthcare. With all of them, the core ambition of creating richer experiences that enhance storytelling and user engagement remains the same. That means not using technology for its own sake but using it to break down barriers, not least by delivering the best, personalised experience to individuals that their device and network can handle.

Find out more about how BT can support creative ideas and innovation: contact Adam Oliver **adam.2.oliver@bt.com**

5G Edge-XR Use Cases

BT SPORT

MotoGP

Rugby

Boxing

Dance Education

AEC

Football

Health

Retail

Archives: portals to another space – review of talk by Bill Thompson, BBC Principal Research Engineer

Bill Thompson has been thinking about libraries, archives and collections for many years. As well as being an experienced broadcaster and technology writer, he has worked inside the BBC's Archive Development Group, which has a reputation for developing innovative online experiences for viewers. He is particularly keen on finding new forms of value in the BBC's archives beyond simply repeating old TV or radio shows.

For instance, digitisation and the ability of artificial intelligence to contextualise information, particularly metadata, enable us to uncover the social history embedded in many old programmes. Simply watching them is no longer the interesting bit – now we can study them for what they tell us about our past. Uncovering that information and making it accessible to researchers and others is the challenge for archivists and technologists.

Bill likened archives to portals into another dimension – or what **the author William Gibson named 'Cyberspace'**. Finding new ways to visualise the knowledge in archives, libraries and other collections can help us understand the stories that make up our world. As Bill put it, these collections "are fuel for creative ambitions" but we need to think about how technology can unlock them and the implications for society.

Just because you can doesn't mean you should

Reflecting on Andy's comments about how 5G can deliver richer experiences than existing networks, Bill challenged us to think imaginatively about how we might exploit that technology. How can we use it to increase public engagement and for public good, and what might be the risks? As he pointed out, modern technology brings with it an element of moral hazard – people can use it for good or ill and you cannot be sure if an innovation will be of social value.

In thinking about the social value of innovation and access to knowledge, Bill suggested we consider three big themes that he sees emerging with advances in technology.

1. The great re-indexing

The speed and ability of machine learning to analyse unstructured data is developing rapidly and in the process unlocking insights that traditional analysis might miss. While Bill doesn't see AI becoming humanlike in intelligence, he does see it increasingly augmenting human capabilities. In fact, he suggests it will become such a part of our daily life – and of us – that current tech will seem primitive by comparison.

One way we will see this is in virtual librarians that will help you navigate your way through collections, offering advice and support. To some extent, we are already seeing this with image recognition technology making it easier to search photographic and video libraries. The big difference will come when machines create their own catalogues based on their insights and not traditional hierarchies.

Current catalogues reflect human design: they follow quite prescriptive rules for structuring data and are not particularly intuitive to non-experts. AI-enabled virtual librarians can look at collections completely differently, find underlying structures within metadata and contextualise information in new ways. In the process, they will make archives more accessible to non-specialists – in ways that we cannot imagine – perhaps democratising knowledge like never before.

2. The virtual is more useful than the real

This might come as a shock to those who value physical possessions but machine-read documents, scanned images and 3D computer generated models are superior to the real thing for many researchers. For instance, high-resolution scanning of ancient documents and artefacts can reveal properties that are simply not visible to the human eye. We can now use AI to read ancient scrolls we can't unroll and haptic controls to handle virtual objects, so protecting the precious originals while making them available to everyone.

3. Offline and Online are non-things

Bill's final point was that there is increasingly no distinction between being online and offline. In essence, most people are online all the time – permanently connected by their mobile phone or tablet to the internet. As a result, people don't just demand connectivity now but they assume it wherever they are. That creates new challenges and possibilities for libraries, archives and other collections.

How do we ensure these permanently connected public spaces remain safe and accessible for all? How will technology change the way we use these repositories of knowledge and ideas both for learning and for sharing stories? Above all – what is the social value in such spaces and what are the social dangers?

Bill closed by encouraging librarians and archivists to have these conversations in the open and with their communities. He stressed the need to use new technology not simply to save money and limit services but to expand access and serve the community. It's important to "keep people onside" he concluded.

"Machine-read documents, scanned images and 3D computer generated models are superior to the real thing."
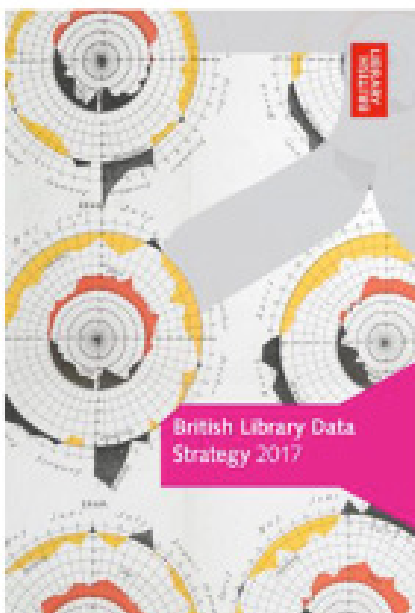
Blended futures – review of talk by Maja Maricevic, Head of Higher Education and Science, British Library

Maja Maricevic opened by making the point that not everything is on the internet – and the internet is not permanent. Librarians and archivists need to think about how these two worlds will continue to co-exist because digital records will never entirely replace the physical. That is why the work of the British Library – the nation's library – is so important and has so many functions.

It has a statutory duty to collect, curate and preserve everything published in the UK – physical and digital – and already has some 2 million items. Although, as Maja puts it, that figure is "precarious" because it receives new digital and physical items every day, which it stores in a low oxygen environment accessed only by robots. In fact, the digital collection is now larger than the physical collection and growing rapidly.

Maja and her colleagues have been thinking about this blended future since 1991. In particular, they have been working out how to collect and conserve emerging formats, such as PDFs, audio, and video, which rely on a range of technologies, so they remain accessible even when the technology becomes obsolete. They are also exploring ways to engage more people with their collections online, to democratise information and to benefit society.

Responding to a rapidly changing world

The pandemic has accelerated much of that thinking and activity. One result has been the creation of subject specific online collection guides to enable scientists, researchers and clinicians to find and retrieve information they need to continue their work in lockdown. It has also launched a 'Reset and Restart' knowledge exchange programme for SMEs and entrepreneurs, which it is delivering through its national network of some 50 Business and IP Centres (located in regional hubs like Norwich Millennium Library).

Digitising the existing physical collection in high-definition is a slow process, with only about 3% completed so far. However, the Library already has the largest digital newspaper archive in the world, with some 40m pages, and is in the process of digitising all its books with help from Google. It is also working on putting its extensive sound archive online and making it searchable.

A lot of this work relies on emerging technologies such as machine learning to make sense of the vast amounts of data. It also involves research by the British Library Labs, which has been running for 10 years, into how people might use digital content. In part, this simply involves making the content available to researchers and business, with no pre-conceptions, just to see how they use it.

Is it a butterfly or a pair of scissors?

One experiment involved using machine learning to automate the meta-tagging of images and so make them easier to search. In one instance, the machine correctly identified an elephant but tagged a butterfly as a pair of scissors. This in turn revealed that it is difficult to reverse tagging once done, which illustrates why it is so important to test thoroughly before rolling out new technology.

In summary, Maja identified three big challenges that new technology has partly caused but may also solve.

1. Digitisation is producing huge amounts of unstructured data, which needs a lot of difficult processing before it becomes useful to people. The Library doesn't have the expertise in-house to do that, so has been collaborating with the Alan Turing Institute on machine learning projects.

2. It's vital to get the basic architecture and protocols right, from the start. That is a challenge because the Library has to comply with a lot of legislation that came long before the tech. For instance, the Library has a statutory duty to gather data from the internet and can share it with researchers who are physically on site, but copyright law prevents it sharing that data with remote workers.

3. Finally, Maja echoed a point made by Bill Thompson about the challenge of ensuring that innovations deliver good outcomes for society. This is a particularly important responsibility for a national institution. Looking ahead, the British Library is conscious that it needs to continue improving accessibility and democratising information, while also thinking about the health and environmental outcomes of its policies.

"Test thoroughly before rolling out new technology."

Connecting communities – review of talk by Martin Astell, Manager Digital Opportunities, ERO

Martin Astell has his eyes firmly fixed on the future, despite being responsible for preserving so much of our past. The Essex Records Office (ERO) is a vital repository of community heritage and knowledge for this large, densely populated county. It has more than eight miles of shelves containing millions of documents, digital images and audio files (including many local oral histories).

As with the British Library, ERO aims to blend traditional and emerging technologies. Martin agreed with Maja that there will always be a need for physical records and physical access to them. However, he is keenly aware of the need for increased digital accessibility and the challenges that brings.

This is not a new challenge for his team: in fact, ERO has been a bit of a tech innovator and has developed its own in-house capabilities. It was the first county archive to have a **full online catalogue**, which it built specifically for itself over 20 years ago and is still being used today. It was also a relatively early adopter of document digitisation, starting with its most heavily used records, particularly those used by genealogists.

Martin also agreed with Bill that high quality digital images are more useful than the originals, particularly when it comes to reading old documents such as hand-written parish registers. As with the BBC, ERO was also quick to recognise the importance of its sound and video archive and established its own studios in the 1980s. Now it is exploring ways of using AI to analyse those archives and make them easier to search.

Looking to the future, Martin wants to use digital innovation to improve customer service but, like so many libraries, has a limited budget. However, like Bill, he sees the advances in machine learning as vital for unlocking the knowledge contained in unstructured information. In time, he expects machines to be able to find "unexpected patterns

and structures that connect different elements in our collections" and so better serve the needs of researchers.

Another approach to improving content accessibility is by using geo-tagging and maps to connect archive information with real places. This can make finding information that is relevant to people's communities more intuitive for non-experts. "You shouldn't need to know how the system works to find what you need."

Taking archives to the people

Part of the challenge with increasing public engagement is that many people don't know this sort of information exists in libraries, or that they can ask to explore it. That's why Martin is keen to find ways of making people feel that this information is important to them – that it has relevance to their lives. One way of doing that is by taking the information to the people (rather than expecting them to come to the office).

As an example, ERO's 'You are **hear**' project digitised analogue sound content relating to specific places, then installed those recordings in park benches at the relevant locations. When people sat down, they could press a button and hear a piece of audio history or soundscape relating to where they were sitting. It was a surprisingly successful way of creating conversations that brought people together and encouraged them to find out more about ERO.

As Martin pointed out, market research can help the innovation process but it doesn't always tell you what people might value until they discover it for themselves. That makes it important to test and iterate prototype ideas rather than aiming single-mindedly to deliver a product or service in a predetermined way. Martin concluded by introducing the next speaker, PhD student Lewis Smith, who is working with ERO on an EIRA backed project to develop a digital engagement strategy for the Library's extensive and valuable Marconi Company photographic archive.

Short panel discussion and Q&A session

This session covered a number of questions but perhaps the most challenging and topical was to do with how librarians and archivists avoid perpetuating biases that exist in collections and catalogues. As Maja said, this is a massive issue not least because many of those biases and other cultural issues to do with language have accumulated down the centuries. Understanding those biases, and whether to remove or flag them, takes human judgement and that means manual work, you can't leave it to a machine.

In fact, artificial intelligence can sometimes make the problem worse if it has learnt the same biases from other sources. Another issue is how to correct the misinterpretations of collections that cataloguers made in the past, without losing valuable contextual information contained in their notes. However, help may be at hand in a new **Code of Cataloguing Ethics** published by experts in the USA, UK and Canada.

"Market research...doesn't always tell you what people might value until they discover it for themselves."

Session 2 – The power of collaboration

The second session involved five speakers from organisations across the East of England talking about the collaborative nature of their creative projects. This report won't describe each project in detail but instead will focus on the key learning points the speakers made individually or collectively. For more information on individual projects, please follow the links where provided.

Ideas for developing a digital engagement strategy

Lewis Smith, a PhD student at the University of Essex, is working with Essex Records Office (ERO) and EIRA to develop a digital engagement strategy for ERO's extensive **Marconi Company photographic archive**. Many of the images, dating from the 1890s to the 1970s, are glass plate negatives and so are not accessible to the public. ERO has received Heritage Lottery funding to digitise the collection and is now keen to use this resource to emphasise Essex's reputation as a technology and innovation hub.

Around 50% of the images are of Marconi equipment, with little context or explanatory detail. The other 50% is more general, featuring people, places, ships and aircraft, including many photos

taken by Marconi himself. A significant proportion also relates to Chelmsford – 'The home of the radio'. This presents an opportunity for creating a strategy that appeals to various audiences with different interests.

Lewis shared five strategic insights based on his experience, though he stressed these are not rigid but interrelated. They also become more costly and complex as they go on, so won't work for everyone. Overall, he stressed the need to focus on the right audiences, rather than trying to appeal to everyone.

1 – Focus on social media and image publicity

Not all innovation needs new technology; you should think about the resources you have and start from there. For instance, existing social media tools enable you to share images with the public and this alone can generate huge interest and useful feedback. However, you can't simply broadcast, you have to be open to collecting information from your audience and acknowledging it, which takes skill to work well.

2 – Collect metadata

Many photos lack even basic contextual details such as date and location. Your audiences can help you uncover that information and will enjoy being involved in the search. However, you need to be able to harvest that data and corroborate it with experts before adding it to your archive, so involve them at the early stage.

3 – Display images innovatively

Tagging archive material with data such as map references is an effective way of engaging people who don't understand traditional hierarchies. Your audience can use the information to navigate intuitively by things like location and relationship. It doesn't even have to involve mapping; there are platforms that allow people to tag information in different archives and make natural links.

4 – Think of images as objects

This is a more expensive and challenging strategy that involves turning 2D images into 3D images that people can rotate. It helps to have multiple images of the same thing from different angles that you can scan to build up a 3D image. However, there is now technology that enables you to do this from a single image – effectively bringing the image out of its frame.

5 – Step into the frame

Lewis called this "an aggressive strategy that needs more work" but the idea is to use images as source material to create virtual worlds. He thinks this could be particularly interesting if those images enabled the creation of worlds that no longer exist. The next step would be to enable viewers to step into those worlds using virtual or augmented reality – but this makes access tech dependent, which may exclude people.

"You should think about the resources you have and start from there."

Building partnerships and creative communities

Our final four speakers in the second sessions were:
- ▶ Dr Thomas Roebuck, a lecturer and researcher in Renaissance Literature at University of East Anglia (UEA)
- ▶ Cressida Williams, Head of Archives and Libraries at Canterbury Cathedral
- ▶ Bruce Leek, Chief Executive of Suffolk Libraries
- ▶ Justine Mann, an Archivist for the **British Archive for Contemporary Writing** at UEA.

Thomas gave an overview of his digital **'Unlocking the Archive'** project to engage people in Norfolk with renaissance books held by the Norfolk Heritage Centre, King's Lynn Public Library, and the Blickling Estate (which is home to the largest library curated by the National Trust). He was particularly keen to find ways of giving the public online access to rare hand-pressed books from the early 15th century to the 19th century. However, he also wanted the experience to feel immersive, with tactile information curated by scholars to help non-scholars share in "the excitement of archival discovery" at their own pace.

Cressida talked about the challenges of managing the vast, historic library and archive at Canterbury Cathedral – and **the 'Picture This' project** for public engagement. Taken together, the collection has 30,000 pre-19th century books, including 40 books printed before 1500, and more than 50,000 individual objects, some of them dating to the 9th century making them older than any of the Cathedral buildings. As the library and archive form part of a UNESCO world heritage site and are on the UNESCO 'Memory of the World' register, they have to remain integrated with the buildings and treated as a complete entity.

Bruce explained how Suffolk Libraries had adopted a community driven model of public engagement and how it had changed the narrative around the role of libraries. He reflected on the shift from transactional to experiential engagement as demand for physical books has fallen while the use of digital services has risen, along with attendance at in-person events (up 25% over five years). Suffolk Libraries has also been working with the Suffolk Mind charity and is now **the only library service in the UK with a dedicated wellbeing service** that provides drop-ins, reading lists and other supporting resources.

Justine described the ongoing development of an Arts Council funded public engagement project to celebrate 50 years of creative writing at UEA. Called **Future and Form**, it features six digitally immersive and experimental exhibits that six emerging writers are creating with six venues across Norfolk, including Justine's own project at the Millennium Library in Norwich. The idea is to bring the creative experience to life and show that creativity is not the preserve of a genius but that anyone can develop and enjoy it.

Insights and lessons learnt

All four speakers emphasised the benefits of **collaboration**, particularly with librarians, academics and technical experts, to manage risk when developing digitally creative ideas. However, they cautioned that while COVID-19 had accelerated a move to digital in everyday life, it had also highlighted the digital divide that remains in our communities. As such, their overall suggestion was not to let technology drive the project but rather to get **audience feedback** on whether the technology really helped improve the experience.

There was agreement that **social value** was as (if not more) important than financial value. However, as Cressida pointed out, historic places often have to rely on grants from organisations like the National Lottery Heritage Fund, so need to be able to demonstrate that value when applying for funding. As such, the advice was to build a team who could put forward a convincing **business case and a compelling story.**

Bruce emphasised the need for **robust data** when building the business case and evaluating outcomes.

SUFFOLK LIBRARIES

Collaborate to Meet our Challenge

University of Suffolk

Suffolk Mind

Suffolk Libraries commissioned research into the broad social value of three of its core services, including its wellbeing work with Suffolk Mind. This demonstrated that they were delivering an excellent **return on investment** of £8 in social value for every £1 spent, including saving the local NHS thousands of pounds a year by improving community wellbeing.

Thomas made the point that **family accessibility** was also important with community projects, which is why his project included information written for a younger audience. As well as encouraging wider engagement, it could help create a deeper sense of **ownership and identity**, a feeling of belonging and pride in the place where they live. Cressida echoed this when talking about the importance of Canterbury's archive to family historians, particularly those with links to Eastern Kent, and to students at the University of Kent.

Another common theme was the idea that creative experiences should be as **intuitive** as possible, for participants to benefit from them. Cressida made the point that even if the original source material (such as the work of Latin scholars) doesn't have a

wide audience, specialists can often draw out the stories and make them relevant to more people. Justine and Thomas also recommended allowing people to engage with content in their own time and offering them ways to **respond creatively** if they felt inspired.

All the speakers emphasised the importance of using social media to engage audiences but acknowledged that it was a two-way process, **a tool for listening not simply broadcasting.** While it is true that social media doesn't always reflect the entire community, it does enable you to share your stories with a much wider audience who can become your advocates for change. Bruce also emphasised that we shouldn't fear failure; that it was important to keep putting ideas out into the public domain and learning from the experience.

Above all, the panel's view was that building engagement involved **building partnerships** with other organisations and experts, as well as with audiences. It was important to have **strong ideas** that give people (artists and audiences) freedom to explore creative processes, not just passively display or consume finished work. **Your core objective should not depend on technology** but use it instead to open up new possibilities for immersive collaboration and, where possible, co-creation.
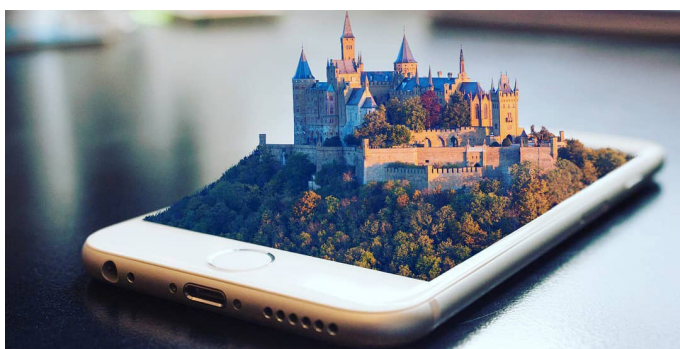
Session 3 – How to find innovation funding

In the final session of the day delegates heard from Charlotte Thompson, Knowledge Transfer Manager, Digital Economy, about the broad range of innovation funding available in the UK.
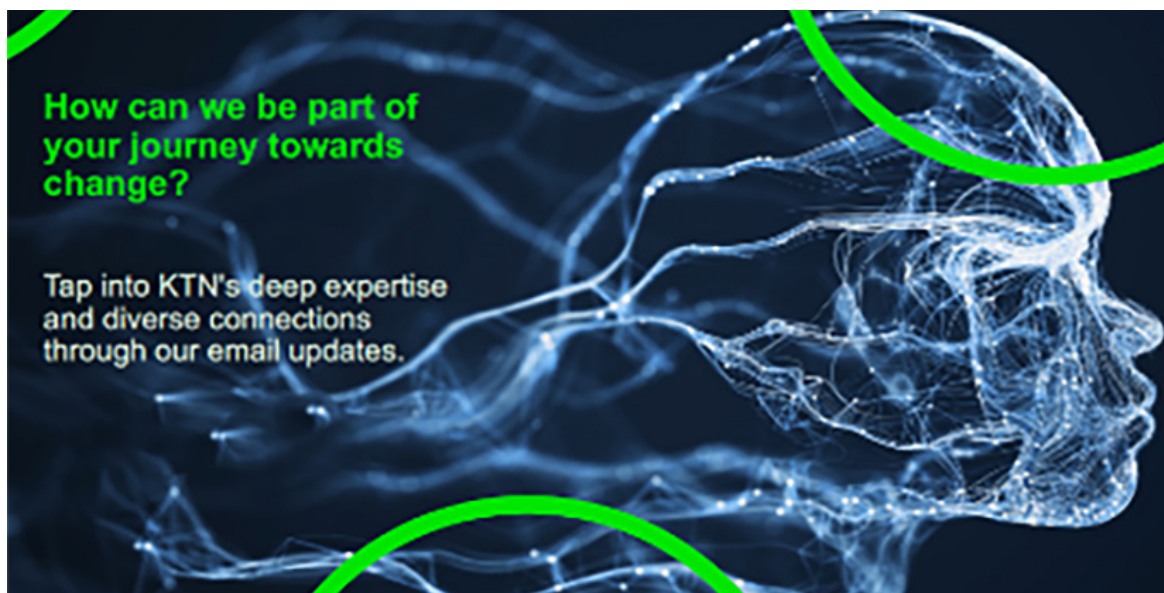
KTN is a not-for-profit organisation operating across the UK that supports innovators by connecting them with industry partners and funding opportunities. It aims to accelerate the translation of innovative ideas into commercial products and services. It runs around 600 networking, briefing and workshop events each year, although many are currently online.

Charlotte gave an overview of the funding landscape, covering local, national, European and sector specific sources of grants and other innovation finance. Local growth hubs and universities are often the most accessible first point of contact for many organisations looking for funding advice. However, innovators should be aware of other funding sources, as their project may well need a mix of finance as it develops.

The following is a summary of Charlotte's top tips for securing the right funding at the right time

Preparation

▶ Start your funding search early, as preparing detailed applications on tight deadlines is challenging.

▶ Ask questions about the application process early to avoid missing the submission deadline.

▶ Build a diverse team that can deliver a robust business case and tell an inspiring investment story.

▶ Have open, honest discussions about objectives, motivations and timings.

How can we be part of your journey towards change?

Tap into KTN's deep expertise and diverse connections through our email updates.

Read and Follow the Guidance and Rules

▶ When applying for funding, read the rules in detail first to ensure your objectives align.

▶ When completing applications, stick to your word count and quantify or justify any assertions.

▶ Be clear about how much money you need, **what you need it for and why your idea is innovative.**

Manage the Risks and Show you are in Control

▶ Remember, real innovation involves risk: your idea can't just be for incremental improvements.

▶ However, test your internal and external relationships to de-risk the delivery process.

▶ Demonstrate that you can pick up your plan and start delivering on it tomorrow.

Build a Strong Team

▶ Collaborate because it can help you identify new ideas and funding opportunities.

▶ Build a network of innovators and partners who can help you shape your projects.

▶ Think creatively about your choice of partners: look vertically (suppliers or customers) and horizontally (competitors or complementary businesses, particularly in other sectors).

Identify and Leverage Appropriate Support

▶ Look for funds targeting your specialist sector – and technology funding that is sector agnostic.

▶ Not all support is financial: look for Knowledge Transfer Partnerships (KTPs) with your local university. They are a great way of collaborating with academics and students on 1-2 year projects.

▶ See the **KTN Good Application Guide** for further useful information and **follow KTN on LinkedIn** and **Twitter** for funding and networking news.

Conclusion

The COVID-19 pandemic has highlighted the value of our digital connections and a need for novel and creative ways of providing remote access to digital services sources of information, for home learning, business development, culture, creativity and scientific development. It has also revealed challenges facing people with limited access to technology such as smart devices and reliable internet connections.

While the digitisation of data and new interactive technologies, such as virtual reality, augmented reality and haptic controls, provide exciting opportunities for making the physical world accessible in cyberspace, there are technical and social challenges including the digital divide. We hope this report and its follow up will support people to devise positive strategies for harnessing digital technologies and develop practical tools for using technology and creativity to connect and generate tangible social and economic value for our communities.

Next Steps

Our libraries and archives can be central resources for our knowledge economy. The data they hold and services they provide have the potential to act as a catalyst for innovations in products, services and experiences. The latest advances in technology, including digital and machine learning, open up the possibility of enhancing access to the sector and its data, stories and services. The three themes identified are distinct areas of interest and are also convergent with our aim of creating an enabling environment. This supports the sectors capacity to innovate and take advantage of digital technologies in enhancing community engagement, both as users and as partners.

Four of the key themes that emerged during the morning included:

- **Engaging with users** in the design and delivery of digital innovation.

- **The importance of context** as an enabler for digital and physical artifacts and services.

- The potential for **digitally enabled story telling** (fiction and non-fiction).

- The digital divide

The EIRA Digital Creative team are now consulting with our event community to explore concrete follow up activities and we hope you found this report interesting and useful. If you would like to join our community of creative thinkers and technical innovators, please **join our LinkedIn group** and **follow us on Twitter**. If you have ideas, potential projects or questions about making libraries and archives a dynamic component of our innovation ecosystem, please contact us.

The EIRA Digital Creative Team

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